

(No Model.)

3 Sheets—Sheet 1.

S. N. McCLEAN.
MAGAZINE FIREARM.

No. 601,843.

Patented Apr. 5, 1898.



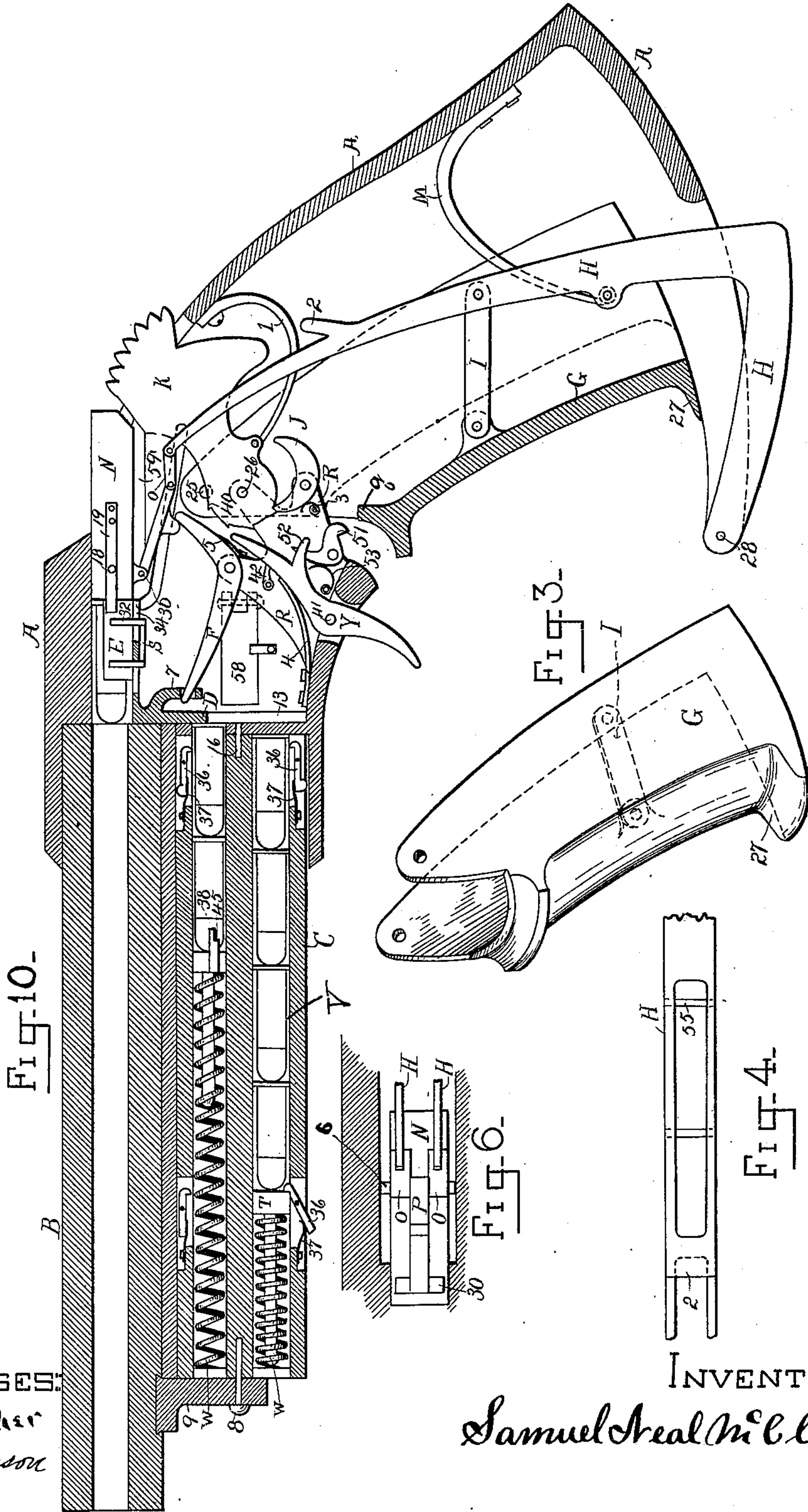
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3 Sheets—Sheet 2.

