April 9, 1940. J. E. BROWNING 2,196,852

REPEATING FIREARM

Filed April 13, 1937 2 Sheets-Sheet 1

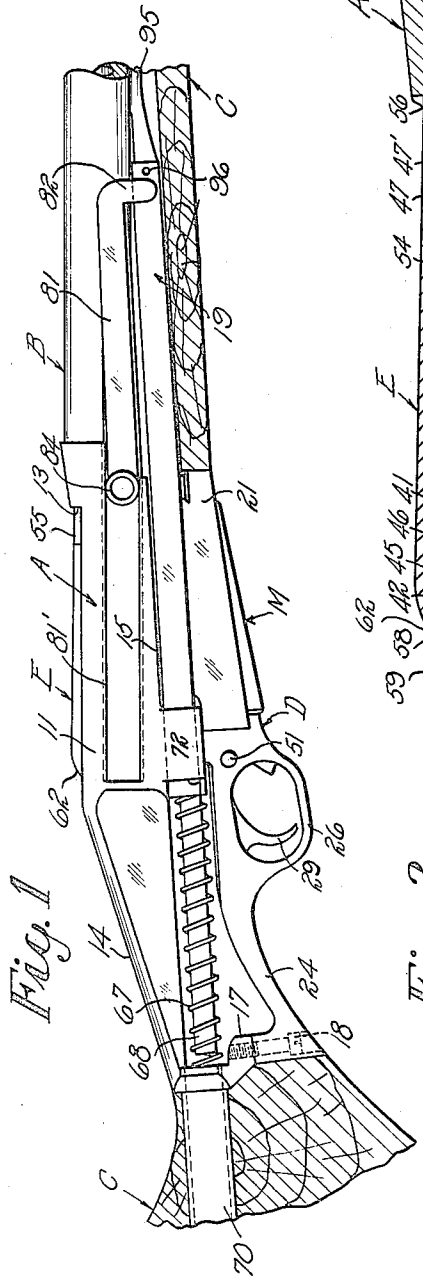


Fig. 1

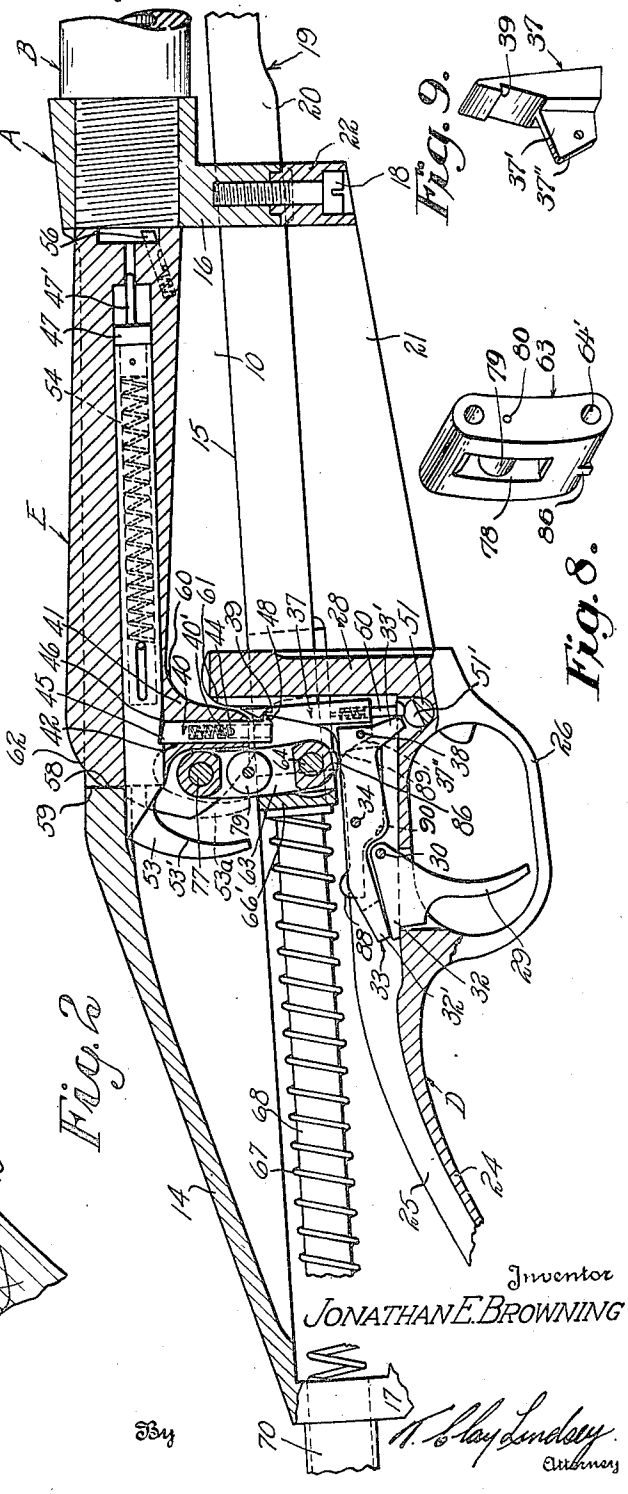


Fig. 2

Fig. 9.

