

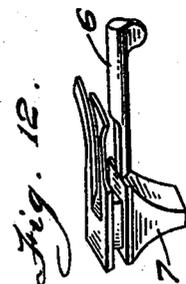
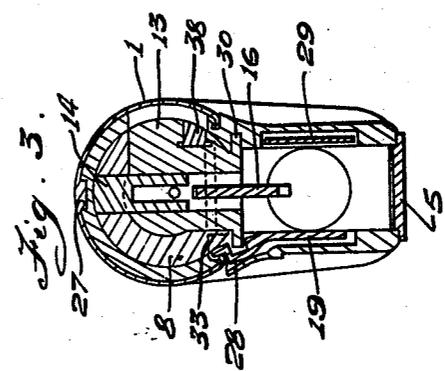
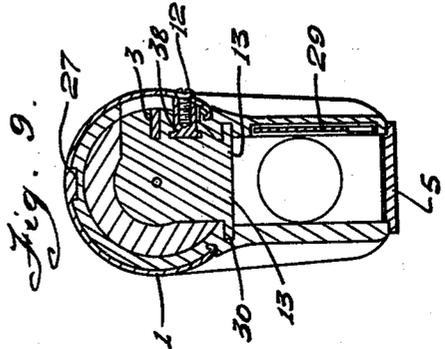
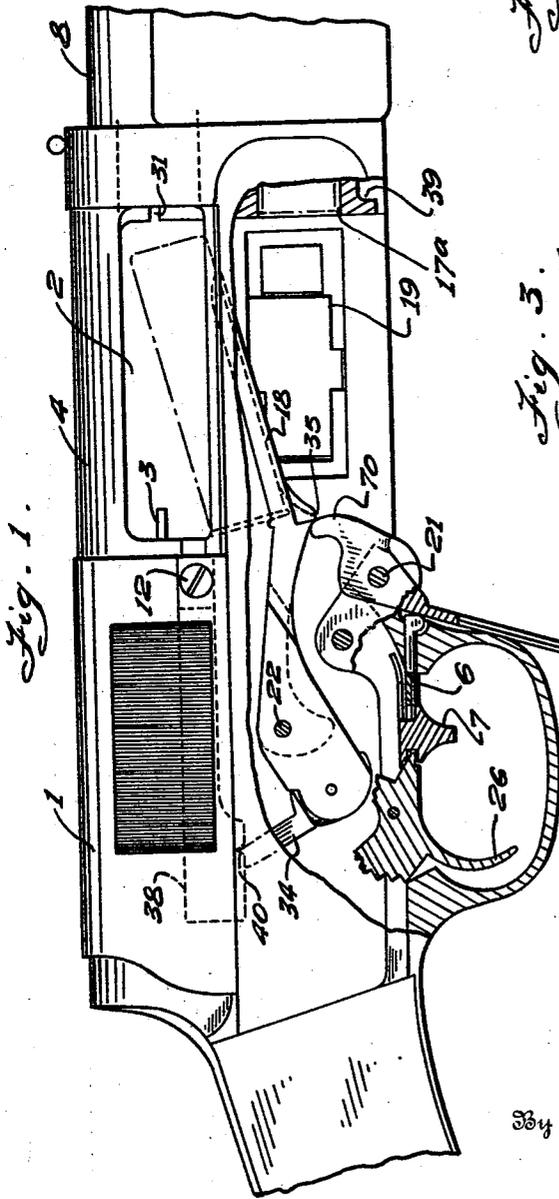
Feb. 19, 1929.

