

L. H. COBB.
AUTOMATIC FIREARM.
APPLICATION FILED MAY 29, 1909.

992,854.

Patented May 23, 1911.

2 SHEETS—SHEET 1.

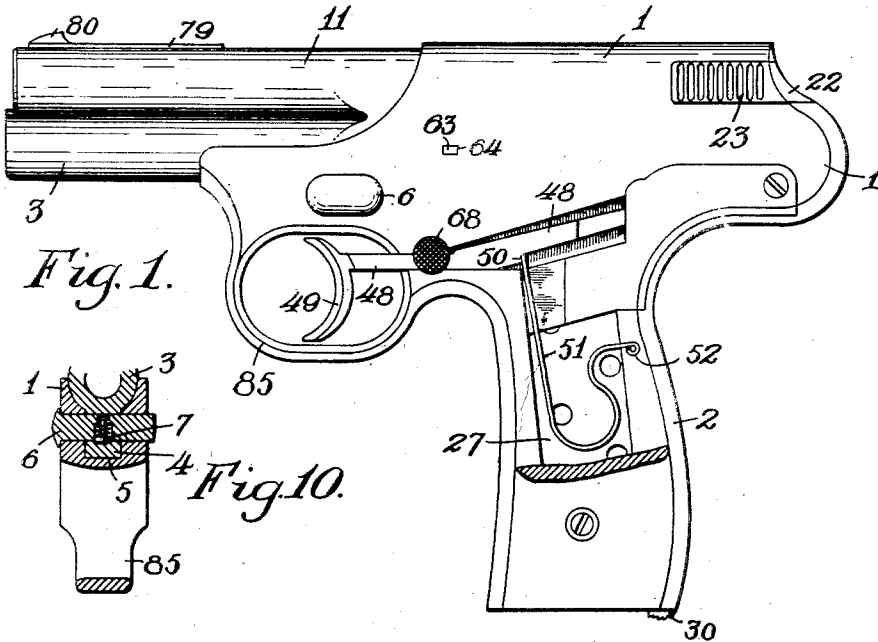


Fig. 1.

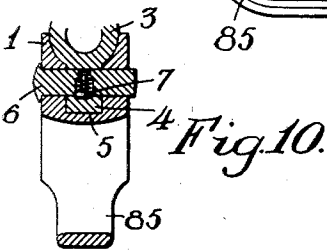


Fig. 10.

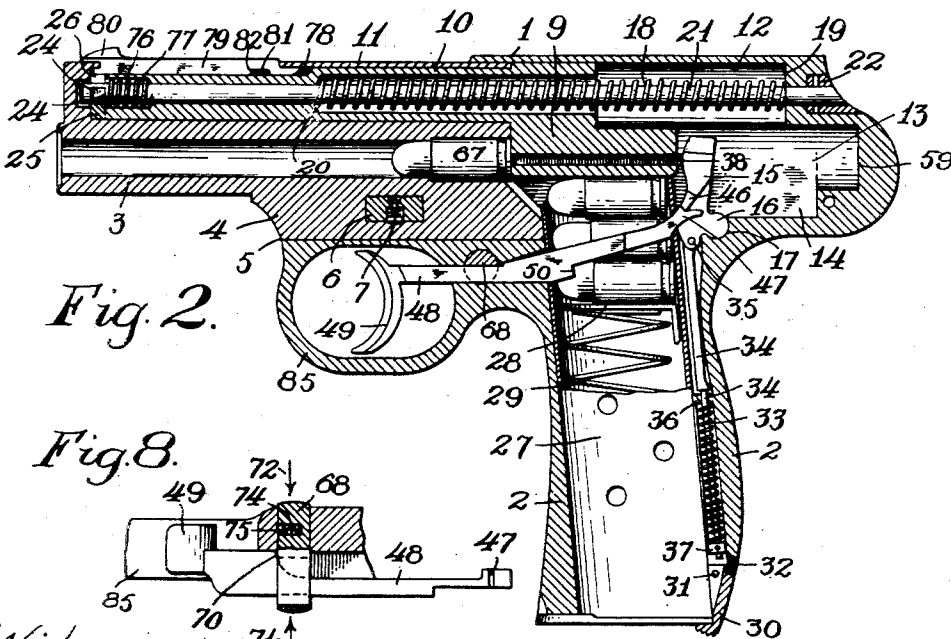
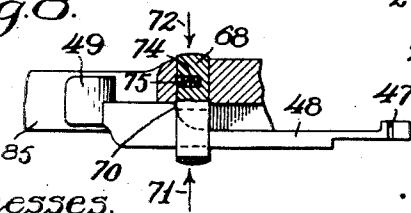


Fig. 2.

