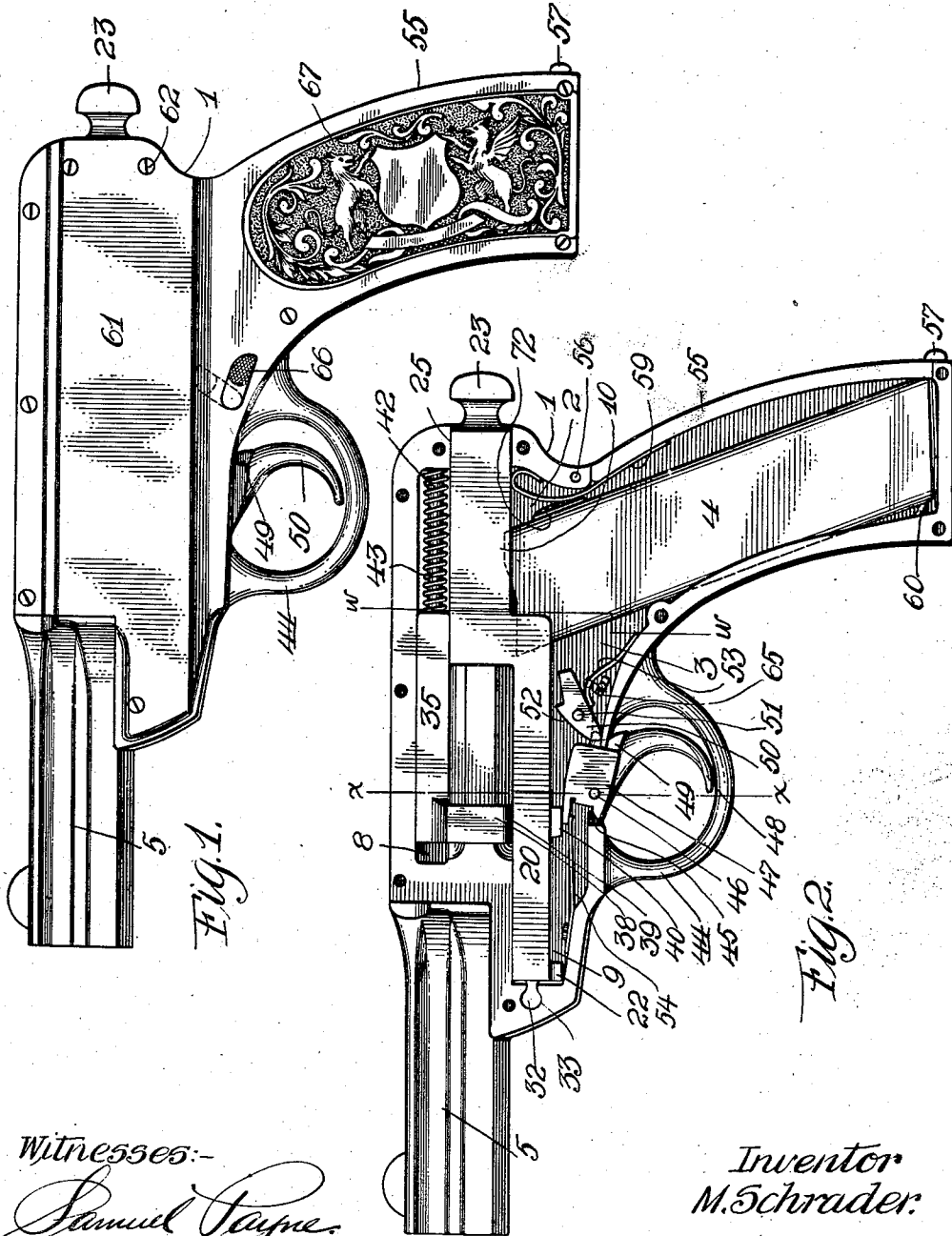


968,989.

Patented Aug. 30, 1910.