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WITNESSES:
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INVENTOR:
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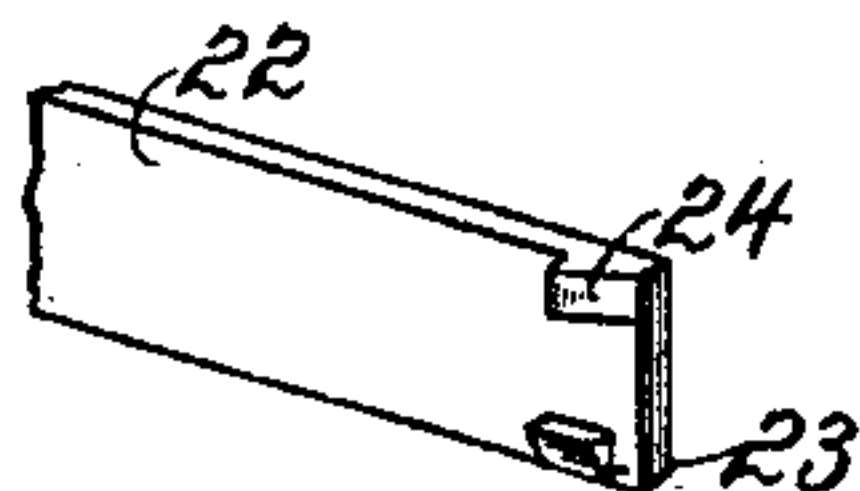