Fig. 8.



Witnesses.

Roy D. Tolman.
Paul J. Combs.

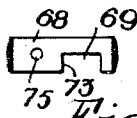


Fig. 9.

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2 SHEETS-SHEET 2.

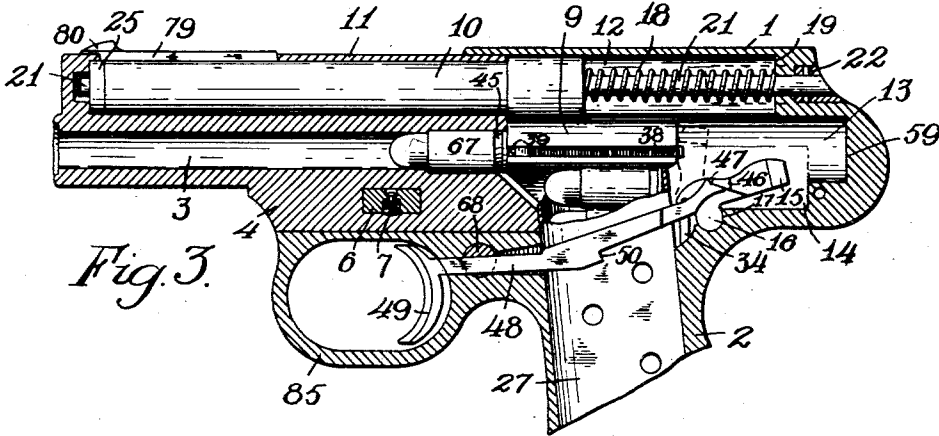


Fig. 3.

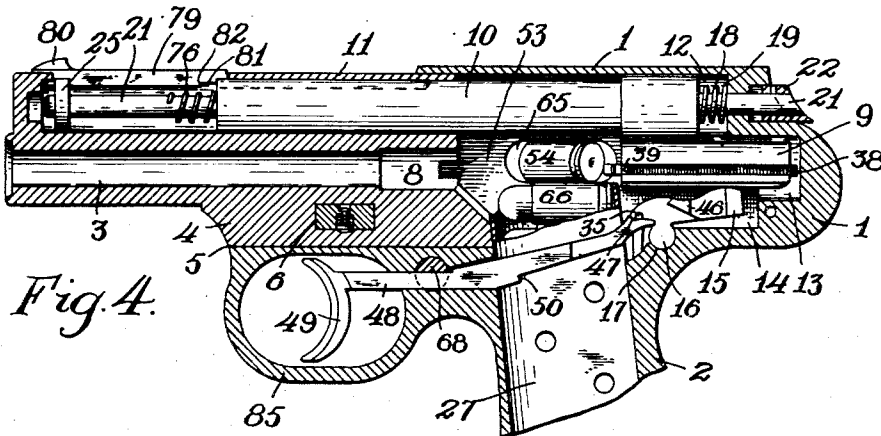


Fig. 4.

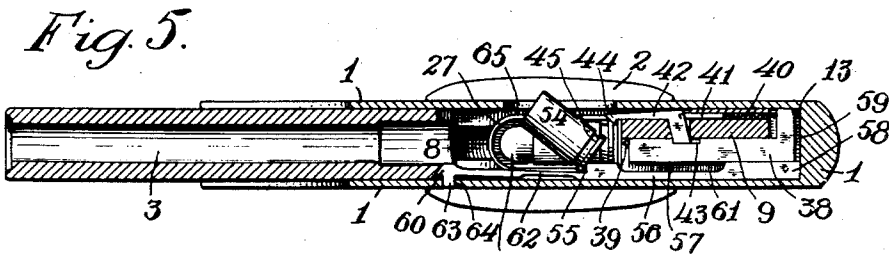


Fig. 5.

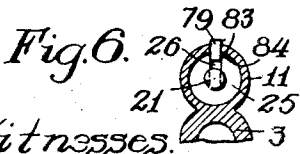


Fig. 6.