2 SHEETS—SHEET 1.



Witnesses:-
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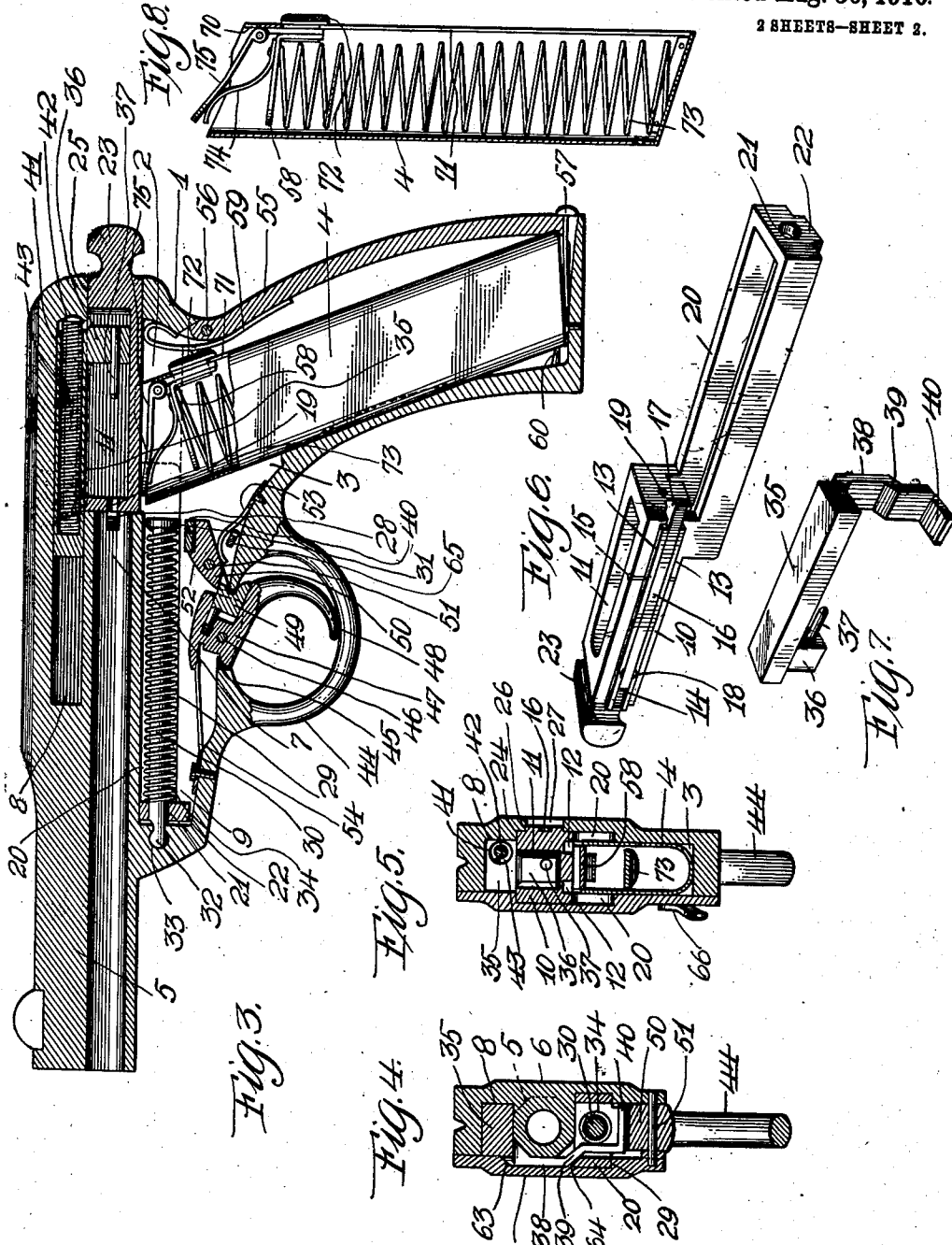
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FIREARM.

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2 SHEETS—SHEET 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

MORITZ SCHRADER, OF McKEESPORT, PENNSYLVANIA, ASSIGNOR OF FIFTY-ONE ONE-HUNDREDTHS TO SAMUEL FIRESTONE, OF McKEESPORT, PENNSYLVANIA.

FIREARM.

968,989.

Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed May 14, 1910. Serial No. 561,284.

To all whom it may concern:

Be it known that I, MORITZ SCHRADER, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Firearms, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to firearms and more particularly to that class known as magazine or automatic pistols, wherein the barrel of the pistol is charged with cartridges from a magazine within the handle
15 of the pistol.

The invention has for its object to provide positive and reliable means for automatically causing the pistol to be reloaded from the magazine thereof after one of the cartridges of the magazine has been manually
20 placed in position for firing.