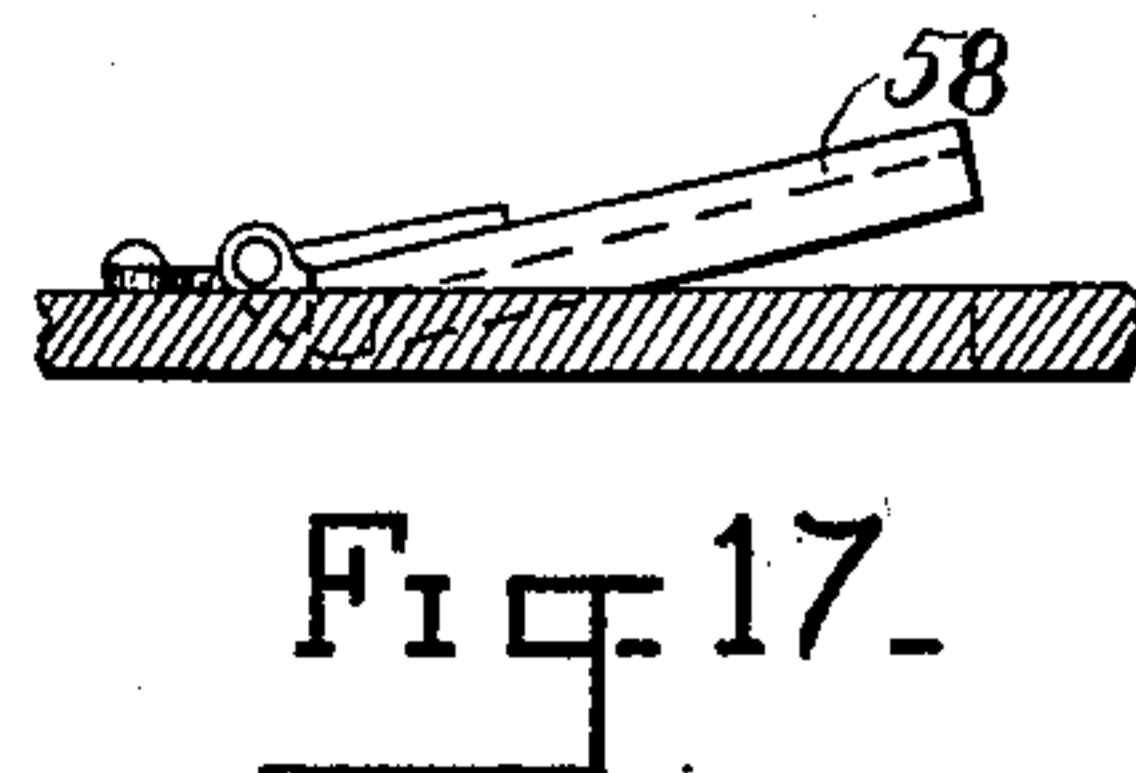
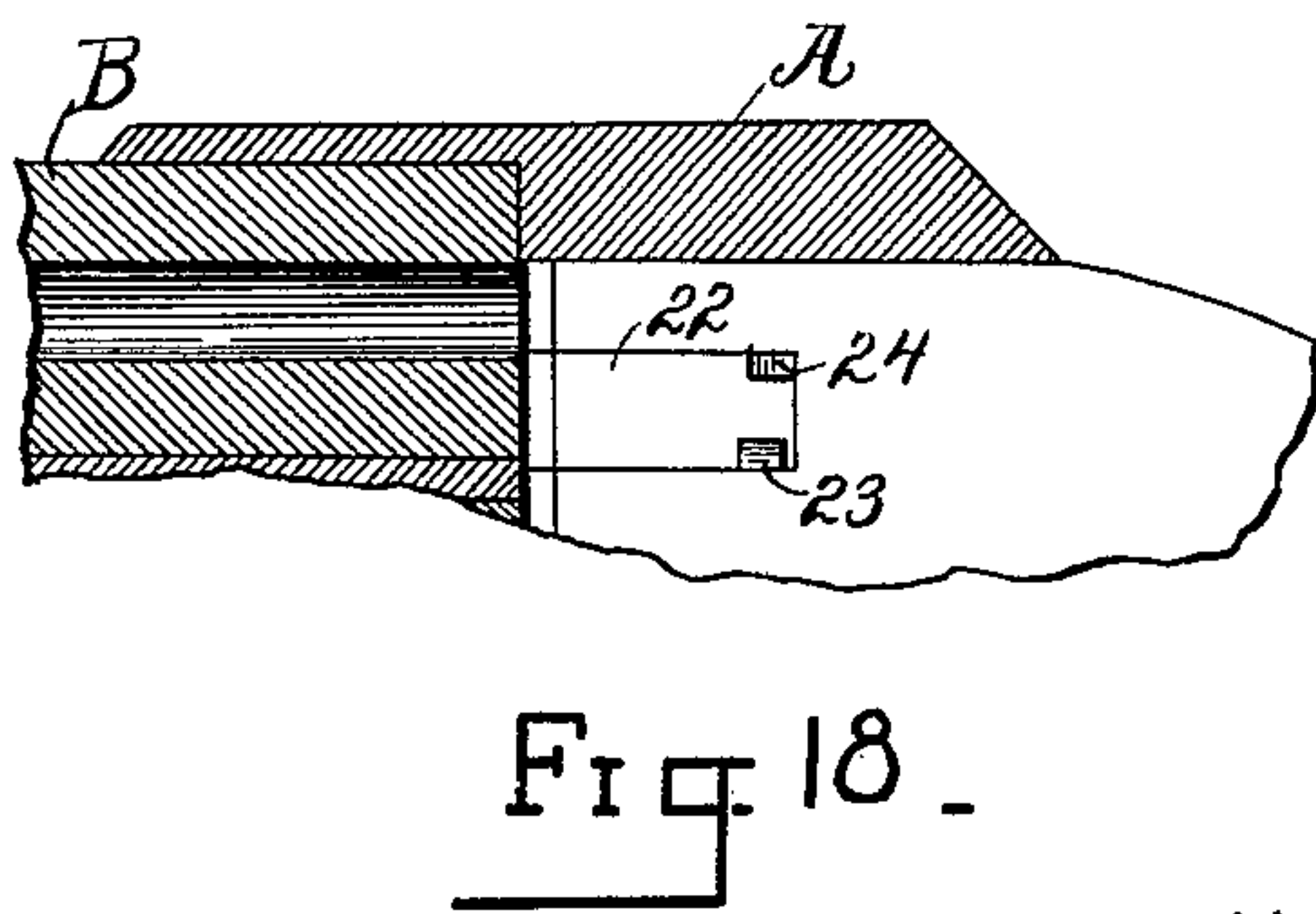
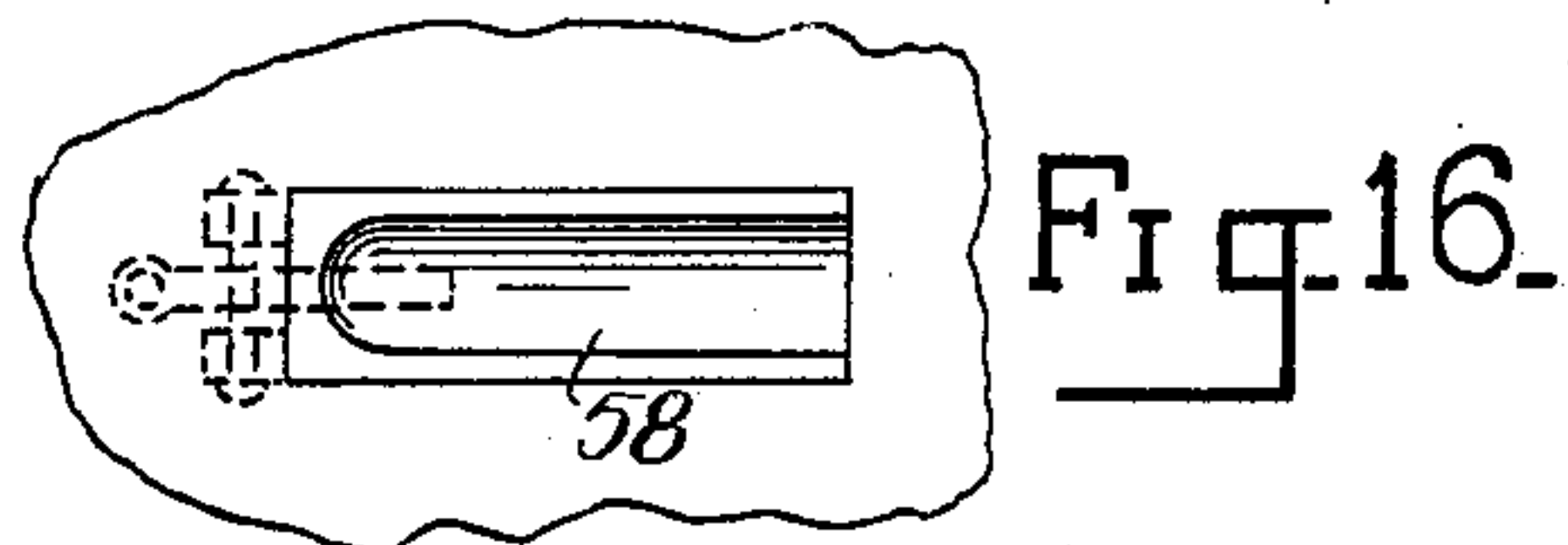
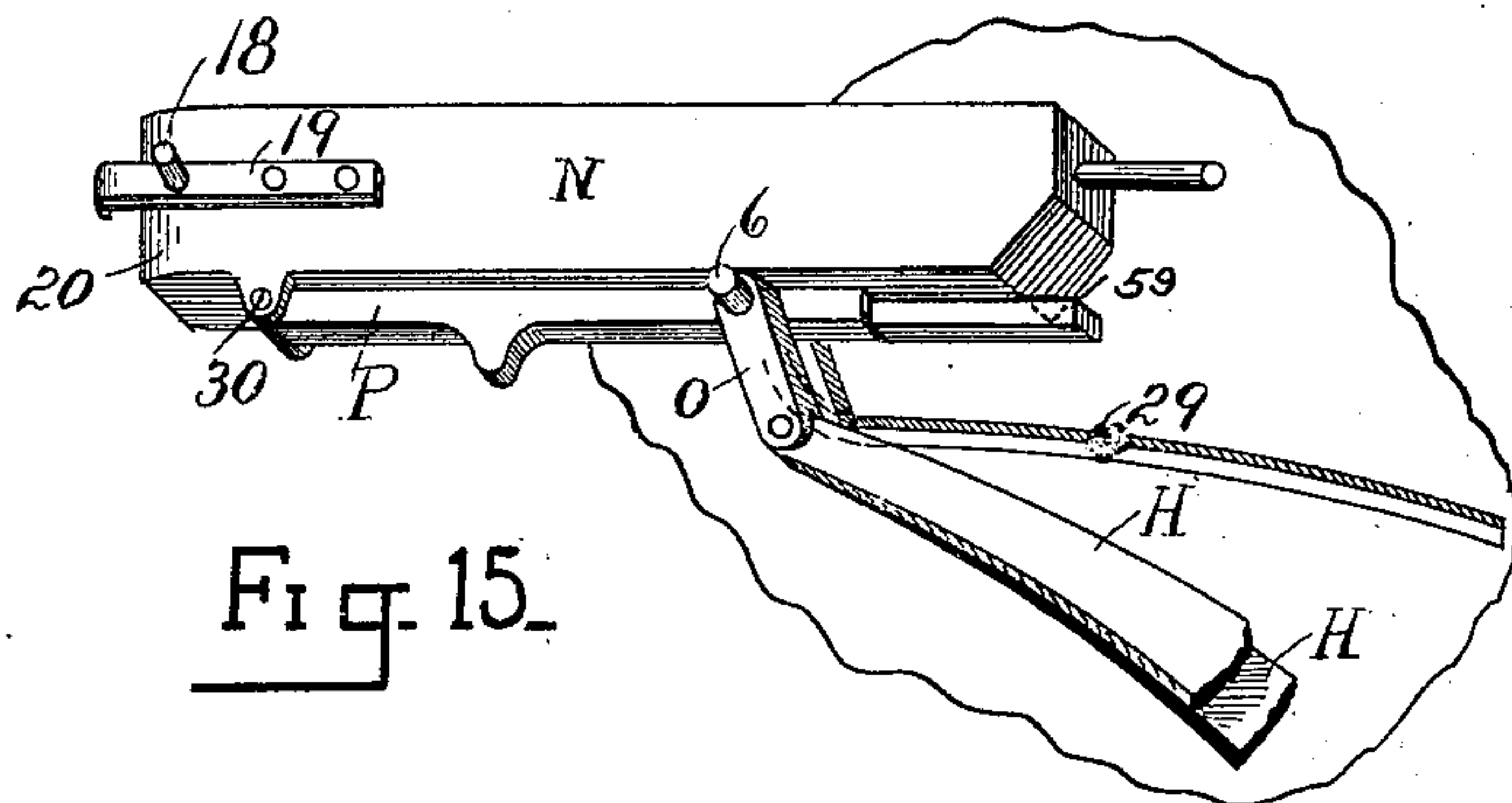
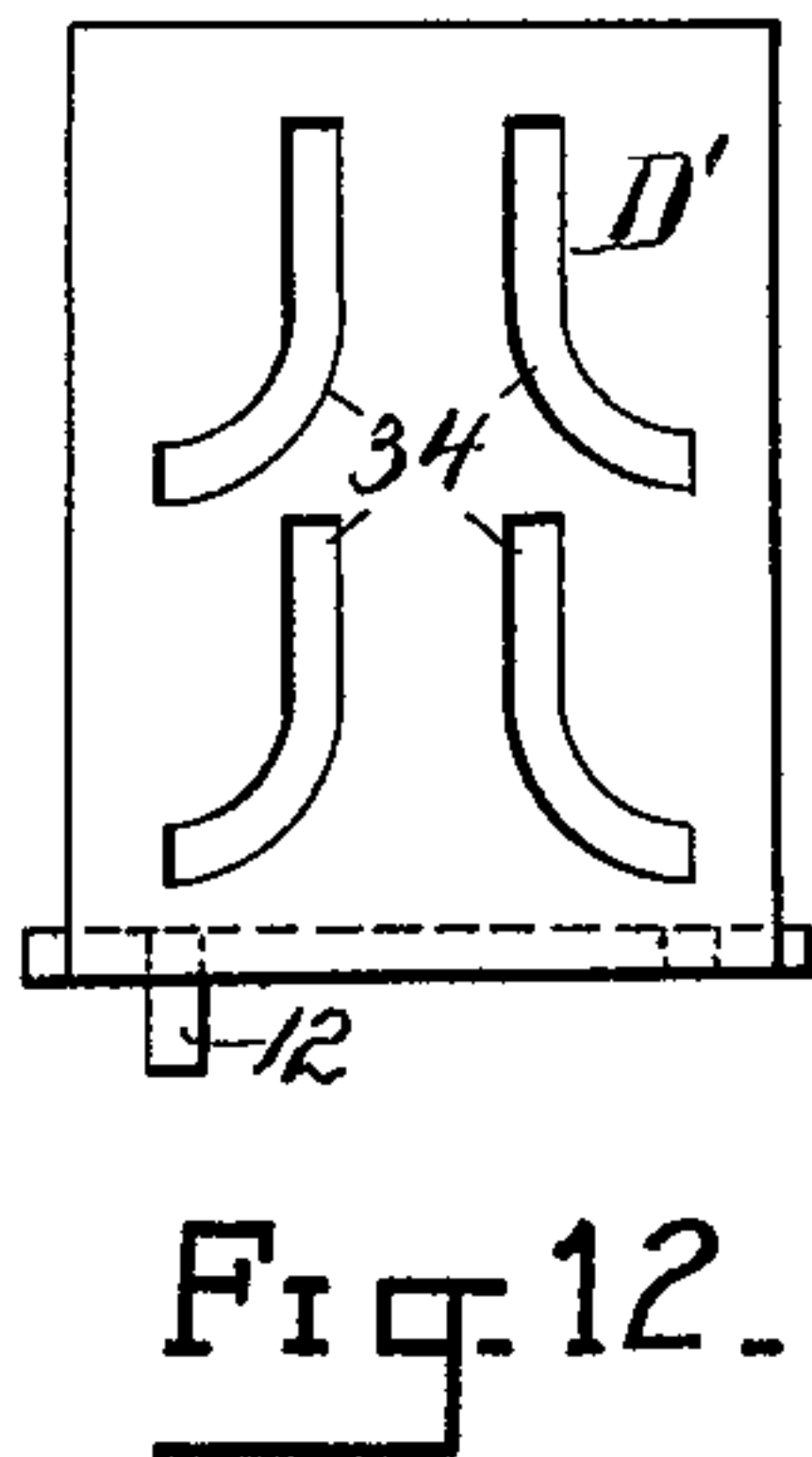