1,702,984

E. H. SHELMAN
AUTOMATIC SHOTGUN

Filed Sept. 28, 1927

3 Sheets-Sheet 1



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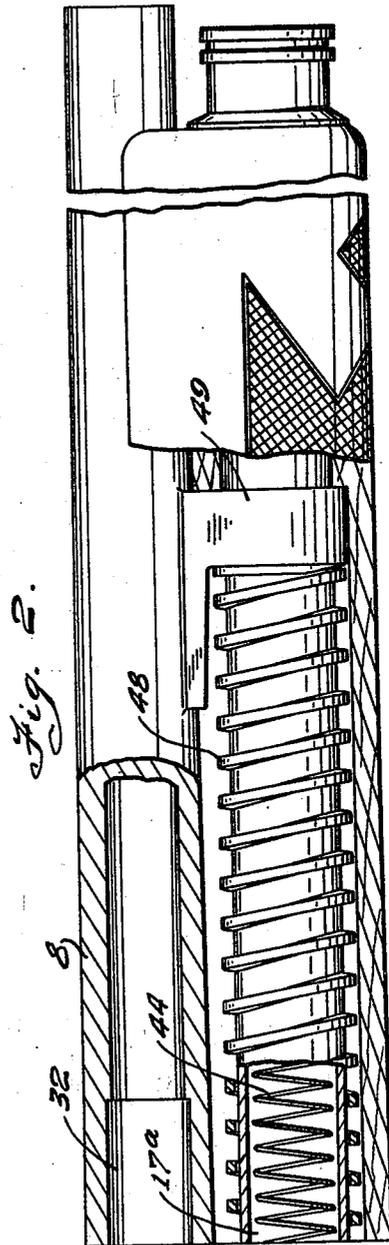
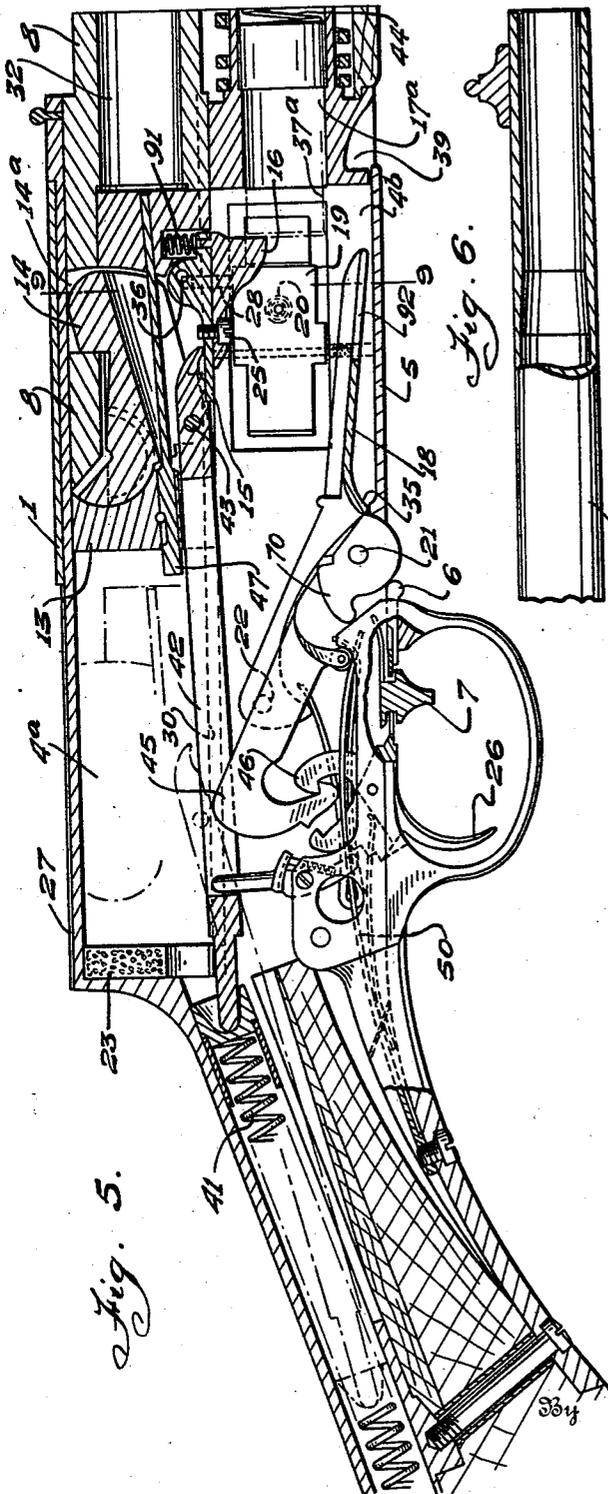
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E. H. SHELMAN
AUTOMATIC SHOTGUN

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3 Sheets-Sheet 2



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1,702,984

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AUTOMATIC SHOTGUN

Filed Sept. 28, 1927

3 Sheets-Sheet 3

Fig. 7a.

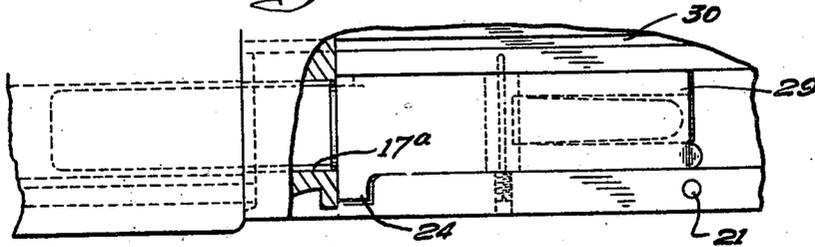


Fig. 7.

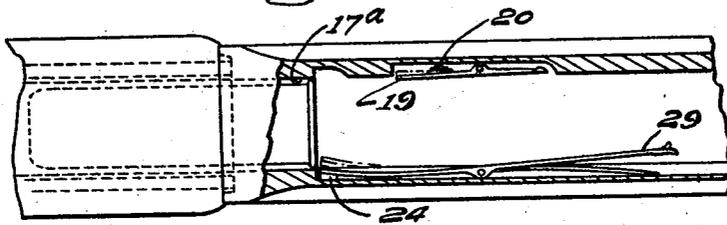


Fig. 8.

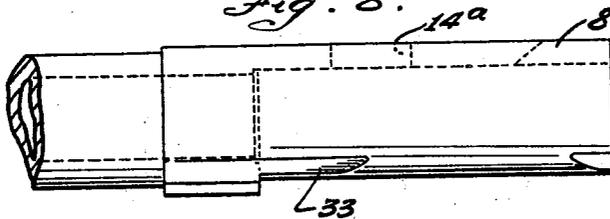


Fig. 11.