To obtain the above object I provide a pistol that can be safely operated and easily maintained in an operatable condition, the
25 pistol consisting of comparatively few parts, easily assembled, free from injury by ordinary use, and highly efficient as an automatic firearm.

The invention will be hereinafter specifically described and then claimed and reference will now be had to the drawings forming a part of this specification, wherein there is illustrated a preferred embodiment
30 of the invention, but it is to be understood that the structural elements thereof can be varied or changed as to the size, shape, and manner of assemblage without departing from the spirit and scope of the appended claims.

40 In the drawings: Figure 1 is a side elevation of the pistol. Fig. 2 is a similar view of the same with the side plate thereof removed. Fig. 3 is a longitudinal sectional view of the pistol, showing the magazine
45 partly in elevation. Fig. 4 is a cross sectional view of the pistol taken on the line $x-x$ of Fig. 2. Fig. 5 is a similar view taken on the line $w-w$ of Fig. 2. Fig. 6 is a detached perspective view of the breech block. Fig. 7 is a similar view of the firing member, and Fig. 8 is a detached vertical
50 sectional view of the magazine

To put my invention into practice, I utilize certain well-known parts of the auto-

matic pistol, for instance, a trigger, a sear, 55 and a magazine, and in conjunction with these parts I provide a novel receiver construction, breech block, and firing member, the last two elements being compactly arranged within the receiver to cooperate in
60 automatically reloading and discharging the pistol by the control of the trigger.

Considering the detail construction of the pistol, the reference numeral 1 denotes a pistol body or frame having a receiver 2, a
65 hollow handle 3 in communication with said receiver and adapted to contain a magazine 4, and a barrel 5 having the rear end thereof extending into said receiver and formed integral with the side wall 6 thereof. The
70 rear end of the barrel 5 extends into the receiver 2 approximately half the length of said receiver and forms a chamber 7 to receive a cartridge from the magazine 4. The rear end of the barrel 5 provides a
75 longitudinal guideway 8 in the upper part of the receiver and another guideway 9 in the lower part of the receiver, the former accommodating a firing member and the latter a breech block.
80

The breech block comprises an oblong body 10 having the top thereof provided with a longitudinal groove 11 and the bottom thereof with longitudinal grooves 12, the latter being provided to establish communication
85 between the cartridge chamber 7 of the barrel 5 and the lower part of the receiver 2 and the hollow handle 3, thus providing means whereby the gases can easily escape from the barrel 5 after the pistol has been
90 discharged. The grooves 12 also reduce the weight of the breech block. One of the walls of the body 10 is provided with longitudinal ribs 13 and a longitudinal groove 14. Pivotaly mounted in the groove 14
95 by a vertical pin 15 extending through the ribs 13 is an extractor 16. One end of the extractor projects beyond the end of the body and is hook-shaped or provided with a
100 tooth 17 to engage the rim of a cartridge and retain the same against the end of the body during the rearward movement thereof. The opposite end of the extractor is spring-pressed by a coiled spring 18 mounted in the groove 14.
105

The forward end of the body is provided with a longitudinal pin opening 19 and with a forwardly projecting yoke or cage 20, this

yoke being off-set with the upper edge thereof in longitudinal alinement with the lower side of the body 10. The forward end of the yoke 20 is provided with a pin opening 5 21 and with a depending guide lug 22. The rear end of the body 10 is provided with a knob or suitable handle 23 whereby the breech block can be easily manipulated.

The wall 6 of the pistol body has the 10 inner side thereof provided with a longitudinal guide groove 24 for the body 10 of the breech block, said groove extending from the rear end of the barrel 5 to a slot 25 formed in the rear end of the body 1, said slot accommodating the rear end of the 15 breech block. The wall 6 is further grooved, as at 26 to provide clearance for the ribs 13 and the extractor 16 of the breech block, and at the forward ends of the grooves 24 and 26 the wall 6 is provided with an oblong opening 27 for the ejection of cartridge 20 shells, said opening being in communication with the transverse slot 28 formed in the rear end of the barrel 5 and in the wall 6 25 to provide clearance for the toothed end 17 of the extractor 16. The lower part of the groove 24 extends into the guideway 9 of the receiver, as at 29, and provides a guide for one of the arms of the yoke 20 30 of the breech block.