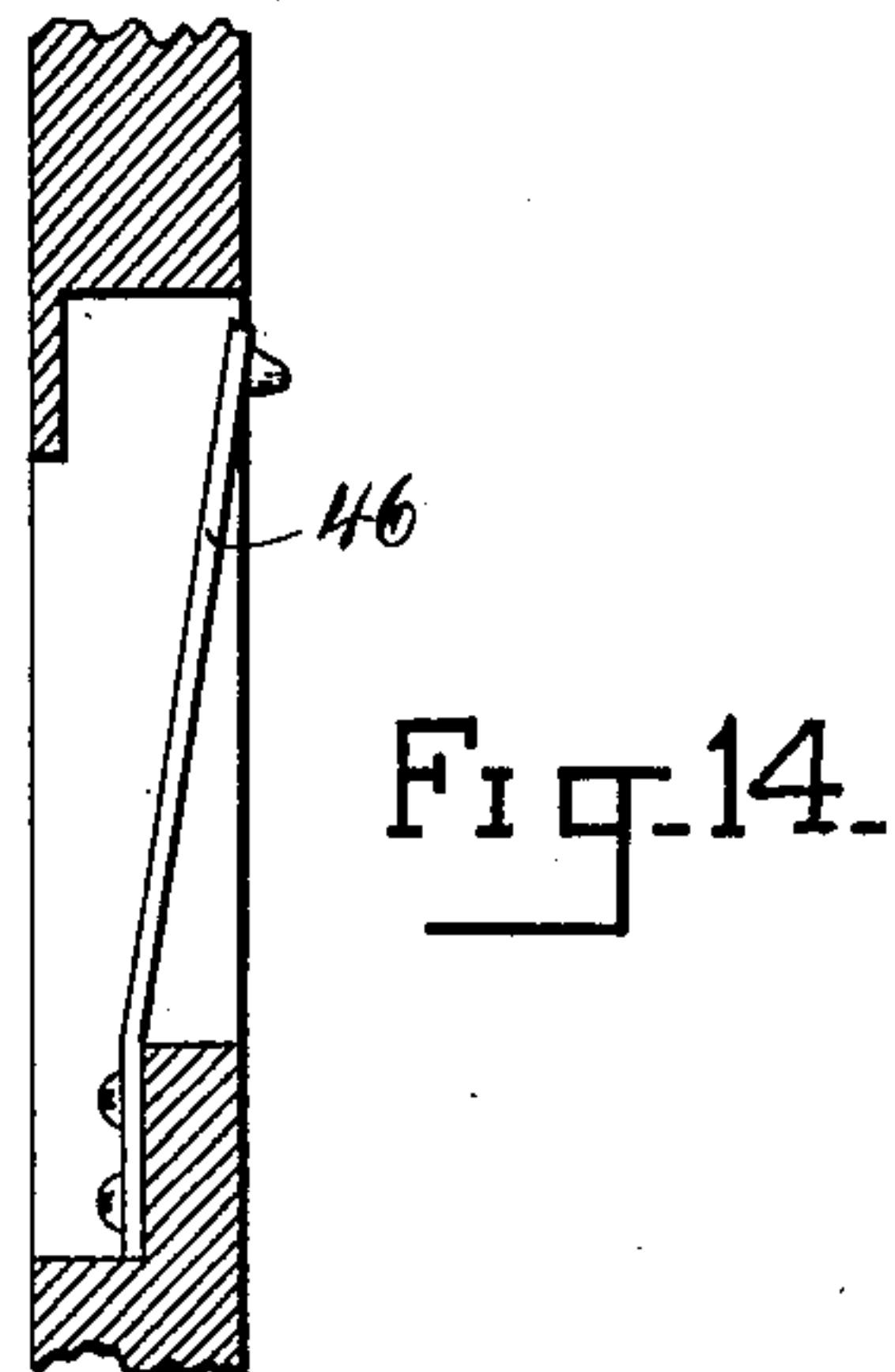
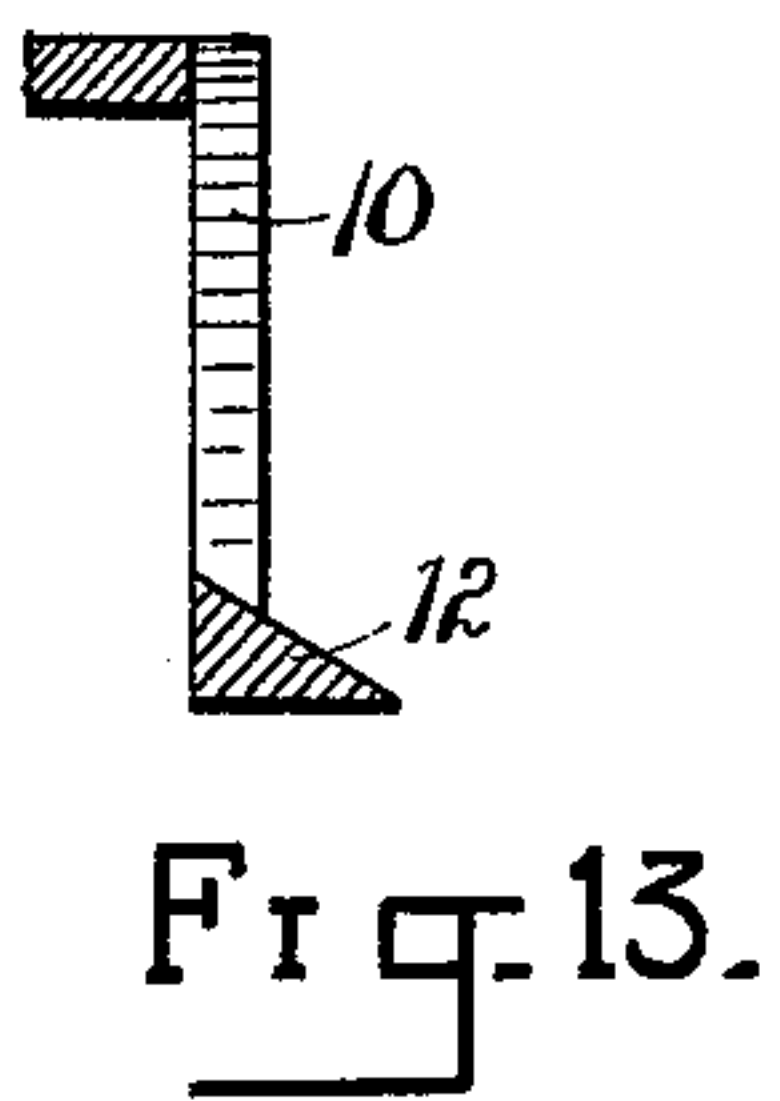
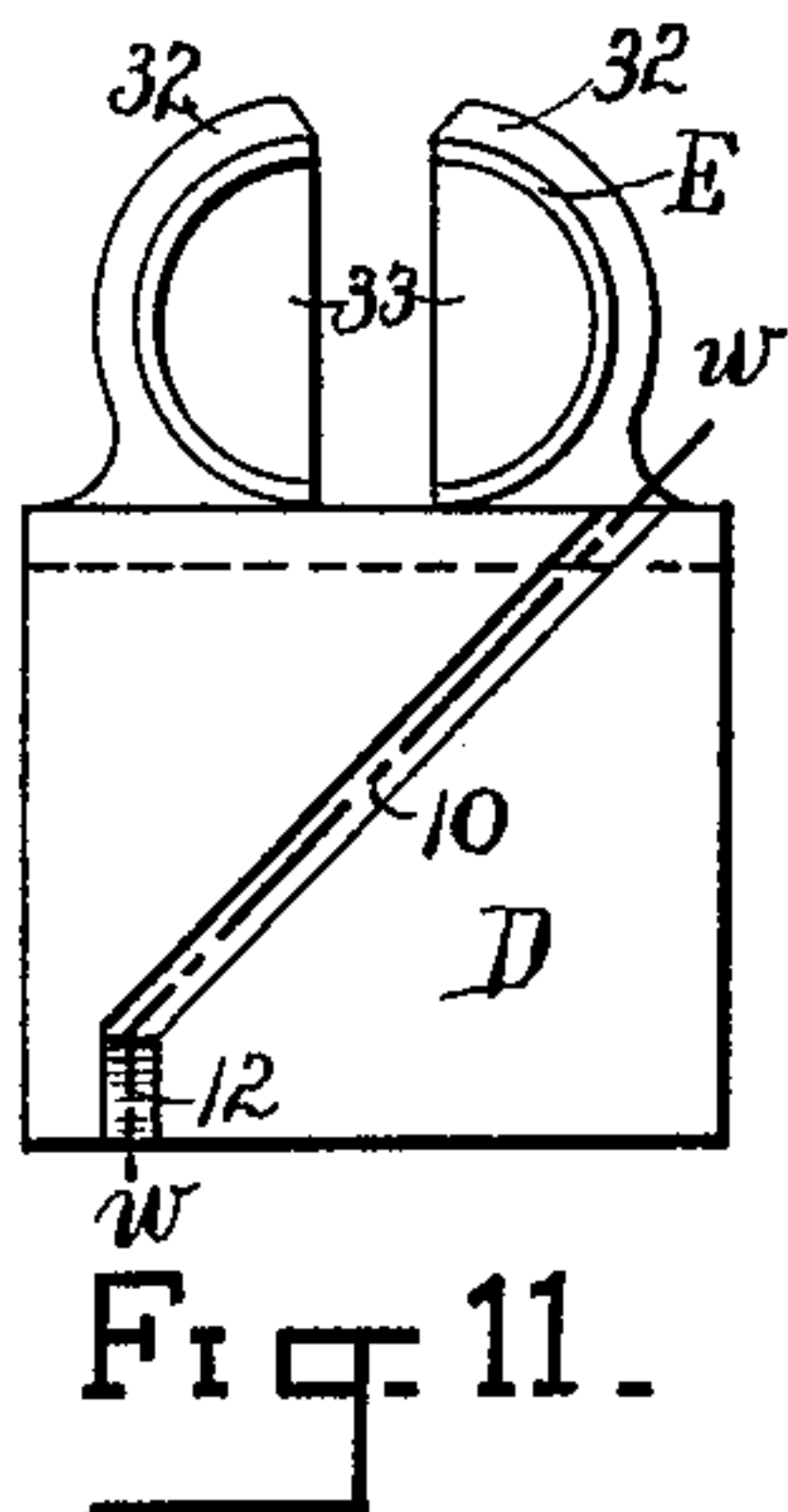
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3 Sheets—Sheet 3.