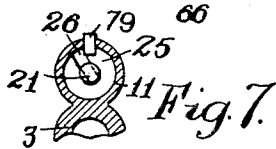


Fig. 7.

Witnesses.

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UNITED STATES PATENT OFFICE.

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AUTOMATIC FIREARM.

992,854.

Specification of Letters Patent. Patented May 23, 1911.

Application filed May 29, 1909. Serial No. 499,259.

To all whom it may concern:

Be it known that I, LYMAN H. COBB, a citizen of the United States, residing at Fitchburg, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Automatic Firearms, of which the following is a specification, accompanied by drawings forming a part of the same, in which—

- 10 Figure 1 represents a side view of an automatic firearm embodying my invention. Fig. 2 is a central vertical sectional view. Fig. 3 is a central vertical sectional view through the barrel, with the breech-bolt and its actuating mechanism shown in full. Fig. 15 4 represents the same view as Fig. 3, but with the breech-bolt in its retracted position to permit the discharge of a cartridge shell and the insertion of a fresh cartridge. Fig. 20 5 is a top view shown in section through the center of the barrel and the center of the breech-bolt, showing the firing pin and ejector latch in full. Figs. 6 and 7 are detached views showing the locking mechanism for 25 holding the breech-bolt in its retracted position. Fig. 8 is a top view of the trigger safety latch for locking the trigger. Fig. 9 is a front view of the trigger safety latch, and Fig. 10 is a transverse sectional view 30 through the center of the key for attaching the barrel and frame.

Similar reference letters and figures refer to similar parts in the different views.

- My present invention relates to automatic 35 firearms which are provided with magazines for cartridges, and in which the mechanism for ejecting the empty cartridge shells and reloading the firearm after its discharge is automatically operated by the explosion 40 of the charge.

- The objects of my invention are to simplify the construction, reduce the cost, increase the efficiency and safety of the firearm and to avoid the liability of breakage 45 or derangement of parts by continued use, and it consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

- The improvements referred to are herein 50 represented as embodied in a pistol, but they are not restricted in their use to that class of firearms, nor are the individual features of my improvements confined to a single structure, as many of them are ca-

pable of being applied with advantage in 55 firearms of other types. It is, however, my main purpose to provide a safe and efficient magazine pistol and I have, therefore, illustrated my invention in connection with that class of firearms. 60

Referring to the accompanying drawings, 1 denotes the frame, 2 the grip stock or handle, and 3 the barrel of a pistol embodying my present improvements. The barrel 3 is provided with a barrel lug 4 which fits a 65 groove 5 in the frame and is held in place by a key 6, which is frictionally held in place by a spring actuated stud 7. The breech 8 of the barrel is normally closed by a sliding breech-bolt 9, which is carried 70 upon the under side of a tubular slide 10 integral with the breech-bolt 9, and sliding in a sleeve 11 mounted upon and integral with the barrel 3. The frame is provided with a cylindrical chamber 12 to provide 75 for the rearward movement of the tubular slide 10 within the sleeve 11. Beneath the chamber 12 the frame is provided with a chamber 13, to provide for the rearward movement of the breech-bolt 9. The cham- 80 ber 13 is enlarged at 14 to provide room for the swinging movement of a hammer 15 which is provided with a lug 16, having its periphery curved in the arc of a circle and held in a curved recess 17 in the frame and 85 forming a pivotal joint between the hammer and frame.

The breech-bolt 9 is normally held against the breech of the barrel in the position shown in Figs. 2 and 3 by means of a spiral 90 spring 18, having one end bearing against the end wall 19 of the chamber 12 and its opposite end bearing against a shoulder 20 in the tubular slide 10. Passing through the end wall 19 and the tubular slide 10 is 95 a retractor rod 21 having its rear end attached to a cross bar 22, provided on opposite sides of the frame with forwardly extending corrugated thumb and finger pieces, one of which is shown at 23, Fig. 1. The 100 forward end of the rod 21 is slabbled on diametrically opposite sides forming shoulders 24, between which is held a washer 25 having a radial slot 26 inclosing the retractor rod 21. The washer 25 bears against the 105 forward end of the tubular slide 10, enabling the breech-bolt 9 to be retracted by hand by drawing the retractor rod 21 back-

ward against the tension of the spiral spring 18.