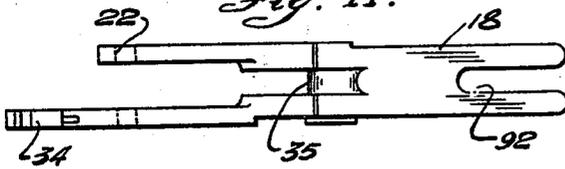


Fig. 10.

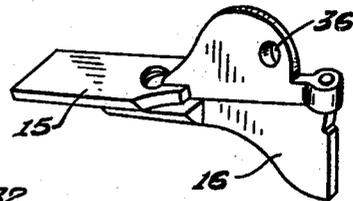
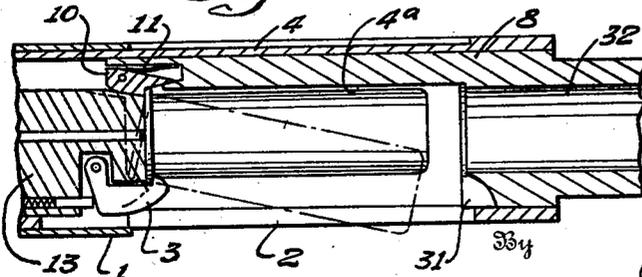


Fig. 4.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC SHOTGUN.

Application filed September 23, 1927. Serial No. 222,629.

This invention relates to improvements in automatic shotguns and relates particularly to that type of shotgun in which the barrel may be loaded with a single cartridge through an opening in the side of the receiver and in which the magazine is loaded through an opening on the under side of the receiver.

As at present constructed, shotguns of the type indicated are provided with an internal closure for the side opening in the receiver which affords curves, crevices and corners, making lodging places for dust and dirt which readily enter the chamber within the receiver when the sliding member which closes the opening is moved to open position. One of the objects of the present invention is to provide a sliding closure for the side opening in the receiver which works on the outside of the receiver, thereby avoiding all lodging places for the accumulation of foreign matter and acting by its sliding movement to keep those parts clean upon which the dust and dirt usually accumulate.

Another object of the invention is to provide a closure for the opening in the under side of the receiver through which the magazine is fed, this opening being left open in guns of known construction.

A further object of the invention is to combine the closure or lid for this under side opening with the cartridge feeding mechanism, so that when said lid is moved to open position, the cartridge feeding mechanism, which, in ordinary constructions normally occludes the entrance to the magazine and must be pushed aside and held aside while the magazine is filled, is automatically held in raised position, giving free access to the magazine, so that both hands are free to assist, if necessary, in holding the gun and feeding the cartridges into the magazine.

Still another object of the invention is to correlate the lid or under-side closure with the safety trigger, that when said lid is in open position; that is to say, when the magazine is open, the safety trigger is automatically thrown to safety position so that the firing trigger cannot be pulled until the magazine feeding mechanism has returned to closed position, which it can only do upon the closing of said lid.

Another object of the invention is to provide the lid or underneath closure with means cooperable with the sliding handle which controls the action of the breech-block as

well as the closure of the side opening into the magazine, in such a manner that should said sliding handle and breech-block be left in open position prior to the opening of the underneath closure or lid, the opening of the latter will release detent means controlling the open position of the sliding handle so that the latter and with it the breech-block at once returns to closed position. This construction insures that both the barrel and magazine shall not be open to the outside of the receiver at the same time.

A further object of the invention is to improve the construction of the cartridge stop which normally depends in front of the open end of the magazine and at the same time projects into the path of movement of the breech-block, in such a manner that this stop is made in two pieces, the convenient removal of one of which pieces permits the removal of the breech-block endwise with the barrel, when taking the gun apart, an operation which is not possible in guns of the type, as at present constructed, without taking apart a complicated set of mechanical parts so that the cartridge stop as a whole can be moved out of the path of the breech-block.

Still another object of the invention is to improve the construction of the cartridge stop leaf, which normally holds the cartridge in position upon its automatic emergence from the magazine, until the recoil movement of the previously fired shell has set the parts of the feeding mechanism in position to receive and propel the cartridge into the firing chamber of the barrel.

This improvement also contemplates a manual release of the cartridge stop leaf so that the cartridge can be readily removed by hand in unloading the magazine without firing the cartridges.

Still another object of the invention relates to an improvement in the cartridge tilting means incident to the ejection of the cartridge, which, in present shotguns, is so constructed as to necessitate receiving grooves being formed in the breech-block, weakening the latter to some extent. By the present invention, the cartridge tilting device is carried by the barrel and recedes from the path of the breech-block upon the advance of the latter, obviating the necessity for a seating slot in the breech-block for the same, and avoiding the objectionable weakening of the breech-block incident to the provision of such a slot.

Other objects of the invention will appear as the following description of a preferred embodiment of the invention proceeds.

In the drawings:—

8 Fig. 1 is a side elevation of the receiver portion of the shotgun showing the hand slide and magazine door in open position.