Fig. 8.

Inventor
JONATHAN E. BROWNING

By H. Clay Lindsey
Attorney

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REPEATING FIREARM

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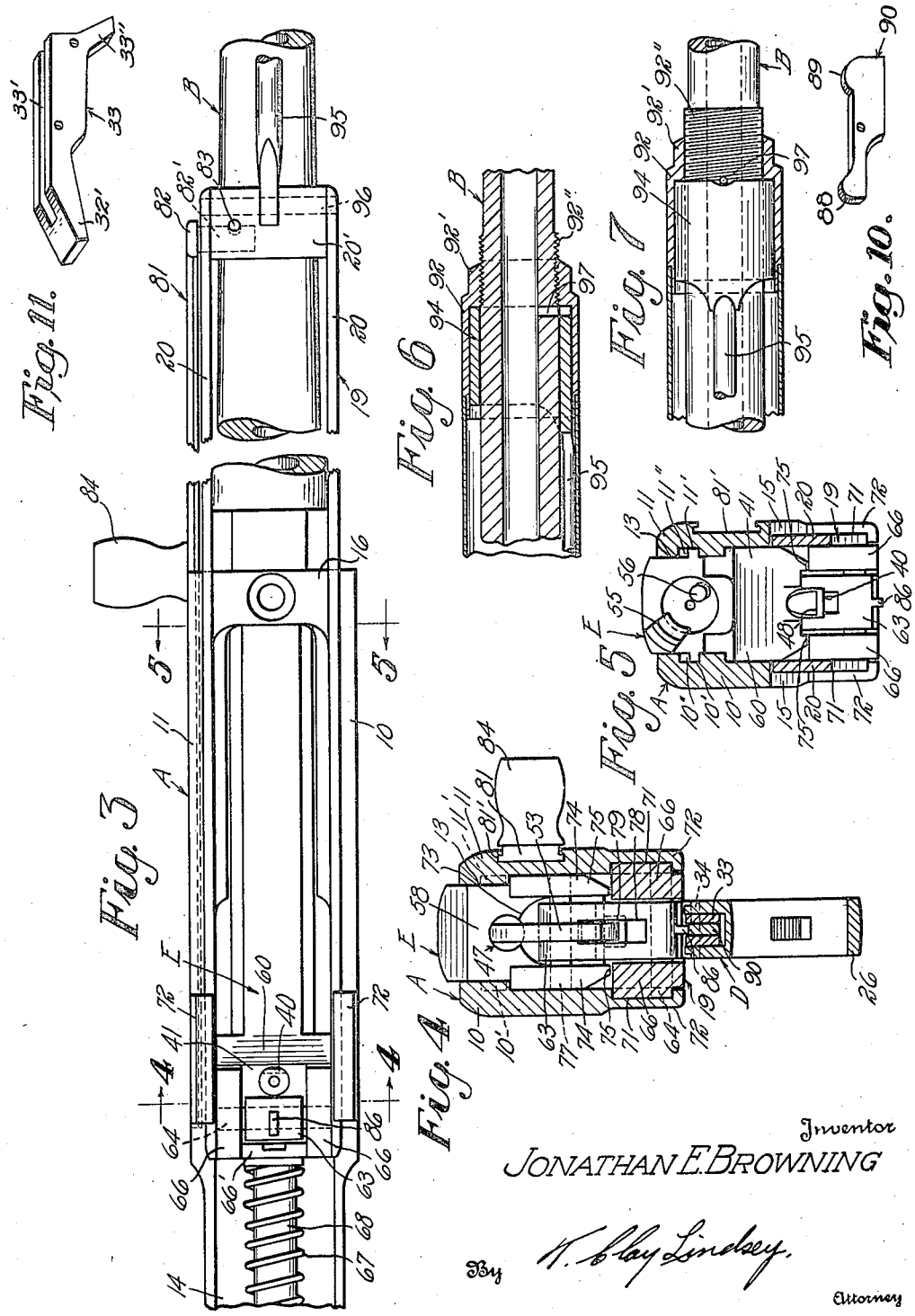


Fig. 11.

Fig. 3

Fig. 6

Fig. 7

Fig. 10.

Fig. 5

Fig. 4

Inventor

JONATHAN E. BROWNING

By H. Clay Lindsey.