The grip stock or handle 2 is chambered to receive the cartridge magazine 27, which consists of a flat tube containing a follower 28 mounted upon a spring 29. When the magazine 27 is loaded, the follower 28 is pressed downwardly against the tension of the spring 29 and the uppermost cartridge 10 bears against the under side of the breech-bolt 9, as shown in Figs. 2 and 3. The magazine 27 is held in place by a latch 30, pivoted at 31 in the frame and actuated by a spiral spring 32 to engage the lowermost 15 end of the magazine.

The hammer 15 is actuated by a hammer spring 33 which consists of a spiral spring inclosing a pull rod 34, which is pivoted to the hammer at 35 and has a sliding movement through a lug 36 projecting from the rear wall of the magazine chamber. The spring 33 is inserted between the lug 36 and a collar 37 attached to the lower end of the pull rod 34, and exerts a downward pulling 25 strain to carry the hammer 15 forcibly against a firing pin 38. The firing pin consists of an L-shaped piece of steel sliding in a rabbeted groove in the breech-bolt 9. The forward end of the firing pin is provided with a pointed projection 39. The shorter member of the L-shaped firing pin extends transversely across the breech-bolt 9 to overlap one end of a spiral spring 40, which is inserted between the firing pin 35 and a sliding pin 41, the pin 41 and spring 40 being retained in a recess in the breech-bolt. The opposite end of the pin 41 enters a countersunk recess in the rear side of a two-armed extractor latch 42 held in a recess in the breech-bolt, with one arm entering a notch 43 in the inner side of the firing pin and the other arm being provided on its forward end with a hook 44, adapted to slide over and engage the flange of a cartridge. 45

When the hammer 15 is cocked, the firing pin is drawn back out of contact with the cartridge by the tension of the spiral spring 40, but the rearward movement of the firing 50 pin is limited by the arm of the extractor latch 42 which contacts with one of the end walls of the notch 43, as shown in Fig. 5. The pressure of the spring 40 against the extractor latch 42 holds its hooked arm against the side of the breech-bolt, as shown in Fig. 5, but it permits a slight rocking movement of the extractor latch by which the hook 44 is permitted to move outwardly and pass over the flanged head of the cartridge and engage the annular groove 45 of the cartridge.

Projecting from the side of the hammer is a spur 46 adapted to be engaged by the notched end 47 of a sliding trigger bar 48, 65 provided at its forward end with a curved

finger piece or trigger 49. The lower end of the trigger bar 48 is provided with a notch 50 which receives one end of a trigger spring 51, the opposite end being held in a fixed position in a recess 52 in the frame of the firearm. The trigger spring 51 is preferably made of a curved piece of steel, suitably arranged to apply a tension to the trigger bar 48 to force it forward in the position shown in Figs. 1, 2 and 4. 70

In the operation of cocking the hammer, the trigger is pressed back against the tension of the trigger spring 51, pressing the notched end 47 against the laterally projecting spur 46 on the side of the hammer and rocking the hammer from the position shown in Fig. 2 to that shown in Fig. 3, in which the hammer is shown at full cock. In the position of full cock, as shown in Fig. 3, the continued pressure upon the trigger 49 depresses the rear end of the trigger bar and releases the spur 46 from the notched end 47 of the trigger bar, permitting the hammer spring 33 to carry the hammer forcibly against the firing pin 38. 85 When the trigger 49 is released, the curved trigger spring 51 moves the trigger bar 48 forward and also presses its rear end upwardly into engagement with the spur 46 in the position shown in Fig. 2, allowing the hammer to be repeatedly cocked and the firearm discharged by the repeated pressure of the finger upon the trigger 49. 90 95

As successive charges are exploded, the force of the discharge recoils the breech-bolt from the position shown in Figs. 2 and 3 to that shown in Fig. 4, thereby opening a receiving chamber 53 directly above the cartridge magazine 27. As the breech-bolt recoils, an empty cartridge shell 54 is withdrawn from the breech 8 of the barrel, by the engagement of the hook 44 of the extractor latch with one side of the flanged head of the cartridge shell until the opposite side of the shell, in its rearward movement, strikes a shoulder 55 on the inner end of a cartridge tripping bar 56. The cartridge tripping bar 56 is held in a rabbeted recess 57 of the breech-bolt which contains the firing pin, and it is held from longitudinal movement by the contact of its rear end 58 with the rear wall 59 of the chamber 13, and by the contact of its forward end 60 with the rear end of the barrel. The inner edge of the cartridge tripping bar 56 is cut away at 61 to permit the swinging movement of the hammer 15, and it is reduced in thickness to form an elastic or spring section 62. The forward end 60 of the tripping bar normally projects slightly in the breech 8 of the barrel, and it is provided with a spur 63 which projects through an opening 64 in the frame 1 of the firearm. 100 105 110 115 120 125