10 Fig. 2 is a side elevation, partly in section, showing a portion of the barrel and magazine.

Fig. 3 is a transverse section through the breech-block.

Fig. 4 is a longitudinal section showing the ejecting mechanism.

15 Fig. 5 is a longitudinal section through the receiver.

Fig. 6 is a longitudinal elevation, partly in section, showing the choke end of the barrel.

20 Fig. 7 is a plan view of the view shown in Fig. 7^a, part being broken away in section, showing both of the stop leaves.

Fig. 7^a is a side elevation of the magazine chamber, partly in section, showing one of the stop leaves.

25 Fig. 8 is a plan view of the breech-block chamber.

Fig. 9 is a section taken along the line 9—9 of Fig. 5.

30 Fig. 10 is a perspective view of the cartridge stop.

Fig. 11 is a plan view of the cartridge elevating member.

35 Fig. 12 is a perspective view of the safety catch and safety trigger in cooperative relation.

Referring now in detail to the several figures, the gun includes the usual receiver 4, barrel 8 and magazine 17^a. The magazine is provided with an external slideway in its upper half which is apertured on one side to form the opening 2 into which a cartridge may be inserted by hand in the direct path toward the barrel. The aperture 2 is normally closed by means of a hand-slide 1, the same having a range of movement along the slideway of the receiver. In ordinary constructions, the aperture 2 is closed by the breech-block itself which occludes said opening from the inside forming a paneled depression on the outside surface of the receiver into the corners and crevices of which dust and foreign matter collects, so that when the breech-block is pushed toward the stock of the gun in order to uncover the opening for the purpose of admitting a cartridge, the collected dust and dirt falls into the receiver and upon the mechanism contained therein. By the present construction, it is provided that there shall be no cracks or crevices and that the sliding action of the hand-slide 1 upon the receiver shall keep polished those surfaces upon which the dust ordinarily accumulates.

65 The improvement next to be described relates to the closure of the opening at the

under side of the receiver which, in ordinary gun constructions, is left uncovered. In the present instance, the closure comprises a door 5 pivotally connected to the receiver by a transverse pin 21. This door is normally closed, being opened only when it is desired to fill the magazine.

70 The provision of the door 5 lends itself to its utilization in accomplishing several new results which are not attempted by any known gun construction and which are of highly advantageous character. The first of these relates to the utilization of said door in maintaining the access to the magazine chamber automatically open as long as may be desired or until the entire quota of cartridges has been fed into the magazine. Ordinarily, access to the mouth of the magazine chamber is obstructed by the cartridge elevating means, which in the automatic operation of the gun elevates the cartridges successively from the magazine into the path of the breech-block, and which means will presently be described. In ordinary gun constructions, this elevating means must be held aside by depressing a button on the side of the receiver and holding it depressed during the entire time required for filling the magazine. If the button is released, the cartridge elevating means returns to its normal position obstructing the feeding of cartridges to the magazine. It will, therefore, be understood that in known constructions one hand must be continuously employed in holding open the passage leading to the magazine, leaving but one hand free for the filling operation. By the present construction the door 5 is utilized as a lever for automatically holding the cartridge-elevating means above the entrance to the magazine barrel, leaving both hands free for the filling operation. In the accomplishment of this function, the door 5 is provided rearwardly with a cam 70 which, in the normal closed position of the door 5 is inactive, but which, in the fully opened position of said door shown in Fig. 1, abuts against a cam 35 formed on the cartridge elevating means 18, raising the latter from the position shown in Fig. 5 to that shown in Fig. 1 and thereby affording free access through the opening in the bottom of the receiver to the magazine chamber. The cartridge-elevating means 18 comprises a spoon-shaped forward end formed with a slot 92 in its lower surface utilized for a purpose which will hereinafter appear, said elevating means being pivoted within the receiver upon the transverse pin 22. Said elevating means is also provided with a pivoted pawl 34, the utility of which will appear from a description of the movement of the breech-block and its attendant mechanism, including the hand-slide 1. It is necessary at this point merely to state that the pawl 34 so cooperates with the breech-block mechanism that 130

when the cartridge-elevating member is in the position shown in Fig. 1, the end of the pawl rides out of the notch 40 provided in a link 38 which is secured to the breech-block, the latter being released, and being permitted to return to its closed position in which the hand-slide 1 closes the aperture 2. It thus appears that the door 5 is so correlated with the hand-slide 1 that whenever the door 5 is open for filling the magazine, it is assured that the hand-slide 1 shall be in closed position relative to the barrel filling aperture 2.

The door 5 also cooperates with the safety trigger in such a manner as to render it impossible for the gun to be accidentally fired while the door is left in open position, and incidentally, it may be stated that the door can be left in open position only when in the fully opened position shown in Figure 1, for if the door 5 is only partially opened and is then released, it will at once fly shut due to the downward pressure of the cam 35 upon the cam 70 incident to the action of the spring 50 upon the rearward end of the cartridge elevating member. The gun is provided, in a suitable recess in the forward side of the trigger guard with a slideable safety bolt 6 normally spring-retracted from safety position and having the head thereof in a path to be engaged by the door 5 when the latter is swung to its wide open position. When the head of the bolt 6 is engaged the bolt is pushed rearwardly, pressing against the safety trigger 7 and moving it to "safety", in which position the safety trigger remains even after the door 5 is closed, until it is intentionally moved back for the purpose of being able to operate the firing trigger 26.