Attorney

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REPEATING FIREARM

Jonathan E. Browning, Ogden, Utah, assignor to Western Cartridge Company, a corporation of Delaware

Application April 13, 1937, Serial No. 136,523

19 Claims. (Cl. 42—3)

This invention relates to improvements in repeating firearms, and certain features thereof have particular application in a firearm wherein the breech mechanism is retracted to eject the fired cartridge following the firing by the gases of the explosion and the breech mechanism is advanced to feed another cartridge into the firing chamber by a spring.

An aim of the invention is to provide an improved firearm of the character described having various features of novelty and advantage and which is particularly characterized by its simplicity and economy in construction, the ease and facility with which the parts may be assembled, and its effectiveness in operation.

A more particular aim of the invention is to provide, in a firearm of the character described, an improved piston and cylinder arrangement through which the gases of explosion withdraw the breech block upon firing, said cylinder and piston arrangement being so constructed and mounted that sticking of the piston in the cylinder due to expansion and contraction of the parts is avoided; a more effective arrangement is had, and the construction is simplified.

It is a further aim of the invention to provide an improved, simplified, and effective arrangement between the piston rod and the breech block whereby the breech block is unlocked with a slight delayed action after the firing of the firearm, and upon retraction of the breech block the firing pin is automatically cocked. Another specific object of the invention is to provide an improved, simplified and effective construction of breech block mechanism and trigger mechanism and wherein automatic firing of the firearm when the breech block is advanced to final position is prevented in the event that the trigger should be held in pulled position.

A further object is to provide an improved and simplified one-piece breech block and means for positively locking it in its closed or forward position.

A further object is to provide an improved arrangement whereby the breech block is effectively cammed out of its forward closed position upon firing of the gun so as to insure that any cartridge which may tend to stick in the firing chamber will be properly withdrawn and ejected.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the drawings:

Figure 1 is a side elevation of my firearm with the forward portion of the stock broken away to show various operating parts;

Fig. 2 is a section taken generally longitudinally and vertically through the receiver of my firearm and showing the various parts in normal or firing positions;

Fig. 3 shows a bottom view of the receiver and its associated parts with the trigger plate removed;

Fig. 4 is a vertical section through the receiver and trigger plate taken substantially on line 4—4 of Fig. 3;

Fig. 5 is a vertical section through the receiver along line 5—5 of Fig. 3;

Fig. 6 is a longitudinal section through the forward portion of the barrel and shows the piston and cylinder arrangement for automatically cocking the firearm after it has been fired;

Fig. 7 is a bottom fragmentary view of the parts shown in Fig. 6;

Fig. 8 is a perspective view of the link connecting the action slide to the rearward end of the breech block;

Fig. 9 is a perspective view of the connector between the trigger lever and the sear;

Fig. 10 is a perspective view of the cam locking plate supported within the trigger lever; and

Fig. 11 is a perspective view of the trigger lever.

Referring to the drawings wherein I have shown, for illustrative purposes, one embodiment which the present invention may take: A designates, generally, a receiver; B a barrel connected to the forward end of the receiver; C the stock which may be of usual construction; D the trigger plate secured to the under side of the receiver; and E a breech block slidably mounted in the receiver. The receiver A is provided with spaced side walls 10 and 11 having opposed inner faces and containing the usual longitudinally disposed guideways 10′ and 11′ for slidably receiving laterally projecting lugs 10″ and 11″ on the forward end of the breechblock to guide it as it moves into and out of a closed position. The upper wall of the receiver rearwardly of the barrel is provided with an opening 13 through which the shells may be ejected and which, in accordance with usual construction, is closed by the breech block when the latter is in its forward position.

The upper wall of the receiver in back of the breech block is inclined downwardly and rear-

wardly as at 14 to permit the user of the firearm to easily assume a sighting position close to the top of the barrel and to provide a neat appearing and well balanced structure. The receiver is open at its bottom substantially throughout its entire length, and the lower edges 15 of the side walls 10 and 11 are inclined downwardly and rearwardly with respect to the axis of the barrel, as shown in Fig. 2. The forward end of the receiver is provided with a depending lug 16, and the rearward end has a depending lug 17. The trigger plate D is secured to these lugs by suitable screws 18 and in spaced relation to the bottom edges 15 to accommodate an action slide 19 having spaced side bars 20 interconnected at the forward end by a cross member 20'.

The trigger plate is provided at its forward end with a pair of spaced side walls 21 respectively disposed beneath and generally in the plane of the receiver side walls 10 and 11. A cross bar 22 which is secured to post 16 as by screw 18 connects the forward ends of walls 21. The rear end of the trigger plate is formed as a tang 24 having a central grooved portion 25 receiving various parts of the trigger mechanism and the bottom of the sear when the breech block is withdrawn into the receiver to an open position. A trigger guard 26 is provided on the trigger plate in accordance with usual practice. The forward end of the trigger guard between walls 21 is open so as to removably accommodate a magazine M which is conventionally shown in Fig. 1 as the particular structure thereof is immaterial.