When a cartridge is contained in the breech of the barrel, the end 60 of the trip- 130

ping bar is forced outwardly, causing the spur 63 to project slightly beyond the exterior wall of the firearm, thereby indicating whether or not the breech of the barrel is empty. If the spur 63 is withdrawn into the opening 64, it indicates that the breech 8 is empty, but if the spur 63 projects beyond the outer surface of the frame, which may be detected by feeling as well as by sight, it indicates that an unexploded cartridge still remains in the breech 8. The spur 63, therefore, serves as a telltale enabling the user of the firearm to determine whether the barrel is empty or is loaded with a charge ready for firing.

One side of the frame 1 is provided with an opening 65 for the discharge of the empty cartridge shell as it is withdrawn from the breech by the extractor latch 42. The contact of the empty shell with the shoulder 55 of the cartridge tripping bar throws the shell into an oblique position and releases it from the hook 44 of the extractor latch 42, giving to the shell a direction toward the opening 65, as shown in Figs. 4 and 5. The impetus given to the empty shell 54 and the pressure of the next succeeding cartridge 66 causes the ejection of the shell 54 from the firearm, and allows the succeeding cartridge 66 to be pressed up by the follower 28 into alinement with the breech 8 and in front of the breech-bolt 9. The breech-bolt is then moved forward by the tension of the spiral spring 18, carrying a fresh cartridge into the breech of the barrel and into the position of cartridge 67, Figs. 2 and 3.

During the recoil of the breech-bolt 9, the hammer is moved down into the position of full cock by the movement of the breech-bolt over the face of the hammer, as shown in Fig. 4. During the succeeding forward movement of the breech-bolt, the hammer is swung back into its normal position following the breech-bolt by the tension of the hammer spring 33, returning the hammer into its normal position, as shown in Fig. 2. When the firearm is to be discharged, the hammer is moved from the position shown in Fig. 2 to that shown in Fig. 3 by the pressure upon the trigger, bringing it to the position of full cock, when the continued movement of the trigger causes the release of the hammer which is forcibly carried by the hammer spring from the position of full cock, as shown in Fig. 3, to its normal position shown in Fig. 2, striking the firing pin with sufficient force to discharge the cartridge. Each discharge of the firearm causes the recoil of the breech-bolt, the extraction of the empty shell and the insertion of a fresh cartridge, leaving the hammer at the end of these operations in its normal position resting against the firing pin. No discharge of the firearm, however, can take place except by a movement of the trigger

sufficient to bring the hammer to a full cock, when it is automatically released and the firearm discharged.

By controlling the movement of the trigger, I am able to safeguard against an accidental discharge, and I accomplish this by placing a slidable safety latch 68 in the frame of the firearm directly over the trigger bar 48, having its under side notched at 69 to inclose the trigger bar. The trigger bar 48 is shown in top view in Fig. 8, the forward end of the bar being increased in width to form a shoulder 70 on the inner side of the bar. By pushing the safety latch in the direction of the arrow 71, the notch 69 coincides with the widened portion of the trigger bar, allowing the latter to slide freely beneath the latch. By pushing the latch in the direction of the arrow 72, it is brought into the position shown in Fig. 8, with the end wall 73 of the notch overlapping the shoulder 70 of the trigger bar and preventing the rearward movement of the trigger.

The safety latch 68 is frictionally held from accidental displacement by means of a spiral spring 74 held in a recess in the safety latch, with its outer end pressing against a washer 75 which bears against the frame of the firearm.

The first cartridge is transferred from the magazine 27 into the breech of the barrel by retracting the breech-bolt by hand, which is accomplished by seizing the hand pieces 23 and drawing the retractor rod 21 out of the frame. The washer 25 causes the tubular slide 10 and breech-bolt 9 to be retracted so as to open the receiving chamber 53. The spring 29 of the cartridge magazine then forces the uppermost cartridge in front of the breech-bolt, when a release of the spring 18 forces the breech-bolt forward and pushes the cartridge into the breech of the barrel in the position of cartridge 67, Figs. 2 and 3. After the first cartridge has been inserted in the breech, the extraction of the empty cartridge shell and the insertion of a fresh cartridge at each discharge of the firearm takes place automatically, in the manner already described, by the force of the explosion, which moves the tubular slide 10 and breech-bolt 9 back into the position shown in Fig. 4.