Adverting now to the breech-block and its appurtenant parts, it is indicated by the reference character 13 in Fig. 5 and is connected to the hand-slide 1 by means of a screw 12, Fig. 1, operating through a slot in the side of the receiver, which slot is normally closed by the hand-slide. The breech-block is of substantially uniform overall cross-section throughout, its cross-sectional shape being shown in Fig. 3. In a slot in the side of the breech-block is carried the link 38 hereinbefore mentioned, which link moves with said breech-block, the notch 40 formed on the lower face of said link, see Fig. 1, being in the path of the pawl 34 when the cartridge elevating member 18 is in the inactive position shown in Fig. 5. At that time, when the breech-block recoils rearwardly, or by actuation of the hand-slide 1, the link 38 rides over the end of the pawl 34 depressing it against the pressure of a pawl-spring, not shown, until the notch 40 is reached, whereupon the pawl rises into the notch, in this manner retaining the breech-block in rearward position. Since, from the moment it is detained by the pawl 34, until its release, the breech-block must first elevate the cartridge elevating de-

vice by endwise pressure upon the pawl, and then swing the pawl to a position in which it rides out of the notch 34, releasing the breech-block, there is ample time for the barrel to run away from the breech-block, in its forward excursion reaching its normal position before the breech-block has been released, and affording a space into which the fresh cartridge is lifted by the cartridge-elevating means. Now, as has been previously intimated, if the door 5 is moved to a wide open position, the cartridge-elevating member is rocked, lowering the pivot of the pawl 34 so that it may move to vertical position under the forward pressure of the breech-block, thus automatically releasing the breech-block, which at once slides to its forward or closed position through force imparted to it by a spring 41 acting through the link 42 pivotally attached to the breech-block at 43 and which is of usual construction.

In known constructions of guns of this type, the cartridges are pushed into the magazine against a follower which is biased in an outward direction by a spring 44. A cartridge stop is commonly provided comprising a member pivoted to the breech-block by a transverse pin passing through a hole 36, said member having a part which depends in front of the mouth of the magazine. The forward end of the link 42 normally projects above the rearward part of the cartridge stop, when the breech-block is closed, and acts as a locking means to retain the cartridge stop in occluding relation to the mouth of the magazine. It is frequently desirable to remove the barrel and with it the breech-block, but in known constructions this is a difficult operation on account of the fact that the cartridge stop extends below the path of the breech-block in the manner aforesaid.

The present invention obviates this difficulty by making the cartridge stop in two parts having a plane of separation in the plane of the lower side of the path of travel of the breech-block. This feature is shown in detail in Fig. 10 and in its relation to the other parts of the gun mechanism in Fig. 5. The dependent part of the cartridge stop is represented at 16, 15 being the part which extends below the path of the breech-block. The cartridge stop, as has been stated, is maintained with the member 16 in its depressed position by means of the link 42 itself, and when the breech-block is retracted upon the recoil of the gun, the link 42 tilts upwardly permitting the cartridge stop to be rocked by means of a spring 91 into inoperative position with respect to the mouth of the magazine. The parts 15 and 16 are secured together by means of a screw 25, and this screw can be removed for detaching said parts, by opening the door 5, inserting a screw-driver through the slot 92 in the bot-

tom of the spoon of the cartridge elevating member, thus giving access to the screw 25. When the member 16 has been removed, the remaining part is entirely within the projected path of the breech-block, which, together with the barrel 8, can be withdrawn from the front end of the receiver.

When the cartridge stop 16 is released by the recoil movement of the breech-block, as will presently appear, in order to permit the extrusion of a fresh cartridge from the magazine, provision must be made for holding said cartridge in its extruded position momentarily, prior to its elevation into the firing chamber. This means consists of the stop leaf 19 shown in Figs. 5 and 7, which device is broadly old in guns of known construction, but which, in the present device, is improved by the extension 28 which projects from its upper side and lies in the path of movement of the barrel, being yieldable by camming against said breech-block, against the resistance of a spring 20 when the firing barrel is in its normal position, shown in Figure 5, but when the firing barrel is in the recoil position, the extension 28 drops into a depression 33 in said barrel, thus permitting the spring 20 to expand, forcing the stop leaf 19 inward as long as the firing barrel is in the recoil position. Just so long as the stop leaf is in its initial position, it arrests the movement of a cartridge from the magazine chamber until the firing barrel has started to return from its recoil position, at which time the extension 28 again cams outwardly against the side of the firing barrel, exerting pressure against the spring 20, causing the stop leaf 19 to move outward and permitting the cartridge from the magazine chamber to continue on until it rests upon the spoon end of the cartridge-elevating member 18. In other words, the extension 28 is the medium for actuating the stop leaf 19, and it obtains its movement from the movement of the firing barrel 8 during its recoil position and its return from the recoil position.