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MAGAZINE FIREARM.

No. 601,843.

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WITNESSES:

S. L. McClean,
W. E. Anderson

INVENTOR:

S. N. McClean

UNITED STATES PATENT OFFICE.

SAMUEL NEAL McCLEAN, OF WASHINGTON, IOWA.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 601,843, dated April 5, 1898.

Application filed April 30, 1892. Renewed July 19, 1897. Serial No. 645,166. (No model.) Patented in England April 7, 1892, No. 6,683, and in Germany June 25, 1892, No. 68,699.

To all whom it may concern:

Be it known that I, SAMUEL NEAL McCLEAN, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented certain new and useful Improvements in Breech-Loading Firearms, of which the following is a specification and for which I have received patents in Great Britain, No. 6,683, dated April 7, 1892, and in Germany, No. 68,699, dated June 25, 1892.

My present improvements relate to breech-loading firearms; and the object is to construct a firearm on the general principle of the grip-lever, and to simplify and improve the mechanism of such weapons, and to provide improved breech-closing, firing, automatic firing, shell-extracting, loading, and magazine mechanism.

The invention involved in this application differs from those shown and described in my former and earlier applications in the following particulars:

In my application Serial No. 384,944 I have shown and described a breech-closing mechanism comprising a grip-lever, an operating-lever, and a breech-block operatively associated; also, a firing mechanism comprising the same elements associated with a trigger and a hammer; also, a cartridge-receiver attached to a cartridge-carrier and opened and closed by a reciprocating device, which engages with the cartridge to close the receiver and with the breech-block to open it, and a rotatable multichambered cartridge-magazine, which engages with a vertically-reciprocating carrier by means of a diagonal cam-guide.

In my application Serial No. 409,191 I have shown and described a breech-closing mechanism comprising a sliding handle connected to a longitudinally-reciprocating breech-block, the connecting medium engaging a cam-guide to lock and unlock the breech-block; also, a firing mechanism comprising the same elements associated with an ordinary form of trigger and hammer; also, an automatic firing mechanism comprising the same elements except the trigger, a sear being provided to engage the heel of the hammer and to be disengaged by the sliding lever; also, a cartridge-

receiver containing cam slots or guides which engage with the carrier, the receiver having a reciprocating movement and being opened and closed by the action of the guides, and a reciprocating cartridge-carrier having a diagonal guide to engage with the rotating magazine and means for disengaging the carrier from the magazine.

In this present invention I have provided a breech-closing mechanism comprising a grip-lever and an operating-lever connected to a reciprocating breech-block, the connecting medium between the operating-lever and the breech-block engaging with a cam-guide to lock and unlock the breech-block and to give the breech-block a reciprocating movement on a line with the bore of the barrel; also, a firing mechanism comprising the same elements and an ordinary form of hammer and trigger. I have also provided an improved automatic firing mechanism comprising the same elements last-above mentioned, except the trigger, a sear being provided to engage with the heel of the hammer and to be disengaged by the operating-lever; also, an actuating mechanism comprising the grip-lever, a locking-dog, and a trigger to lock and release the grip-lever; also, a cartridge-receiver having a reciprocating movement and engaging with cam-guides to open and close the receiver; also, a rotating multichambered magazine, the chambers thereof registering successively with an opening into the stock-chamber and having spring-actuated followers and a spring-catch in the path of the followers to lock and release the magazine.

The invention further consists in a novel and improved construction of the parts and their combinations, as will be hereinafter specified, and particularly set forth in the claims.