The recoil of the breech-bolt 9 and tubular slide 10 is liable to produce a slight rearward movement of the rod 21, withdrawing the washer 25 from contact with the forward end wall of the sleeve 11, as shown in Fig. 4. In order to relieve the washer from the impact of the tubular slide 10 as it is again forcibly moved forward by the tension of the spring 18 I insert a small compression spring 76 between the tubular slide 10 and the washer 25. The compression spring 76 is inserted in a recess 77 of the tubular slide 10, and is under a state of compression when the end of the tubular slide 10 is in contact

with the washer 25, as represented in Fig. 2. As the tubular slide moves back, the compression spring 76 expands and projects beyond the end of the slide in position to contact with the washer 25 in advance of the slide 10. The tubular slide 10 is provided on its upper side and at its forward end with a groove 78, which receives a spline 79 held in the sleeve 11 and extending into the groove 78, and which serves to hold the tubular slide 10 from rotation.

Upon the forward end of the spline 79 is a projection 80 which forms the foresight of the firearm. The inner edge of the spline 79 is notched at 81, forming a shoulder 82. A portion of the periphery of the washer 25, next the radial slot 26, is cut away as shown at 83, Fig. 6, forming a shoulder 84. When the retractor rod 21 has been drawn back far enough to bring the washer 25 opposite the notch 81, the rod may be rotated to carry the washer 25 into the notch 81 until the shoulder 84 contacts with the side of the spline 79. The washer 25 will then be held from forward movement by the shoulder 82, thereby locking the tubular slide 10 and breech-bolt 9 in their rearward position in order to facilitate the cleaning of the interior portions of the firearm.

By the above described construction of my improved automatic firearm, I form the frame 1, grip stock 2, and trigger guard 85 in a single piece; the barrel 3 and sleeve 11 in a single piece, and the tubular slide 10 and breech-bolt 9 in a single piece, and I do away with all screws and bolts to connect these parts. The lock mechanism is simplified by doing away with all screws, bolts and pivotal connections, with the exception of the one pivot 35 between the hammer and the pull rod 34. I also do away with the pivoted trigger and the sear for retaining the hammer at full cock which are commonly used in firearms of this class, and I further secure a durable and resilient hammer spring adapted to be contained in the restricted space at the rear of the cartridge magazine.

I claim,

1. In a firearm of the class described, a frame and handle in a single integral piece, a barrel and a sleeve mounted on said barrel and integral therewith, with the rear end of said barrel and sleeve inclosed in said frame.

2. A firearm of the class described, having a barrel and a frame for said barrel, a sleeve attached to said barrel, a tubular slide movable within said sleeve, a breech-bolt for closing one end of said barrel attached to said slide, chambers in said frame at the rear of said barrel and said sleeve to receive said sleeve and said breech-bolt when they move rearwardly under the force of the explosion when the firearm is discharged, and

a spring with one end interposed within the tubular portion of said slide and arranged to move said slide toward the front of the firearm.

3. In a firearm of the class described, a frame, a barrel, a breech-bolt, a tubular slide carrying the breech-bolt, a spiral spring interposed between the frame and the tubular slide, and a retractor rod for withdrawing said tubular slide against the tension of said spring.

4. In a firearm of the class described, a frame, a barrel supported by said frame, a sleeve mounted on said barrel and forming a way for a tubular slide, a tubular slide, a breech-bolt carried by said slide, a spring interposed between the frame and slide, and a retractor rod inclosed in said tubular slide provided with a hand piece at one end for its withdrawal, and at its opposite end with a washer engaging said slide.

5. In a firearm of the class described, a barrel, a sleeve mounted on said barrel, a tubular slide in said sleeve, a breech-bolt carried by said slide, a spring for holding the breech-bolt in position, means for moving said breech-bolt and slide to open a receiving chamber for the admission of the initial cartridge.

6. A firearm of the class described, having a frame, a barrel, a breech-bolt for closing one end of the barrel arranged to be withdrawn by the force of the explosion when the firearm is discharged, a slide carrying said breech-bolt, ways on both said frame and barrel for said slide, a spiral spring between said frame and said slide, and a rod for withdrawing said slide by hand against the tension of said spring.