A cartridge stop leaf 29 is also provided which performs a function similar to that performed by the stop leaf 19, the relation of the two stop leaves being clearly shown in Figure 7. The stop leaf 29 has an inwardly projecting end 29 which bears against the cartridge while in position upon the spoon, preventing its free movement until the end 29 is released from pressure upon the cartridge by the upward movement of the spoon itself. This construction, in so far as it has been described, is common to known gun mechanisms, but is improved in the present embodiment by the finger-piece 24 formed on the opposite end of the leaf 29 and which may be manually manipulated, thus rocking the stop leaf upon its pivotal support and releasing the pressure of said stop leaf upon the cartridge. This action is performed when

it is desired to remove shells or cartridges manually from the magazine chamber.

A further improvement included in the present invention resides in the ejection mechanism and particularly in the pawl 10 which is instrumental in holding the upper edge of the cartridge, acting as a fulcrum about which the cartridge is tilted in the act of ejection. In the present type of automatic shotgun, this fulcrum is a fixed projection on the inside of the breech end of the barrel 8, which necessitates that a groove or slot be formed in the breech-block itself to accommodate this projection when the breech-block is in its forward position, the breech-block being thereby weakened by the extent of this groove. In the present instance, the pawl 10 is pivotally mounted in a recess and backed by a spring 11 which normally permits said pawl to assume a forward position in the path of the edge of the cartridge, but which permits the entire recession of the pawl upon engagement by the breech-block, so that the latter need have no groove or other provision on its surface for receiving this pawl.

In the operation of the improved shotgun embodied in the present invention, let it be supposed, first, that the gun is in normal condition shown in Fig. 5, the openings both in the side and lower face of the receiver being closed by their respective closure devices. The first operation is to load the firing chamber 32 direct, and then the magazine chamber 17^a. The slide cover 1 is first manually pushed toward the stock end of the gun moving with it the breech-block and uncovering the aperture 2 which opens into the breech-block chamber 4^a. This permits a cartridge to be pushed through the aperture 2 into the breech-block chamber. The next operation is to insert the finger into a notch 39 formed in the lower face of the receiver just in advance of the end of the door 5, the latter projecting slightly beyond the rear wall of said notch so as to afford a finger-hold. The door 5 is pulled downward, thus uncovering the opening which leads to the loading chamber 4^b, and at the same time raising the cartridge-elevating member 18 so that the spoon end thereof is out of the way of the mouth of the casing chamber. This action also places the gun on "safety" by pressing the safety bolt 6 in the manner previously described. At the same time, if the breech-block has been left in the position toward the stock of the gun, it will be released and will return to normal closed position.

At this point it will be understood that there is a cartridge in the firing chamber 32, and that the spoon end of the cartridge-elevating member 18 is in raised position, so that cartridges can be freely inserted in the open mouth of the magazine and pressed into said magazine against the tension of the spring

44. In this manner, the magazine is filled until the appropriate number of cartridges have been inserted, the said cartridges being pushed past the stop 16 which acts as a detent, yielding against the tension of the spring 91.

The next operation is manually to close the door 5 under the magazine or loading chamber 4^b, thus restoring the gun to the state as shown in Figure 5, with the exception that the safety trigger remains in its locked position with respect to the firing trigger, and in the further fact that the firing chamber is now loaded with one cartridge while the magazine is filled with additional cartridges.

The gun is now ready to be fired, the firing hammer 45 being in the position shown in Fig. 5, ready to be released when the trigger 26 is pulled. Said firing hammer has assumed its cocked position through the action of the breech-block moving back toward the stock of the gun and engaging the firing hammer 45 to force the same downward against the spring 50 until the hooked end of said firing hammer springs over the end of the pawl 46 and engages with the hooped end thereof. This construction is familiar to those skilled in the art.

After the safety trigger 7 has been shoved forward the firing trigger 26 is pulled, releasing the firing hammer 45 which strikes the firing pin 47, causing the latter to impinge against the cap in the center of the cartridge in the firing chamber 32. Thus the gun is fired and the recoil produced which actuates the mechanism for ejecting the spent shell, re-loading the firing chamber from the magazine and placing the parts again in firing position. Under the impulse of the recoil the entire gun barrel, together with the breech-block, which are unitarily connected for the time by means of the pawl 14, move suddenly backward toward the stock end of the gun against the tension of the recoil spring 48, through the agency of the ring 49 which is fixed to the barrel and abuts against the end of the recoil spring. When the barrel and breech-block reach the limit of the recoil position, the breech-block strikes the bumper 14^a and at the same time the pawl 34 on the cartridge elevating member, which at this moment is in the position shown in Figure 1, engages the link 38 which is connected to the breech-block with slight longitudinal play in the usual manner, this action permitting a slight forward movement of the breech-block relative to the barrel. The result of this movement is that the pawl 14 is drawn downwardly from the slot 14^a in the barrel 8 by the pull caused by the recoil inertia of the link 42, thus permitting the barrel 8 to return to its normal position, while the breech-block 13 is arrested momentarily by the engagement of the pawl 34 with the notch

40 in the link 38 in the manner which has been fully described.