Figure 1 of the drawings represents a longitudinal sectional view of the barrel and magazine of the firearm and a view of the construction of the operating devices located in the stock or handle of the firearm, the left side of the wall or stock of the firearm being removed and the left half of the grip-lever being also removed. Fig. 2 is a cross-section on the lines *xx*, showing the walls of the stock A, the barrel B, the magazine C, magazine-

tubes V, end of the grooves 35, and openings 48 in the end of the magazine. Fig. 3 represents a detail perspective view of the grip-lever, showing its U shape, its body, and lateral walls, and the walls of the stock, and on the front side of the grip-lever 27 is seen the grip or handhold on which the force which actuates the operating device is exerted. Fig. 4 is a detailed rear view of the operating-lever H, showing the projection 2 for engagement with the automatic trigger and the pin 55 for engagement with the spring M, also the bifurcated construction of the long arm of this lever to allow the operating device to be centrally located. Fig. 5 is a cross-section on the line $y y$, showing the opening 50, through which the cartridges pass from the magazine to the carrier, also the slot 15, in which the projection 12, located on the anterior face of the carrier D, moves and is controlled, also the slot 47 and the spring-catch 46, which is constructed to engage with the end of the magazine and retain the upper tube of the magazine in front of the opening 50 until, the chamber being emptied, it is released from engagement with the magazine by engagement with the plunger T. This figure shows also the slide 57, which is capable of being moved or rotated so as to open one of the tubes of the magazine. Fig. 6 is a detailed view of the locking device, showing the locking-bar P, locking-pin 6, locking-levers O, and upper end of the operating-lever H. Fig. 7 represents a detailed illustration of the latch-springs 22, showing their latch-shaped projection 23 and 24. Fig. 8 is a detailed illustration of the automatic shell-extractor, being a horizontal section through the firearm, taken on a line with the center of the extractors, showing the breech-piece N with the extractors 19 attached, also the bearings 18 and the grooves 21 and 20, illustrating the varying depth of the grooves 21 and their cam action on the bearings 18, also the firing-pin. Fig. 9 is an end elevation of the cartridge carrier and receiver on the line $z z$, showing the shell-walls E of the receiver, the bars 32 connecting these walls with the reciprocating plates S, also the horizontal plate D' of the cartridge-carrier and the slots 34 in this plate, through which the connecting-bars 32 pass, the shell-walls E being closed. Fig. 10 is a longitudinal vertical sectional view of the barrel and magazine of the firearm with the left wall of the stock removed, the left half of the grip-lever G being also removed, showing the operating device in the retracted or second position and the hinged section of the stock 58 with the spring which actuates it, which section is capable of being depressed into the stock sufficiently to open one of the tubes of the magazine. Fig. 11 is a view of the front face of the cartridge-carrier D, showing the projection 12, the diagonal groove 10, the cartridge-receiver E, the bars 32, and the walls of the rear end of the receiver 33. Fig. 12 is a plan view of the

upper surface of the cartridge-carrier, showing the plate D' and the cam-slots 34, also the projection 12. Fig. 13 is a sectional view through the center of the groove 10 and projection 12 on the line $w w$, showing the inclined surface of the projection 12. Fig. 14 is a detailed sectional view illustrating the spring-catch 46. Fig. 15 is a perspective view of the breech-block, showing the shell-extracting and breech-locking devices, the locking-pin 6, and the cam-groove 29. Fig. 16 is a view of the outer surface of the hinged section 58, illustrating the manner in which it is hinged to the stock-wall and the spring which resists its movement. Fig. 17 is a section through the stock-wall, showing the hinged section 58 depressed into the stock-chamber in the process of loading. Fig. 18 is a section through the barrel and stock of the firearm, showing the latch-spring 22 in its operative position in the gun. Fig. 19 is a perspective view of the latch-spring 22, showing the latch-shaped projections 23 and 24. This figure is a modification of Fig. 7.

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 pistol; but it will be apparent that the operating device will be generally applicable to breech-loading firearms.

In the stock or handle of the firearm is located a chamber the forward end of which opens into the bore of the barrel and the upper tube of the magazine, as seen in Fig. 5. Between the opposite walls of this chamber are located the various devices for rotating the magazine, transferring the cartridge to the bore of the barrel, extracting the shell, actuating and locking the breech-block, cocking and automatically or mechanically releasing the hammer, also automatically-controlled locking-dog or catches for engagement with the grip-lever, cartridge-carrier, and rotating cartridge-magazine, respectively, the entire device being actuated and operated by a grip-lever and an operating-lever.

The grip-lever G, as illustrated in Figs. 1, 3, and 10, is a broad U-shaped lever having a body and lateral walls. The anterior part of the body G 27, Figs. 1 and 3, is constructed to form a grasp or handhold on which the actuating force is exerted. It is of a shape required to conform to the shape of the hand, being broad and oval. The lateral walls or sides are constructed to conform to and be controlled by the walls of the chamber and are separately pivoted to the walls at 25, Fig. 1, thus allowing the operating device to be centrally located. This lever when in normal position extends forward beyond the line of the stock and when actuated moves back to a point required to operate the device. Located on the inner surface of this lever is a projection for articulation with the bar I. The upper extremity g when in its forward

position is constructed to engage with the locking-dog 51, as illustrated in Fig. 1, which dog 51, being pivoted to the stock and actuated by the spring 53, is constructed to engage with the arm 52 of the trigger Y and is disengaged from the grip-lever G by the action of the trigger Y, as illustrated in Fig. 10.

The operating-lever H, Figs. 1 and 4, is elbow in shape, has a long and a short arm, and is bifurcated, as shown in Fig. 4, to allow the loading and the firing device to be centrally located. The short arm is pivoted to the frame at 28, Fig. 1. The long arm is united to the grip-lever G by the bar I and united with the spring M, as illustrated in Figs. 1 and 10. The separate arms of the bifurcated part of this lever are united by the projection 2, which is arranged to engage with the automatic sear J. These levers G and H have a mutual reciprocal movement in line with the walls of the chamber, and when the grip-lever is actuated or retracted by the grasp of the hand it swings back into the chamber formed in the stock or handle of the firearm, and by means of the bar I causes the operating-lever H to swing back and down, as illustrated in Fig. 10. The upper extremities of this lever H travel in the direction indicated by the grooves 29; but by changing the attachments of the bar I and pin 28 the movement of the upper extremity of this lever can be controlled as desired.

The automatic locking device is constructed and actuates and locks the breech-block in the following manner: The bifurcated extremities of the lever H are hinged to the breech-block N by means of locking-levers O and the locking-bar P, the bar P being hinged to a projection 30, located on the under side of the breech-block. The rear end of the bar P is hinged to locking-levers O by the pin 6. This pin passes through the locking-levers O and extends into the grooves 29, which grooves 29 are located in the respective opposite walls of the firearm, have substantially a vertical, a curved, and a rearward direction, and are identical in size, depth, and direction, the forward extremities of these grooves being constructed to curve up to a point in front of the shoulders 59, against which the breech-block locks when the pin 6 is in the more elevated part of the grooves 59, the breech-block N being actuated, locked, and unlocked by the reciprocating movement of the pin 6 in and through these grooves 29, the automatic cam action of the parts being as follows: When the grip-lever G, actuated by the grasp of the hand, moves back and, by means of the bar I, causes the upper extremity of the operating-lever H to move back, the hinged or knee connection of the bifurcated arms of this lever H, with the locking-levers O, is opened, thereby removing the lower end of locking-levers O from beneath the rear end of locking-bar P and drawing the locking-levers O down out of engagement with the shoulders 59, the pin

6 dropping down through the forward and curved part of the grooves 29 and being drawn back in these grooves to a point required to operate the device, thus unlocking and withdrawing the breech-block, as illustrated in Fig. 10. The reverse movement of the operating-lever H, actuated by a spring M, causes the pin 6 to slide forward through the grooves 29 and be lifted up into the forward part of these grooves by the forward and upward movement of the locking-levers O. The hinged connection of the levers H and O, as seen in Fig. 15, is such that when the lever H has reached the limit of its forward movement the rear parts of the levers O come in contact with the upper part of the lever H and lock that lever against further forward movement, thus preventing the action of the spring M from throwing the upper end of the lever H forward beyond the point at which the breech is locked, thus lifting the locking-levers O up in advance of and into engagement with the shoulders 59 and actuating and locking the breech-block by means of the cam action of the grooves 29 on the pin 6 and the reciprocating movement of the parts.