The portion of the trigger plate just in front of the trigger guard is provided with an upstanding post 28 within the receiver and which aids to locate the trigger plate laterally with respect to the receiver and cooperates with the breech block to cam the block rearwardly out of a closed position, as will be later described. A trigger 29 pivotally mounted at its upper end within the trigger plate, as by a pin 30, extends downwardly and freely through a slot in the trigger plate and is provided with an upper rearwardly extending portion 32 arranged to engage the under side of a rearwardly extending tang 32' on a trigger lever 33 to rock the lever on a pin 34 passing therethrough and mounted in the trigger plate.

The trigger lever, as shown in Fig. 11, is longitudinally grooved, as at 33', through the greater portion of its length, and an upwardly extending connector 37 is pivotally supported at the forward end of this groove by a pin 38 mounted in the forward end of the lever and passing through a rearwardly disposed tang 37' of the connector. The upper end of the connector has a notch 39 adapted to enter into engagement with a sear 40 slidably mounted for vertical movement in a bore 42 in the rearward depending end 41 of the breech block. A coiled spring 43 compressively received in the upper end of a bore in the sear engages at its lower end with a transversely disposed pin 44 mounted in the depending end 41 of the breech block and extending through a slotted portion 40' in the sear to normally urge the sear upwardly so that a nose portion 45 at its upper end may enter into latched engagement within a notch mounted in the breech block. The lower end of the sear is provided with a forwardly disposed lip 48 adapted to enter into latched engagement with notch 39 of the connector. The connector is normally rocked about its supporting pivot into a latching position by means of a spring pressed pin 50 slidably received in a bore at the bottom of the connector and engaging a safety 51, to be later described.

The breech block, which may comprise an integral steel member, is longitudinally bored in the usual manner to slidably receive the striker 47 which, in the present instance, comprises a rod having a firing point 47' at its forward end and a curved downwardly extending camming finger 53 at its rearward end. The striker is provided with a longitudinal bore within which is mounted the usual coiled compression spring 54 arranged to quickly urge the striker forwardly into engagement with a cartridge when it is released by the sear 40 in response to a pull on the trigger. When the gun is cocked in firing position with the parts shown in the respective positions of Fig. 2, a pull on the trigger will result in a rocking movement of the trigger lever 33 so that its forward end moves downwardly and pulls the connector and sear downwardly to move the sear nose 45 out of notch 46, thus permitting the striker to move forwardly and fire the cartridge.

The forward end of the breech block is provided with the usual extractor 55 and ejector 56 which will withdraw a shell from firing position and eject it out of opening 13 when the breech block is opened. The rearward end of the breech block has a shoulder 58 adapted to cooperate with and abut against a shoulder 59 forming the rear end of the ejection opening 13 to securely lock and hold the breech block against any rearward movement during firing of the gun. The rearwardly depending end 41 of the breech block has a camming surface 60 which cooperates with a pair of rearwardly extending cam surfaces 61 formed at the upper end of post 28 and in such manner that after firing of the gun and during initial withdrawal of the breech block, surface 60 will be cammed by surface 61 with considerable force to suddenly move the breech block rearwardly and insure withdrawal of the fired cartridge from the firing chamber. The upper rearward end of the breech block is curved downwardly, as at 62, to provide sufficient clearance for the rearward end of the breech block as it moves downwardly and into that portion of the receiver generally above the trigger.

It may be stated that the breech block which is opened by the expansion of the gases of explosion, as will be later described, is withdrawn almost instantly after a cartridge has been fired (there being only sufficient delay to permit the projectile to pass out of the barrel) so that there is not sufficient time for the shell to dissipate its heat to the barrel. Consequently, there is a tendency for the shell to stick in the firing chamber. The camming arrangement just described provides a sufficient force suddenly exerted on the breech block during its initial rearward movement to insure that the shell will be withdrawn from a firing position even when it sticks within the firing chamber.

The breech block is connected by a link 63 pivoted to the action slide by a pin 64 journalled in a bore 64' in the lower end of the link and secured at its outer ends in lugs 66 formed at the rearward ends of the side bars 20. The action slide is normally urged forwardly by an action spring 67 slidably mounted on a bar 68 extending rearwardly through the receiver from a cross bar 66' connecting lugs 66 and slidably received within a guide 70 in stock C. The rearward

movement of the action slide is caused by the force of the gases of explosion upon firing of the gun, as will be later described.