Thus far it has been shown that when the cartridge is fired the barrel and breech-block recoil, the barrel returning to its normal position and the breech-block being held momentarily. In the meantime, that is to say, at an instant or slight interval of time between the time of return of the barrel 8 and breech-block 13 from the recoil position, the ejection of the cartridge takes place, this being brought about through the barrel 8 drawing away from the breech-block while the latter is momentarily arrested in the manner above explained. By referred to Fig. 4, it will be noted that the pawl 10 is normally forced inward by means of a spring 11, the cartridge having been pushed into the barrel by the rim of the cartridge depressing said pawl. Both said pawl and spring are fixed to a pin at the extreme breech end of the barrel 8. This pawl will engage the edge or rim of the cartridge shell when the barrel begins to separate from the breech-block thus tilting the shell in an angular position shown in Fig. 4, while at the same time, the hook 3 secured to the breech-block, which had sprung over the edge of the shell when the breech-block first closes the breech, after loading, pulls upon the opposite side of the shell, the pawl acting as a fulcrum about which the shell pivots, said shell being thus thrown through the lateral opening in the receiver 2. The hook 3 is of conventional construction and need not here be further described. Immediately following the operation of ejecting a discharged shell, a fresh cartridge is placed in the firing chamber 32 by the sequence of instrumentalities now to be described.

Previously to the recoil, a cartridge in the magazine 17^a is protruding from said magazine under pressure of the spring 44 and resting against the stop 16. Immediately after firing, this cartridge moves outwardly, since the cartridge stop recedes with the breech-block, and in addition, the increasing angularity of the link 42, relative to the breech-block recoil of the breech-block releases the end of the link 42 from the part 15 of the cartridge stop, permitting the latter to rock into the breech-block chamber and raising the depending end 16. This cartridge moves outward until the rim thereof strikes the projecting end of stop leaf 19, this position of the stop leaf being shown in full lines in Fig. 7. This stop leaf is not normally projecting until immediately after the recoil of the barrel 8 has started, the movement of said stop leaf being determined and controlled through the extension 28 on said stop leaf engaging a cam groove in the barrel 8. This cam groove is so designed that immediately after the recoil of the barrel and breech-block has begun,

the edge of the stop leaf 19 is moved to the full line position aforesaid, arresting the movement of the incoming fresh cartridge momentarily until the barrel 8 has returned fully from its recoil position, at which time the cam groove in said barrel has deepened, permitting the extension 28 to fall into said cam groove, causing the stop leaf 19 to move outwardly against the tension of the spring 20, thus removing its edge from obstructive relation to the further advance of the protruding cartridge. The incoming cartridge is then projected into the spoon end of the cartridge elevating member 18 under the influence of the spring 44, being held with resilient pressure in said spoon end by means of the stop leaf 29 which lies on the side of the loading or magazine chamber opposite to the stop leaf 19. The stop leaf 29 normally, by projecting into the path of the spoon end of the cartridge elevating member, holds the latter down in inoperative position, but when said stop leaf is pressed outwardly by the issuance of a cartridge under the pressure of the spring 44, it releases the cartridge elevating member. The latter, under the influence of the spring 50 and from the further fact that the end of the pawl 34 is being pressed upon through its contact with link 38, is forced upwardly thereby, throwing the cartridge into the firing chamber 4^a in front of the breech-block, while the breech-block is released immediately thereafter through the rocking of the pawl 34 under the urge of the spring 41, the cartridge elevating member being shoved down by engagement with the forwardly moving breech-block, in the usual manner.

A further action which takes place during the issuance of the cartridge and the depositing of the same upon the spoon end of the cartridge elevating member is that in its forward passage through the loading or magazine chamber, it moves from one side of the pivotal connection of the stop leaf 29 to the other side, rocking said stop leaf so that the end 24 of the same now projects inwardly in the path of the next cartridge to issue, preventing its emergence from the magazine and obviating the possibility of its coming out into the magazine chamber beneath the spoon end of the cartridge elevating member while said spoon end is elevating a cartridge into the firing chamber. Upon its return, the spoon end of the cartridge elevating member 18 which during its elevated position holds the stop leaf 29 inward, that is to say, in the path of emergence of a cartridge from the magazine, releases said stop leaf 29, and thereby permits a fresh cartridge again to protrude from the magazine chamber 17^a in the position shown at 37^a in Figure 5, which cartridge will rest against the stop piece 16, the latter having returned to its place and been locked in position by the overlying end of the

link 42 of the breech-block. Thus is the complete cycle of operation consummated and the gun is now re-loaded, the firing hammer being previously returned to its normal position through the action of the breech-block, a mechanical operation which is well known, and the gun is again ready for firing through another impulse of the firing trigger.