Arranged in the yoke 20 of the breech block is a longitudinal pin 30, having the rear end thereof provided with a head 31 and the forward end thereof with a head 35 32. The forward end of the pin extends through the opening 21 of the yoke 20 and seats in a socket 33 provided therefor in the forward end of the body 1 directly beneath the barrel 5, the head 32 of said pin 40 anchoring the pin whereby the breech block can be independent of said pin. Encircling the pin 30 between the head 31 and the end of the yoke 20 is a coiled retractile spring 34 adapted to normally retain the forward 45 end of the breech block 10 in engagement with the rear end of the barrel 5.

The firing member used in connection with the breech block comprises an oblong body 50 35 having the rear end thereof provided with a depending lug 36 and the forward side of this lug is provided with a longitudinally disposed firing pin 37 adapted to enter the opening 19 at the forward end of the breech block body 10. The forward 55 end of the body 35 at one side thereof is provided with a depending strap 38 to partially embrace and slide upon the side of the barrel 5 at the rear end thereof. This strap extends downwardly in the yoke 20 60 and adjacent to said yoke is a shoulder 39 for a purpose that will presently appear. The lower end of the strap 38 is below the yoke 20 and is provided with a right-angular extension 40 adapted to be engaged by a 65 sear, as will presently appear. The body 35

of the firing member has the rear end thereof provided with a longitudinal bore 41 and extending into said bore is the forward end of a pin 42, the rear end of said pin engaging the pistol body 1. Encircling said pin within the bore 41 is a compression spring 43 70 adapted to normally retain the firing pin 37 within the opening 19 of the breech block, said spring being held under tension when in a cocked or rearward position and 75 held by the sear of the trigger mechanism.

The pistol body 1 at its juncture with the hollow handle 3 is provided with a trigger guard 44 and with an opening 45. Pivotaly 80 mounted in the opening 45 by a transverse pin 46 is a trigger body 47 having a depending curved trigger 48 within the guard 44. The trigger body 47 is provided with a spring-pressed sear actuating member 49 85 held in engagement with a sear 50 pivoted in the receiver 2 by a transverse pin 51. The sear is provided with a tooth 52 normally held in engagement with the right-angular extension 40 of the firing member by a 90 spring 53 mounted in the receiver 2. A spring 54 mounted in the forward end of the guideway 9 normally retains the trigger body 47 in a position that the sear actuating member 49 thereof will engage the lower 95 end of the sear 50.

The hollow handle 3 of the pistol body has the rear wall 55 thereof hinged at its upper end, as at 56, whereby the magazine 4 can be easily placed in the hollow handle. The lower end of the wall 55 is held in a 100 closed position by a resilient clasp 57 mounted in the lower end of the hollow handle. The magazine 4 comprises a shell having the wall 70 thereof provided with a longitudinal slot 71 and slidably mounted in said 105 slot is the button 72 of a cartridge feeding device 58, this device including a compression spring 73, a feed spring 74, and a gate 75. The button 72 permits of the cartridge feeding device being lowered within the 110 magazine when the same is to be loaded with cartridges. The magazine is prevented from rattling or shifting within the hollow handle 3 by a spring 59 secured to the inner upper side of the wall 55 of the hollow handle, said 115 magazine being further held by a small pin 60 extending into the magazine near the lower end thereof.

The pistol body is provided with a detachable side plate 61 held in engagement 120 with the body by screws or other fastening means 62. The plate 61 has the upper part thereof off-set to provide a guide groove 63 for the strap 38 of the firing member and the yoke 20 of the breech block, said side 125 plate having a longitudinal rib 64 that engages the shoulder 39 of the strap 38 and assists in supporting the same during its longitudinal movement. The side plate 61 adjacent to the trigger mechanism is provided 130

with a safety device comprising a crank shaft 65 having the outer end thereof provided with a small button or lever 66. The crank shaft 65 is adapted to engage under the spring 53 and lock the sear 50 in engagement with the right-angular extension 40 of the firing member, thus preventing the sear from being moved out of engagement with said right-angular extension by a movement of the trigger. Suitable plates 67 can be mounted upon the outer side of the hollow handle 3 and the side plate 61 to provide a hand-grip.