The side bars 20, which are interposed between the trigger plate and the side walls of the receiver, lie substantially within the planes of said walls 10 and 11 in slidable engagement with the rearwardly sloping lower edges 15 of the side walls and are slidably received at their rearward ends within guiding grooves 71 formed within depending ears 72 of the receiver walls. Due to the downward and rearward inclination of edges 15, the action slide will assume a downwardly and rearwardly inclined movement after firing of the gun and during retraction of the breech block. The depending portion 41 of the breech block is provided at its rearward end with a recess 73 and has two spaced downwardly extending arms 74 terminating at their lower ends in faces 75 normally closely overlying lugs 66 and securing the breech block in its forward closed position with shoulders 58 and 59 in abutting engagement when the action slide lies in its normal forward position, as illustrated. Hence, it will be appreciated that the breech block is securely locked in its forward position at all times except when the action slide is moved rearwardly.

The upper end of link 63 is pivotally secured between the arms 74, as by a pin 77, and the link serves in the capacity of a toggle connection between the action slide and the breech block. The link is also longitudinally slotted at 78, and a roller 79 journalled upon a pin 80 is secured within this slot and adapted to bear against the forwardly curved face 53' of finger 53 after the finger has been shifted to position 53a by firing the gun and when the breech block is retracted so as to withdraw striker into the cocked position shown in full lines.

The initial rearward movement of the action slide 19 swings link 63 rearwardly about pin 77 and thereby brings the roller 79 into engagement with the camming finger 53 so that the striker 47 is withdrawn towards a cocked position. It will be plain that after the striker has been cocked and during the forward movement of link 63 and breech block E to the full line positions of Fig. 2, the link 63 will lie in the path of forward movement of finger 53 and prevent engagement of firing point 47' with the cartridge in the firing chamber in the event that the striker should be accidentally released from cocked position. In other words, link 63 limits the extent of forward movement of the firing point 47' at all times except when the link is in the full line position of Fig. 2 with the breech block in locked position. The parts are constructed in this manner to provide a safety feature which positively prevents firing of the gun until the breech block is locked in the firing position shown in Fig. 2.

The action slide may also be manually withdrawn to cock the gun in the event that it is not already in such a position. To accomplish this, there has been provided a cocking member 81 slidably received within a groove 31' in the side wall of the receiver and having a downwardly depending arm 82 at its forward end provided with a laterally extending stud 82' journalled within cross member 20' and axially secured in position by a pin 83. The rearward end of cocking member 81 is provided with a suitable handle 84 whereby the member 81 and action slide may be manually withdrawn to cock the gun.

The operation of the mechanism described up to this point is briefly as follows: Assuming that the parts are in the position shown in Fig. 2 with the breech block closed and the gun is fired; the gases of explosion operating through a piston and cylinder mechanism, to be later described, will quickly force the action slide rearwardly withdrawing lugs 66 from beneath the arms 74 and compressing spring 67. Due to the toggle action of the link 63, the rear end of the breech block will be initially drawn downwardly disengaging the shoulders 58 and 59. As soon as these shoulders clear each other, the camming action of surfaces 60 and 61 will force the breech block rearwardly to withdraw the shell from the firing chamber. On further rearward movement of the action slide, the rearward end of the breech block will be retracted into the receiver and the ejector will throw the shell out through opening 13 in the top of the receiver. Due to the positive camming action of surfaces 60 and 61, the shell will be withdrawn from the firing chamber even if it tends to stick in position. After the breech block has been completely retracted, a cartridge will enter the firing chamber from the magazine. The compressed spring 67 will then move the action slide forwardly and toggle link 63 will lift the breech block into its final closed position with shoulders 58 and 59 again in abutting engagement, and the breech block will be locked in this final position by the forward movement of lugs 66 beneath arms 74 (Fig. 4).

My gun is further so constructed that a cartridge in the firing chamber cannot be fired until the breech block is positively locked in its forward closed position, and the trigger must be pulled each time that the gun is fired. Hence, the gun cannot be fired successively if the trigger is held in a pulled position. Sufficient clearance is provided between the connector 37 and post 28 so that the connector may be rocked forwardly and held out of operative engagement with sear 40. Normally, connector 37 is rocked rearwardly into a latching position by the spring pressed pin 50, as shown in Fig. 2. The lower end of link 63 is provided with a depending lug 86 adapted to respectively engage the lobes 88 and 89 at the ends of a cam locking plate 90 pivotally mounted between its ends for rocking movement within slot 33' on pin 34. The forward end of lobe 89 is adapted to enter into camming engagement with a rearwardly sloping cam face 37'' of tang 37' on connector 37, as shown in Fig. 2. When the action slide is in its forward position, as shown in Fig. 2, lug 86 engages lobe 89 tilting the forward end of cam plate 90 downwardly and out of contact with cam face 37'' so that the spring pressed pin 50 rocks the connector 37 about its pivot pin 38 to swing its upper end rearwardly into a sear operating position. When the action slide is withdrawn, lug 86 engages lobe 88 and rocks the cam plate 90 into camming engagement with face 37'' to swing the connector 37 forwardly and out of operative engagement with the sear. Consequently, if the trigger 29 were pulled when the action slide is moved rearwardly, the sear would not be operated since the connector would be locked forwardly and out of sear engagement.