Should it be desired to unload the gun manually, this may be done safely and quickly in the following manner:—

First, the hand slide with the breech-block is pushed toward the stock end of the gun, and in so doing, the shell in the firing chamber 32 of the barrel 8 is automatically ejected. By permitting the hand slide to remain in open position through inhibition of the pressure of the spring 41, in the usual manner, by locking means not shown, and by withdrawing the lid 5 from its closed position, as shown in Fig. 5, the cartridge elevating member will be raised, while at the time of opening the door 5 the gun will be put on safety. With the parts in this position, the emptying of the magazine can be carried out by the operator pressing on the finger-hold 24 of stop leaf 29, which removes the stop leaf 29 as an obstructive factor to the magazine, permitting all the cartridges in the magazine to be ejected through the loading chamber 4^b by means of pressure exerted on the cartridges by the spring 44.

While I have, in the above description, endeavored to disclose what I believe to be a perfect and practical embodiment of my invention, it is to be understood that the details of construction, as described, are by way of example and are not to be considered limitative in their effect upon the invention, the scope of which is defined in the appended claims.

I claim:—

1. In automatic gun mechanism including a receiver, and a firing barrel and magazine opening therinto, said receiver being provided with an aperture giving access to said magazine, in combination, means lying normally in obstructive relation between said aperture and said magazine, for elevating cartridges to said firing barrel upon their emergence from said magazine, and a closure for said aperture cooperating with said cartridge elevating means to raise the latter out of obstructive relation to said magazine when said closure is opened.

2. In automatic gun mechanism including a receiver and a magazine opening therinto, said receiver being provided with an aperture, giving access to said magazine, a firing trigger, a safety catch for said trigger, and a closure for said aperture cooperating with said safety catch to place it in "safety" relation to said trigger upon the opening of said closure.

3. In an automatic gun mechanism including a receiver, and a firing barrel and maga-

zine opening thereinto, a firing trigger and a safety catch for said trigger, said receiver being provided with an aperture giving access to said magazine, in combination, means lying normally in obstructive relation between said aperture and said magazine, for elevating cartridges to said firing barrel upon their emergence from said magazine, and a closure for said aperture simultaneously cooperating with said cartridge elevating means to raise the latter out of obstructive relation to said magazine when said closure is opened, and with said safety catch, for placing the latter in safety position.

4. In automatic gun mechanism, including a receiver, and a firing barrel and magazine opening thereinto, a breech-block, slidable in operative relation to said barrel having a recoil position attained against spring pressure, said receiver being provided with a lateral aperture open to said firing barrel when said breech-block is in recoil position, and being provided with a loading aperture giving access to said magazine, means within said receiver lying normally in obstructive relation between said last-named aperture and said magazine, for elevating cartridges to said firing barrel upon their emergence from said magazine, interengaging means between said cartridge elevating means and breech-block detaining said breech-block in recoil position when said cartridge elevating means is in obstructive relation to said magazine, and a closure for the last-named aperture in said receiver, cooperating with said cartridge elevating means to raise the latter out of obstructive relation to said magazine when said closure is opened, thereby effecting simultaneous release of said breech-block from its recoil position.

5. In automatic gun mechanism, including a receiver, and a firing barrel and magazine opening thereinto, a breech-block slidable in operative relation to said barrel, having a recoil position attained against spring pressure, said receiver being provided with a lateral aperture, open to said firing barrel when said breech-block is in recoil position, an external closure movable with said breech-block for closing said opening, said receiver being provided with a loading aperture giving access to said magazine, means within said receiver lying normally in obstructive relation between the last-named aperture and said magazine, for elevating cartridges to said firing barrel upon their emergence from said

magazine, interengaging means between said cartridge elevating means and breech-block detaining said breech-block in recoil position when said cartridge-elevating means is in obstructive relation to said magazine, and a closure for said last-named aperture in said receiver cooperating with said cartridge-elevating means to raise the latter out of its obstructive relation to said magazine, when said closure is opened, thereby effecting simultaneous release of said breech-block from its recoil position.

6. In automatic gun mechanism, a receiver, a barrel and a magazine beneath the barrel, both communicating with said receiver, the latter being formed with a breech-block chamber in front of said barrel in which the breech-block is adapted to slide, and a magazine chamber forward of said magazine, a cartridge stop comprising an upper part pivoted in said breech-block and being confined substantially to the space above the plane of the lower side of said breech-block chamber, and a lower part detachably secured thereto and depending in the magazine chamber in the path of emergence of cartridges from said magazine, said upper part being removable with said breech block, from the receiver in the direction of the firing barrel upon removal of said lower part.

7. In automatic gun mechanism, a receiver, a barrel, and a magazine beneath the barrel, both communicating with said receiver, the latter being formed with a breech-block chamber in front of said barrel, in which the breech-block is adapted to slide, and a magazine chamber, forward of said magazine, cartridge-elevating means in said magazine chamber, a cartridge stop comprising an upper part pivoted in said breech-block and being confined substantially within the space above the plane of the lower side of the breech-block chamber and a lower part detachably secured thereto and depending in the magazine chamber in the path of emergence of cartridges from said magazine, said upper part being removable with the breech-block from the receiver in the direction of the firing chamber, upon removal of the lower part, said cartridges elevating means being provided with a slot giving access to the securing means of the parts of said cartridge stop.

In testimony whereof I have hereunto set my hand.

EDWARD H. SHELMAN,