7. A firearm of the class described, having a frame, a barrel, a breech-bolt for closing one end of said barrel, a tubular slide carrying said breech-bolt, ways on both said frame and said barrel for said slide, a spiral spring extending into the tubular portion of said slide with one end in contact with said frame and the other with a shoulder within said tubular slide, and a rod inclosed within said spring with one end attached to said tubular slide beyond said spring and the other projecting beyond said frame.

8. In a firearm of the class described, a barrel, a sleeve mounted on said barrel, a tubular slide in said sleeve, a spline connection between said sleeve and said slide, a breech-bolt carried by said slide, and a spring for holding said breech-bolt in position.

9. In a firearm of the class described, a frame, a barrel, a sleeve mounted on said barrel, a tubular slide in said sleeve, a breech bolt carried by said slide, a spline held by said sleeve and engaging a groove in said slide, a spring between said frame and said slide to hold the breech bolt in position, means for retracting said slide by

hand and means for locking said slide in its retracted position.

10. In a firearm of the class described, a frame, a barrel, a sleeve mounted on said barrel, a tubular slide in said sleeve, a notched spline held by said sleeve and engaging said slide, a retractor rod passing through said slide, a washer carried by the end of said retractor rod and bearing against the end of said slide, said washer having a radial slot inclosing said spline and capable of a rotary movement to engage said notched spline.

11. In a firearm of the class described, a frame, a barrel, a sleeve mounted on said barrel, a tubular slide in said sleeve, a breech-bolt carried by said tubular slide, a retractor rod passing through said tubular slide provided with a hand piece at one end and a washer at its opposite end, means for holding said rod from rotation during its retraction, means for holding said tubular slide from rotation during its retraction and a spring to press said tubular slide forward.

12. In a firearm of the class described, a barrel, a tubular slide, a breech-bolt carried by said slide, a retractor rod, having a washer at one end engaging said slide, a spring for forcing said slide forward to carry the breech-bolt into position, and a spring between said slide and said washer to cushion the force of said first spring.

13. A firearm of the class described, having a barrel, a frame, a breech-bolt closing one end of said barrel, a firing pin projecting from the rear end of said breech-bolt, a hammer pivoted in said frame, a sliding trigger bar in engagement with said hammer, ways in said frame to receive said trigger bar, a trigger integral with said trigger bar, and a hammer spring arranged to swing said hammer on its pivot when released from said trigger bar.

14. In a firearm of the class described, a barrel, a breech-bolt normally closing the breech of the barrel, a firing pin slidable in said breech-bolt, a rocking extractor latch held in said breech-bolt and a common spring acting at one end to hold said extractor latch in operative position and at its opposite end to retract the firing pin.

15. In a firearm of the class described, the combination with a slidable breech-bolt having a longitudinal recess on one side for a slidable firing pin, and a recess on the opposite side for a rocking extractor latch, of an L-shaped firing pin having one member held in said longitudinal recess and the other member overlapping said latch, an L-shaped extractor latch having one member hooked to engage a cartridge, and its other member interlocking said firing pin and a spring acting jointly on said latch and firing pin.

16. In a firearm of the class described, a

breech-bolt having communicating longitudinal and transverse recesses for an extractor latch, an L-shaped ejector latch having one member held in said longitudinal recess and the other member held in said transverse recess, a sliding pin held in ways in said breech-bolt and engaging said latch to hold it from removal from the breech-bolt, and a spring acting against said pin to actuate said extractor latch.

17. A firearm of the class described, having a breech-bolt, a firing pin slidable in said breech-bolt, a hammer pivoted at the rear of said breech-bolt, a hammer spring in engagement with said hammer, a sliding trigger bar having one end arranged to engage said hammer, a trigger integral with the other end of said trigger bar, and a trigger spring arranged to hold said trigger bar in a forward position.

18. In a firearm of the class described, a pivoted hammer, a hammer spring, a lateral projection on one side of the hammer, a sliding trigger bar having a notched end adapted to engage said projection and rock the hammer by a rearward movement of the trigger bar, and automatically release the hammer at the end of its rearward movement, and a safety latch adapted to engage said trigger bar at will and hold the same from rearward movement.