A pistol in accordance with this invention is operated in the following manner:—Assuming that the magazine 4 has been loaded and placed in the hollow handle, the uppermost cartridge will be held against the under side of the breech block; the breech block is pulled rearwardly by hand and the first cartridge is immediately released from the magazine and when the breech block is released, the cartridge is carried into the chamber 7 of the barrel 5, with the rim of said cartridge in engagement with the tooth 17 of the extractor 16. When the breech block is moved rearwardly the coiled spring 34 is placed under tension and consequently restores the breech block to its normal position when released. Simultaneous with the rearward movement of the breech block the firing member is carried rearwardly on account of the depending lug 36 extending into the groove 11 and engaging the forward end of the body 10. As the firing member is carried rearwardly the coiled spring 43 is placed under tension and the right-angular extension 40 of the firing member is engaged by the sear and held with the firing member in a firing position. When the trigger 48 is pulled the sear 50 is shifted to release the right-angular extension 40 of the firing member and the tension of the spring 43 immediately moves the firing member forward with such force that the firing pin 37 will fire the cartridge within the chamber 7.

The breech block is manually pulled rearwardly in order to load the first cartridge, but when this cartridge is fired the pressure of gases drives the breech block rearward and the pistol is immediately reloaded by the feeding mechanism of the magazine 4 and the breech block. For repeated firing it is only necessary to retain the finger upon the trigger 48 until the magazine 4 is exhausted of cartridges. At each rearward movement of the breech block the cartridge shell is removed from the chamber of the barrel and ejected from the pistol.

From the foregoing it will be observed that I have devised a firearm embodying a receiver having a barrel projecting therein, a breech block normally held in engagement with the end of the projecting barrel,

and a firing member adapted to straddle the projecting end of said barrel and be held by a sear beneath said barrel.

What I claim, is:

1. In a firearm of the type described, a body having a receiver formed therein, a barrel projecting into said receiver and communicating therewith, a magazine extending into said receiver for positioning cartridges to enter said barrel, a breech block longitudinally movable in said receiver, and a firing member having a strap partially embracing the extended end of said barrel and extending into said breech block for firing a cartridge placed in the extending end of said barrel.

2. In a firearm of the type described, a body having a receiver formed therein, a barrel extending into said receiver and in communication therewith, a magazine for positioning cartridges to enter said barrel, a breech block movably mounted in said receiver for shifting cartridges into the extended end of said barrel, a firing member having a strap partially embracing said barrel and extending into said breech block for firing a cartridge placed in said barrel, and a sear for holding said firing member in a cocked position.

3. In a firearm, a body having a receiver formed therein, a barrel having the rear end thereof projected into said receiver, a magazine extending into said receiver for positioning cartridges to enter said barrel, a breech block movably mounted in said receiver and provided with a yoke, a spring arranged in said yoke and adapted to normally hold said breech block in engagement with the end of said barrel, a firing member slidably mounted upon said breech block and having a strap partially embracing the inner end of said barrel, a pin carried by said firing member within said breech block and adapted to extend through the forward end thereof to fire a cartridge within said barrel, and a trigger-controlled sear adapted to hold said firing member in a cocked position.

4. In a firearm, a body having a receiver therein, a barrel extending into said receiver and in communication therewith, a magazine extending into said receiver for positioning cartridges to enter said barrel, a breech block slidably mounted in said receiver, a yoke carried by said breech block, a spring arranged in said yoke for normally retaining said breech block in engagement with said barrel, a firing member slidably mounted upon said breech block, a firing pin carried by the rear end of said member within said breech block and adapted to extend through the forward end thereof, a depending strap carried by the forward end of said firing member and extending through said yoke, and a sear and trigger.

5. In a firearm, a body having a receiver

therein, a barrel extending into said receiver and in communication therewith, a magazine extending into said receiver for positioning cartridges to enter said barrel, a
 5 breech block slidably mounted in said receiver, a yoke carried by said breech block, a spring arranged in said yoke for normally retaining said breech block in engagement with said barrel, a firing member slidably
 10 mounted upon said breech block, a firing pin carried by the rear end of said member within said breech block and adapted to extend through the forward end thereof, a depending strap carried by the forward end
 15 of said firing member and extending through said yoke, and a trigger-actuated sear within said receiver adapted to engage said strap to hold said firing member in a cocked position.

20 6. In a firearm of the type described, a body having a receiver formed therein, a barrel extending into said receiver and in communication therewith, a magazine in communication with said receiver for positioning
 25 cartridges to enter said barrel, a spring-held breech block normally in engagement with the end of said barrel, a firing member slidably mounted upon said barrel and said breech block, a firing pin carried
 30 by the rear end of said member within said block and adapted to extend through the forward end thereof, a depending strap carried by the forward end of said firing member, and a trigger-actuated sear adapted
 35 to hold said firing member in a cocked position.