The breech-block is a steel bar or rod of a size and length to be determined by the cartridge used in the particular firearm, constructed to slide back and forth in a chamber formed by the walls of the stock or handle, capable of actuating a hammer, an automatic shell-extractor, and a cartridge-carrier, containing the usual firing-pin, passing longitudinally through it and having on its under side, near the forward end, a lug or hinge 30, Fig. 1, for articulating with the locking-bar P. Grooves 20, Fig. 8, are cut in the sides of the breech-block to allow the extractors to be sufficiently compressed to grasp a small cartridge.

The automatic shell-extractors 19, Figs. 1, 8, and 10, are steel springs fixedly attached to the opposite sides of the breech-block on a line with the axis of the barrel. They have hooked extremities for engagement with the flange of the cartridge. Located on their outer side is a bearing 18, Fig. 8, which is constructed to move and slide in grooves 21, Fig. 8. These grooves become gradually shallower at a point a little more than the length of the cartridge from the bore of the barrel, the extractors being constructed to spring out and force the bearings 18 against the bottom of the grooves as the breech moves forward, pushing the cartridge into the barrel. The gradual shallowing of the grooves causes the extractors to grasp the flange of the cartridge, and when the pressure is sufficient to hold it firmly the bottom of the grooves becomes parallel again, thus firmly holding the cartridge as it passes into the bore of the barrel and retaining their grasp till the shell being fully extracted the gradual increasing of the depth of the groove and the resultant diminished pressure on the bearings 18 causes the extractors to release the shell, when it is

thrown out at the top by the upward movement of the cartridge-carrier.

The cartridge-carrier-lifting lever F, Figs. 1 and 10, is actuated by the reverse movement of the breech and the resistance of the spring 5. It is supported in the bifurcated end of the bracket R, Figs. 1 and 10. The long arm of this lever is constructed to engage with the projection 7 on the rear face of the vertical plate D of the cartridge-carrier. The short arm of this lever is engaged by the backward movement of the locking-bar P, and, being retracted by it, the long arm of this lever causes the carrier D and D' and its cartridge-receiver E to rise up into the presence of the bore of the barrel at a time when the breech-block is sufficiently withdrawn to admit of this movement, the motion of the carrier being controlled by the edges or sides of the vertical plate D, which are constructed to move and slide in the grooves 13, Figs. 1 and 10.

The automatic cartridge-carrier D and D', Figs. 1, 11, 12, 9, and 10, consists in a steel plate having vertical and horizontal parts, the vertical plate D being somewhat broader than the plate D'. Its edges are constructed to move and slide in vertical grooves 13, 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 plate D, Fig. 11, is a diagonal groove 10, constructed to engage with the pin 38 of the plunger T, Fig. 1, and rotate the magazine. The horizontal part of the carrier D' (illustrated in Figs. 1 and 12) is of a width and length to be determined by the cartridge used in the particular firearm. Movably retained on the upper surface of this plate is the cartridge-receiver. Its shell-walls E, Figs. 1, 11, and 9, are fixedly attached to the bars 32, which bars 32 pass through slots 34, Fig. 12, in the plate D', and are attached to the reciprocating plates S, Figs. 1, 9, and 10, these shells E having walls 33, Figs. 1 and 11, at their rear ends. When a cartridge actuated by the force of the coiled spring W, Figs. 1 and 10, passes out from the magazine, it passes through the shells E and comes in contact with the said end walls 33, and in its further backward movement carries the shells with it, causing the cam action of the grooves 34 on the bars 32 and shell-receiver to grasp and retain the cartridge till the reverse movement of the parts, as illustrated in Fig. 10. The cartridge being in the presence of the bore of the barrel, the forward motion of the breech-block causes the shells E to slide forward and to resume their former position. (Illustrated in Figs. 1 and 11.) The cartridge being then sufficiently engaged in the bore of the barrel, the carrier D is thrown down by the force of the spring 5 to its position in front of the magazine, when it immediately receives from the magazine another cartridge, as before.

The cartridge-carrier is retained in its up-

per position by the automatic action of the locking-springs 22, Fig. 7. These springs are located in the grooves cut in the respective opposite sides or walls of the stock-chamber a little below and parallel with the breech-block. The rear ends of these springs are fixedly pivoted to the walls of the stock, and the projections 23 and 24 are arranged to extend beyond the surface of these walls and to engage with the cartridge-carrier, as follows: The width of the plate D' of the cartridge-carrier being the same as that of the chamber in which it moves, this plate in its upward movement comes in contact with the inclined surface of the latch-shaped projection 23 and forces the spring 22 back into the slot until the under surface of this plate D' has passed above the projection 23, when this projection immediately springs out beneath the plate D' and supports it in position in the presence of the bore of the barrel till the forward motion of the breech-block, coming in contact with the rearwardly-inclined face of the projection 24, forces this spring back into the groove in the wall of the chamber, thus removing the projection 23 from beneath the plate D' of the carrier, when the carrier is immediately thrown down to position in front of the upper tube of the magazine at a time when the cartridge is sufficiently engaged in the bore of the barrel to retain it while the breech-block is forcing it forward.

The automatic rotating magazine, Figs. 1, 2, and 10, is held in position beneath the barrel by a permanent pin 16, which passes into a central opening in the magazine and front wall of the stock-chamber, and a removable pin 8, which passes through a removable arm into a corresponding central opening in the forward end of the magazine. The magazine may be formed of two or more chambers. I have seen proper to illustrate it as possessing four chambers, as seen in the drawings. Each of these chambers or tubes V is provided with a longitudinal groove 35. Within these chambers or tubes V is located the plunger T, having a coiled spring W. Attached to the side of the plunger T is the pin 38, having a shoulder 45, which pin 38 is constructed to slide back and forth in the groove 35. The force of the coiled spring W causes the plunger T 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 38, traveling in the groove 35, projects from the end of the magazine through the openings 39, Fig. 5, in the front wall of the stock-chamber and engages with the diagonal groove 10 in the front face of the vertical plate of the cartridge-carrier D, Fig. 11, by means of which engagement the upward motion of the carrier causes the next chamber of the magazine to be rotated into position, its contents being then discharged, as hereinbefore described. The diagonal groove 10 on the face of the vertical plate D of the cartridge-carrier terminates at

its lower part in a vertical groove. The vertical groove shallows out and forms a projection 12, Fig. 11. This projection extends out from the face of the plate and is constructed to move and slide in the vertical slot 15, cut through the end wall of the stock-chamber, as seen in Fig. 5. When the carrier is forced upward, this projection engages with the pin 38 of the plunger T after the empty chamber of the magazine has been rotated out of position and forces the plunger T back into the magazine, when the plunger is caught and held by the catch-levers 36, as hereinafter described. The catch-levers 36, Figs. 1 and 2, are pivotally held in slots cut through the walls of the magazine and are located near both the forward and rear ends of each tube of the magazine. Their automatic action is as follows: These catch-levers or dogs 36 have a hooked or latch-shaped extremity, which is constructed to extend slightly within the inner surface of the tubes of the magazine. The outer end is actuated by a spring 37. When the chambers of the magazine are full of cartridges, the plunger T is forced back through the tubes of the magazine until it passes the latch-shaped extremities of the levers 36, located at the forward end of the tube, when the hooked extremities of these levers 36, actuated by the spring 37, engage the plunger T and retain it. The outer ends of the levers 36 are constructed to extend beyond the outer surface of the magazine, and when the magazine is rotated these levers, coming in contact with the under side of the barrel, their outer end is depressed, thereby causing the inner end to fall back into the slot and release the plunger T at a time when this particular tube of the magazine shall be in front of the opening 50, through which the cartridges are discharged into the receiver, the catches in each particular tube being actuated only when it is rotated into position, as described. The catches located in the slots near the rear end of the tube are constructed to engage with the plunger in a similar manner after the tube has been emptied and rotated out of position.