19. In a firearm of the class described, a frame, a firing pin, a hammer pivotally supported by said frame, a pull rod pivoted to said hammer, a spiral spring applied to said pull rod to rock the hammer against the firing pin, and a sliding trigger bar having a trigger attached to one end and having its opposite end notched to engage a projection on said hammer.

20. In a firearm, a pivoted hammer provided with a projection on one side, a sliding trigger bar, a trigger carried by one end of said bar, with the opposite end of said bar notched to engage the projection on said hammer and rock the hammer by the rearward sliding movement of said trigger bar and automatically release the hammer, and a spring applied to said trigger bar to force it forward and to raise the rear end of the bar when the hammer is released.

21. A firearm of the class described, having a frame, a barrel, a breech-bolt held in said frame arranged to normally close the rear end of said barrel and to be moved backward by the force of the explosion when the firearm is discharged, a tripping bar parallel with the plane of the movement of said breech-bolt and held from longitudinal movement, means on said breech-bolt for extracting an empty shell from said barrel by said backward movement of said breech-bolt, and a shoulder on said tripping bar arranged to strike the shell after it is extracted, thereby releasing said shell from

said extracting means and directing it toward an opening in said frame.

22. A firearm of the class described, having a frame, a barrel, a breech-bolt held in said frame arranged normally to close the rear end of said barrel and to be moved backward by the force of the explosion when the firearm is discharged, said breech-bolt having a recess in one side, a tripping bar with one end in contact with said frame and the other end in contact with said barrel passing through said recess, an extractor latch on said breech-bolt, and a shoulder on said tripping bar arranged to strike the empty shell after it is extracted, thereby releasing it from said latch and directing it toward an opening in said frame.

23. A firearm of the class described, having a frame, a barrel, means for feeding a cartridge from said frame into the breech of said barrel, an elastic bar held in said frame having a transverse spur upon the forward end, said spur normally extending slightly from one side of said bar into the breech of said barrel and from the other side through an opening in said frame, said spur arranged to be projected also slightly beyond the exterior of said firearm by the pressure of a cartridge shell in said barrel.

24. A firearm of the class described, having a frame, a barrel, means for feeding a cartridge into the breech of said barrel, said means also adapted to extract the empty shell from said breech, a tripping bar held in said frame and having a shoulder arranged to direct the empty shell outside of said frame after it is extracted from said breech, with the forward portion of said bar beyond said shoulder elastic and provided with a transverse spur at the end interposed in the path of the cartridge as it enters said barrel, said spur also arranged to be projected slightly beyond the exterior of the firearm by the pressure of a cartridge shell in said barrel.

25. A firearm of the class described, having a pivoted hammer, a hammer spring arranged to swing said hammer on its pivot to explode a cartridge, a trigger bar with one end in engagement with said hammer

and having a trigger at the other, said trigger bar arranged to hold said hammer against the force of said hammer spring and to release said hammer and so discharge the cartridge by a sliding movement, and a slidable safety latch projecting beyond the frame and inclosing said trigger bar, arranged in one position to prevent the movement of said trigger bar.

26. A firearm of the class described, having an integral frame, grip stock and trigger guard, a barrel and sleeve integral therewith, a slide inserted in said sleeve integral with a breech-bolt in said frame, frictionally held means for securing said barrel in said frame, a hammer in said frame having a curved lug pivotally held in a curved recess, and a sliding trigger bar in engagement with said hammer having a trigger integral with said trigger bar.

27. In an automatic pistol, the combination with the hammer, of the trigger, means whereby the trigger is caused to cock and release said hammer, a recoil operated extracting and loading device, consisting of a movable breech-block having a slide, said breech-block and said slide together constituting a recoil piece, a tubular sleeve for said slide parallel to the barrel, and a spring located in said sleeve behind said slide.

28. In a pistol, the combination with the barrel, of a tubular sleeve located above said barrel, a recoil piece comprising a breech-block and an offset slide, said slide located in said tubular sleeve above the barrel, and the breech-block extending downward therefrom into alinement with and behind the barrel, a spring operating directly on said slide, a pivotally supported hammer behind the breech-block, a trigger bar acting on said hammer but not connected therewith, and a trigger to act upon said trigger bar to cock the hammer and release the trigger bar when the hammer has been cocked.

Dated this 25th day of May, 1909.

LYMAN H. COBB.

Witnesses:

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ARTHUR H. BUNN.