The forward end of trigger plate 33 is provided with a downwardly extending tang 33'' engageable with safety 51 which is herein of conventional type and comprises a laterally movable pin having a groove 51'. When the pin is moved to a position to align the groove with the tang, the trigger plate may be rocked by the trigger to fire the gun, and when the pin is moved so that the groove is out of alignment with the tang, it

limits the movement of the trigger plate to such extent that the connector may not be operated to withdraw the sear from striker 47.

Referring now to my piston and cylinder arrangement which is located adjacent the forward end of the barrel and serves to shift the action slide rearwardly immediately after firing the gun, reference may be had particularly to Figs. 6 and 7. The cylinder, indicated by numeral 92, constitutes a cylindrical member surrounding the barrel and having at its forward end a reduced internally threaded portion 92' screwed onto a threaded portion 92'' of the barrel. The piston 94 comprises a tubular member closely fittting within the cylinder surrounding the barrel and slidably engaging between the barrel and the cylinder so that there is an intimate heat conductive relation between the barrel, piston, and cylinder. Hence, there is no tendency for the piston to stick in the cylinder 92. A rod 95 is pivotally connected at its rearward end to cross member 20', as by a pin 96, and is pivotally connected at its forward end to the piston 94 to compensate for the fact that the piston moves axially of the barrel and the action slide moves at a slight angle thereto, as previously described. A bore 97 extends through the wall of the barrel from the bore thereof and into the forward end of the cylinder to provide a port through which the gases of explosion may pass into the cylinder and cause a rearward piston movement to operate the action slide.

This bore is preferably located adjacent the forward end wall of cylinder 92 so that the end of the cylinder may be adjustably screwed upon threads 92'' of the barrel to regulate the effective aperture through bore 97. Hence, the flow of gasses of explosion from the barrel and into cylinder 92 may be adjustably controlled to provide the desired cocking operation.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention: —

1. In a firearm, a receiver, a barrel carried thereby, said receiver having an ejection opening and having its upper wall rearwardly of said opening inclined downwardly and rearwardly with respect to the axis of the barrel, the rear end of said opening constituting an abutment, a breach block mounted for reciprocation in said receiver and adapted to close said opening when in advanced position, said breech block having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, an action slide associated with said receiver and mounted for reciprocation in a plane inclined downwardly and rearwardly with respect to the axis of the barrel, and an operative connection between said slide and the rear end of said breech block whereby when said action slide is moved rearwardly the lower end of said breech block is moved downwardly out of engagement with said first-mentioned abutment and then moved rearwardly.

2. In a firearm, a receiver having an ejection opening and an abutment at the rear end of said opening, a breech block mounted for reciprocation in said receiver and adapted to close said opening, said breech block having an abutment at its rear end adapted to engage said first-mentioned abutment, an action slide cooperating with said receiver and mounted for reciprocation on a line inclined downwardly and rearwardly, and a link pivotally connected at its opposite ends to said slide and the rear end of said breech block and adapted to initially draw the rear end of the breech block downwardly, then draw it rearwardly.

3. In a firearm, a receiver having an ejection opening with an abutment at its rear end, said receiver having side walls with their lower edges inclined downwardly and rearwardly, a breech block mounted for reciprocation in the receiver and adapted to close said opening and having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, an action slide comprising a pair of spaced bars, the upper edges of which respectively engage against the lower edges of said side walls of said receiver, a link pivotally connected at its opposite ends to the end of said block and said slide, and a trigger plate secured to said receiver and engaging the bottom edge of said slide.

4. In a firearm, a receiver having an ejection opening and provided with an abutment, a barrel carried by said receiver, a reciprocating breech block in said receiver adapted to close said opening and having an abutment at its rear end adapted to engage said first-mentioned abutment, a reciprocating action slide associated with said receiver and adapted to move on a line inclined downwardly and rearwardly with respect to the axis of the barrel, a link between said receiver and the rear end of said breech block, a gas cylinder and piston associated with the forward end of said barrel, and a rod connected to said piston and pivotally connected at its rear end to the forward end of said slide.

5. In a firearm, a receiver having an ejection opening and provided with an abutment, a reciprocating breech block in said receiver adapted to close said opening and having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, a reciprocating action slide associated with said receiver, and a link pivotally connected at its opposite ends to said action slide and the rear end of said breech block, said slide having upwardly facing shoulders adapted to lie beneath and engage downwardly facing shoulders at the rear end of said breech block when the latter is in closed position whereby the breech block is positively locked in said position.