Cut through the front end wall of the stock-chamber at the rear end of the magazine is a vertical slot 47, as seen in Figs. 5 and 20. Located in this slot is the spring-catch 46. The lower end of this spring is fixedly attached to the stock-wall, and its upper end is allowed to spring out of the slot against the end of the magazine and is constructed to engage with the openings 48, Fig. 2, located in the rear end of the magazine, and by means of this engagement to retain the upper tube of the magazine in front of the opening 50, Fig. 5, through which the cartridges are discharged into the cartridge-carrier, and to retain this engagement till the last cartridge being forced out of the tube, the shoulder 45 of the pin 38, as it passes through the opening 39, Fig. 5, engages with the spring 46 and forces it back into the slot 47 out of engagement with the

openings 48, thus locking and releasing the magazine as its empty tubes are rotated out of position and loaded tubes into position in front of opening 50.

The action of the automatic firing device is as follows: The hammer K is pivotally retained in the bifurcated extremity of the arms of the bracket R and is actuated by a spring 1, Figs. 1 and 10. The spring-actuated sear J, Figs. 1 and 10, is pivotally held in the bifurcated extremity of the rear arm of the bracket R. It is constructed to engage with the sear-notches 40 in the heel of the hammer K, its forward end being forced against the heel of the hammer K by the action of the spring 3, its rear end being constructed to be engaged by the projection 2 of the operating-lever H, Fig. 1.

The trigger Y, Fig. 1, pivotally attached to the stock by the pin 41, is constructed to engage with the sear-notches 40 of the hammer K, Fig. 1, its movements being controlled by the spring 4. The automatic action of this trigger and sear is as follows: Both the sears are thrown against the heel of the hammer K when the device is actuated by the rearward motion of the operating-lever H and breech-block N, forcing the hammer K back into cocked position, causing the sear-notches 40 of the hammer to be rotated, thus allowing both trigger and sear to slip past and catch behind the sear-notches 40 of the hammer K and to retain this engagement until by the forward motion of the lever H the projection 2 of this lever, coming into contact with the rear part of the sear J, causes its forward end to be disengaged from the sear-notches 40 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 Y, the gun can be fired in the usual way by this trigger; but if rapid firing is desired, the action of the sear can be utilized by drawing the trigger Y fully back, so that the spring 42 will engage with the trigger Y and retain the same, as illustrated in Fig. 1, thereby leaving the action of the hammer to be controlled only by the sear J, when the gun will be automatically discharged by engagement of the lever H with this sear, as hereinbefore described.

The bracket R is rigidly attached to the bottom of the stock-chamber and has three upwardly-extending arms. These arms are located in the central line of the firearm and have bifurcated extremities, in which are pivotally held the lever F, the hammer K, and the sear J, as illustrated in Fig. 10. This bracket is chambered or mortised to admit the action of the trigger Y and locking-dog 51, as illustrated in Fig. 10.

The locking-dog 51 is pivotally mounted on the trigger-plate, as illustrated in Figs. 1 and 10, and is actuated by a spring 53 and has two separate arms, one having a hooked or latch-shaped extremity constructed to engage

with a projection *g*, located on the grip-lever, the other arm constructed to engage with the perforated arm 52 of the trigger Y. This lever or dog is constructed to engage with the grip-lever G when it is thrown forward to its first position by the force of the spring M, as illustrated in Fig. 1, the dog being released from engagement with the grip-lever by a pull on the trigger Y when this trigger is actuated by the finger, the dog being retained out of engagement with the lever G when the trigger Y is out of engagement with the hammer and when the firearm is discharged by the action of the sear alone.

Movably retained with the end wall of the chamber formed in the stock or handle of the firearm in front of the end of the magazine is the slide 57, Fig. 5, capable of being moved or rotated so as to open one of the tubes of the magazine. Opposite the tube thus opened, and located in the stock of the firearm, is arranged a hinged section 58, Figs. 10, 16, and 17, of the stock, grooved on its outer side, so as to form a semicircular trough through which the cartridges can be slid into the tube of the magazine. This section of the stock is hinged at its rear end and actuated by a spring, its forward end being capable, when the cartridge-carrier is in the upper position, of being depressed into the chamber sufficient to open a tube of the magazine, thus allowing the cartridges to be passed into the magazine. When all of the tubes of the magazine have been loaded, the slide 57 is rotated back to its former position and the hinged section of the wall of the chamber allowed to spring back to its former position.

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 the 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, an actuating mechanism comprising a grip-lever, a locking-dog engaging the grip-lever, and a trigger engaging the dog to release the grip-lever by the firing movement of the trigger.

2. In a breech-loading firearm, a grip-lever, an operating-lever connected to said grip-lever, a reciprocating breech-block, a connecting medium between said breech-block and said levers and a stock-wall having a cam-track to engage the said connecting medium to lock and unlock the bolt.

3. In a breech-loading firearm, the combination with the reciprocating block, of a grip-lever and operating-lever connected together, a guide-groove 29, in the stock-wall a breech-locking bar P, hinged at one end to the breech-block and engaging the said guide-groove, a link connection O, between the end of said

locking-bar and operating-lever, and a shoulder on the stock-wall against which the said bar locks, substantially as described.

4. In a breech-loading firearm, the combination with the reciprocating breech-block, of a grip-lever, an operating-lever connected with the grip-lever and with the breech-block, a spring resisting the movement of said levers and restoring them to their normal position, a spring-actuated hammer cocked by the movement of the breech-block, a spring-actuated trigger to engage the hammer, and a spring-actuated secondary sear engaging said hammer and located in the path of the forward movement of the operating-lever.

5. In a breech-loading firearm, a grip-lever an operating-lever connected to the grip-lever, a reciprocating breech-block connected to the operating-lever, a spring-actuated hammer cocked by the movement of the breech-block a sear engaging the hammer, and located in the path of the movement of the operating-lever, and engaged by the operating-lever to discharge the weapon.

6. In a breech-loading firearm, the combination with the reciprocable breech-block, of an operating-lever connected to the breech-block a grip-lever connected to the operating-lever, a spring resisting the movement of said levers to restore them to their normal position, a spring-actuated hammer, a spring-controlled locking-dog to engage and lock the grip-lever, and a spring-actuated trigger connected with said dog to release the grip-lever by the firing movement of the trigger.

7. A cartridge-carrying device for a breech-loading magazine-firearm, said device comprising a reciprocating carrier having cam-guides formed in its horizontal portion and arranged in pairs the members of which are located respectively near the forward and rear ends of the carrier a cartridge-receiver formed in relatively-adjustable sections having lugs to engage the said cam-guides the cam-action of the guides and the reciprocating movement of the cartridge-receiver operating to open and close the same.

8. In a breech-loading firearm the combination with the rotary magazine having tubular chambers containing spring-plungers, of a spring-catch 46 normally locking the magazine against rotation and disengaged by the contact of the spring-plungers, substantially as described.

9. In a firearm, a grip-lever hinged to the stock or handle of the weapon, a spring resisting the movement of the lever, a dog engaging the lever and holding it locked in its forward position, and a trigger engaging the dog to release the grip-lever by the action of the trigger.

SAMUEL NEAL McCLEAN.

Witnesses:

W. E. ANDERSON,
H. M. EICHER.