40 7. In a firearm of the type described, a body having a receiver therein, a barrel communicating with said receiver and extending therein approximately one-half the length
 45 of said receiver, a magazine extending into said receiver for positioning cartridges to enter said barrel, a breech block movably mounted in said receiver, a spring-pressed yoke carried by the forward end of said
 50 breech block, a spring-pressed firing member slidably mounted upon said breech block and said barrel, a firing pin carried by the rear end of said member within said block and adapted to extend through the
 55 forward end thereof, a strap carried by the forward end of said member and extending into said yoke, and a spring-actuated sear arranged in said receiver for engaging the lower end of said strap and retaining the
 60 spring of said firing member under tension.

8. In a firearm of the type described, a body having a receiver therein, a barrel communicating with said receiver and extending therein approximately one-half the
 65 length of said receiver, a magazine extending into said receiver for positioning cartridges to enter said barrel, a breech block movably mounted in said receiver, a spring-pressed yoke carried by the forward end of

said breech block, a spring-pressed firing member slidably mounted upon said breech block and said barrel, a firing pin carried by the rear end of said member within said
 70 block and adapted to extend through the forward end thereof, a strap carried by the forward end of said member and extending into said yoke, a spring-actuated sear arranged in said receiver for engaging the
 75 lower end of said strap and retaining the spring of said firing member under tension, and means carried by said breech block for extracting a cartridge shell from the inner end of said barrel.

9. In a firearm of the type described, a body having a receiver formed therein, a
 80 barrel extending into said receiver and in communication therewith, a magazine, a cartridge feeding mechanism located in said magazine, means for moving said mechanism
 85 to the bottom of said magazine during the refilling of the magazine, a breech block within said receiver for shifting cartridges from said magazine into said barrel, a firing member having a strap partially embracing
 90 said barrel and extending into said breech block for firing a cartridge placed in said barrel, and a sear for holding said firing member in a cocked position.

10. In an automatic pistol, a body having
 95 a receiver therein, a barrel having its rear end projecting into said receiver and in communication therewith, a magazine communicating with said receiver, a breech-block movable longitudinally in said receiver, a firing member
 100 slidable on the breech-block and having a strap partially embracing the extended end of the barrel, a sear for engagement with said strap, and a trigger for releasing said sear and holding same in released position to permit successive firing with one actuation of the trigger.

11. In automatic pistols, the combination with the pistol body having a receiver, a
 110 barrel communicating with the receiver, a magazine communicating with the receiver, a breech-block movable longitudinally in the receiver and having a yoke underlying the rear end of the barrel, and a firing member
 115 slidable on the breech block and over the rear portion of the barrel, of a sear, means carried by the firing member for engagement with the sear, and trigger mechanism for releasing the sear and holding
 120 same in released position to permit successive firing with one actuation of the trigger mechanism.

12. In automatic pistols, a pistol body having a receiver, a barrel having its rear
 125 end extended into the receiver, a breech-block slidable in the receiver and having a yoke underlying the extended end of said barrel, a firing member slidable on the breech-block and over the extended end of the barrel, a sear, means carried by the fir-
 130

ing member for engagement with the sear to hold the firing member in cocked position, and trigger-mechanism for releasing said sear and holding same in released position until pressure on the trigger is relieved.

5 13. In automatic pistols, a pistol body having a receiver therein, a barrel having its rear end extended into said receiver, a breech-block slidable in the receiver and
10 having a member underlying the extended end of the barrel, a firing member slidable in the receiver and over the extended end of the barrel, a sear, means for engagement with the sear to hold the firing member in
15 cocked position, a trigger, and a spring-pressed trigger block carried by the trigger for actuating the sear.

14. In an automatic pistol, a body having a receiver therein, a barrel having its rear end projecting into said receiver, a maga- 20 zine communicating with the receiver for positioning cartridges to enter the barrel, a longitudinally-movable breech-block in the receiver, a firing member slidable on the breech-block and the rearwardly-projecting 25 end of said barrel, a sear and trigger, and means carried by the firing member to engage said sear.

In testimony whereof I affix my signature in the presence of two witnesses.

MORITZ SCHRADER.

Witnesses:

MAX H. SROLOVITZ,
K. H. BUTLER.