6. In a firearm, a receiver having an ejection opening and having an abutment, a reciprocating breech block in said receiver adapted to close said opening and having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, a reciprocating action slide, a link between said action slide and the rear end of said breech block whereby the rear end of said breech block is drawn downwardly and the breech block is then moved rearwardly upon rearward movement of said action slide, said breech block having on its under side and adjacent its rear end a forwardly facing cam surface, and a fixed cooperating cam surface within said receiver, said cam surfaces cooperating when the rear end of said breech block is moved downwardly to in-

crease the power with which said breech block is moved rearwardly.

7. In a firearm, a receiver having an ejection opening and an abutment, a reciprocating breech block in said receiver adapted to close said opening and having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, a reciprocating action slide, a link between said action slide and the rear end of said breech block whereby the rear end of said breech block is drawn downwardly and the breech block is then moved rearwardly upon rearward movement of said action slide, said breech block having on its under side and adjacent its rear end a forwardly facing cam surface, and a trigger plate secured to said receiver and having an extension projecting into the receiver, the upper rear corner of said projection having a cam surface cooperating with said first cam surface when the rear end of said breech block is moved downwardly.

8. In a firearm, a receiver having an upper wall provided with an ejection opening and an abutment at the rear end of said opening, a reciprocating breech block in said receiver adapted to close said opening and having an abutment at its rear end adapted to cooperate with said first abutment, a reciprocating action slide associated with said receiver, a link between said action slide and the rear end of said breech block whereby said breech block is moved downwardly and then rearwardly upon rearward movement of the action slide, and a trigger plate secured to the under side of said receiver and having a groove in its upper surface rearwardly of the trigger, said breech block having at its rear end a portion adapted to slide in said groove upon rearward movement of the breech block whereby said breech block is properly guided in its movements by said trigger plate.

9. In a firearm, a receiver having a wall provided with an ejection opening, a breech block mounted for reciprocation in said receiver and adapted to close said ejection opening when in advanced position, a striker carried by said breech block and having a cam member on its rear end, a reciprocating action slide associated with said receiver, an operative connection between the rear end of said breech block and said action slide whereby the rear end of said breech block is moved downwardly and the breech block is then moved rearwardly upon rearward movement of the action slide, and means carried by said connection for engaging said cam to thereby cock said striker upon rearward movement of the action slide.

10. In a firearm, a receiver having an ejection opening provided with an abutment at its rear end, a breech block mounted for reciprocation in said receiver and adapted to close said opening, said breech block having an abutment at its rear end cooperating with said first-mentioned abutment, a striker carried by said breech block and having a cam finger on its rear end, a reciprocating action slide associated with said receiver, a link pivotally connected at its lower end to said action slide and at its upper end to the rear end of said breech block, and an element on said link between its ends adapted to engage said cam finger to cock said striker when the action slide is moved rearwardly.

11. In a firearm, a receiver, a breech block mounted for reciprocation therein, a striker carried by the breech block, a sear carried by the breech block and associated with said striker, a gas actuated reciprocating action slide associated with said receiver and operatively connected to said breech block; trigger mechanism including a pivoted lever and a connector pivoted to said lever and having a front inoperative position and a rear operative position, said connector having a notch adapted to cooperate with said sear when the connector is in operative position and said breech block is in closed position; and means actuated by the reciprocation of said slide for locking said connector in forward inoperative position during the forward movement of the breech block and then releasing the connector when the breech block has substantially reached its final closed position.

12. In a firearm, a receiver having an ejection opening in its wall and an abutment at the rear end of said opening, a breech block mounted for reciprocation in said receiver and adapted when in advanced position to close said opening, said receiver having an abutment at its rear end cooperating with said first-mentioned abutment, a gas-operated reciprocating action slide associated with said receiver and operatively connected to the rear end of said breech block whereby, upon firing of the gun and retraction of the slide, the lower end of the breech block is lowered and the breech block is then moved rearwardly, and upon forward movement of the slide, the breech block is moved forwardly and the rear end thereof is raised into said opening, a striker carried by said breech block, a sear carried by said breech block and cooperating with said striker and having, adjacent its lower end, a forwardly facing sear notch, a trigger plate secured to the under side of said receiver, trigger mechanism carried by said trigger plate and including a trigger actuated lever the forward end of which is adapted to be lowered when the trigger is pulled, a connector pivoted to the forward end of said lever and having a rearwardly facing notch at its upper end adapted to cooperate with the notch of said sear, means for normally urging the forward end of said lever upwardly and said connector rearwardly, and means actuated by the reciprocation of said slide for maintaining said connector in forward inoperative position during forward movement of the breech block and until said breech block has substantially reached its full closed position in said opening.

13. In a firearm, a receiver, a breech block mounted for reciprocation therein, a striker carried by the breech block, a sear carried by the breech block and associated with said striker, a gas-actuated reciprocating action slide associated with said receiver and operatively connected to said breech block; trigger mechanism including a pivoted lever, a connector pivoted to said lever and having a front inoperative position and a rear operative position, said connector having a notch adapted to cooperate with said sear when the connector is in operative position and said breech block is in closed position, and a cam locking plate pivotally associated with said lever and having an inoperative position and a locking position in the latter of which it locks said connector in forward inoperative position; and means associated with said slide for moving said plate to locking position upon retraction of the slide and for moving said plate to non-locking position when said slide has substantially reached its foremost position.

14. In a firearm, a receiver having a wall provided with an ejection opening with an abutment at its rear end, a breech block mounted for reciprocation in the receiver and adapted to close

said opening and having an abutment at its rear end adapted to cooperate with said first-mentioned abutment, a striker and a cooperating sear carried by the breech block, a gas-operated reciprocating action slide, a link between said slide and breech block, a trigger plate; trigger mechanism carried thereby and including a pivoted lever, a connector pivoted to the forward end of said lever, a spring normally urging the forward end of said lever upwardly and the upper end of said connector rearwardly to operative position, and a cam locking plate pivotally associated with said lever and arranged, when its forward end is raised, to lock said connector in a forward inoperative position, said lever at its opposite ends having cam projections; and a projection associated with said link adapted to engage the rearmost projection on said plate upon retraction of the slide so as to lock the connector in inoperative position and to engage the forward projection on said plate to move the same to non-locking position as the slide reaches its foremost position.

15. In a firearm, a receiver having an ejection opening and an abutment, a breech block reciprocable in said receiver and adapted to open and close said opening, said breech block having an abutment engageable with said first-mentioned abutment to lock the breech block in forward operative position, a striker movable in the breech block and having a cam finger at its rearward end, a reciprocating action slide associated with said receiver, and means engageable with the breech block when the slide is moved rearwardly to disengage the breech block from locked position and engageable with said cam to withdraw the striker to a cocked position, said means limiting the extent of forward operative striker movement and preventing accidental firing of the gun whenever the breech block is out of locked position.

16. In a firearm, a receiver having a wall provided with an ejection opening, a breech block mounted for reciprocation in the receiver and arranged to close said ejection opening when in advanced position, a striker carried by the breech block and having a cam member at its rear end, a reciprocating action slide associated with the receiver, a toggle connection between the rear of the breech block and said action slide whereby the rear end of the breech block is initially moved downwardly and the breech block is thereafter moved rearwardly upon rearward movement of the action slide, said toggle being arranged to engage the cam and shift the striker to a cocking position during its rearward movement, and said toggle limiting the forward movement of the striker and preventing firing of the gun whenever the breech block is disposed rearwardly of its extreme advanced position.

17. In a firearm, a receiver having an ejection opening provided with an abutment at its rearward end, a breech block reciprocably mounted in the receiver and arranged to close said opening when in its forward position, said breech block having an abutment at its rearward end cooperating with said first mentioned abutment to lock the breech block in its forward position, a striker carried by the breech block and having a cam finger on its rear end, a reciprocating action slide associated with the receiver, a link pivotally connected at its lower end to the action slide and at its upper end to the rear of said breech block, and an element on said link engageable with said cam finger to cock the striker when the action slide is moved rearwardly, said element lying in the path of forward movement of said cam and preventing accidental firing of the gun whenever the breech block is out of locked position.

18. In a firearm, a receiver having an ejection opening and an abutment adjacent the rear end of said opening, a breech block mounted for reciprocation in said receiver and adapted to close said opening and having an abutment adjacent its rear end adapted to engage said first-mentioned abutment, an action slide mounted for reciprocation, a link pivotally connected to said breech block and said action slide, and cooperating means carried by said breech block and said receiver adapted, when the breech block is moved from closed position, to increase the power with which said block is moved.

19. In a firearm, a receiver having an upper wall and side walls, said upper wall being provided with an ejection opening and an abutment at the rear of said opening, a trigger plate secured to the under side of said receiver, a one-piece integral breech block adapted when in forward position to close said opening, said breech block having at its rear end an abutment adapted to cooperate with said first-mentioned abutment, an action slide slidably mounted in the side walls of the receiver and positioned above said trigger plate for movement longitudinally of the gun, a link interconnecting said action slide and said breech block whereby the rear end of said breech block is moved downwardly and the breech block is moved rearwardly upon rearward movement of the action slide, a cylinder mounted on the barrel of said firearm intermediate of the breech block and muzzle thereof, said barrel being provided with an aperture opening into said cylinder to permit the gases to enter therein, a piston mounted on said barrel and within said cylinder for longitudinal movement along the barrel, and an operative connection between said cylinder and said action slide.

JONATHAN E. BROWNING.