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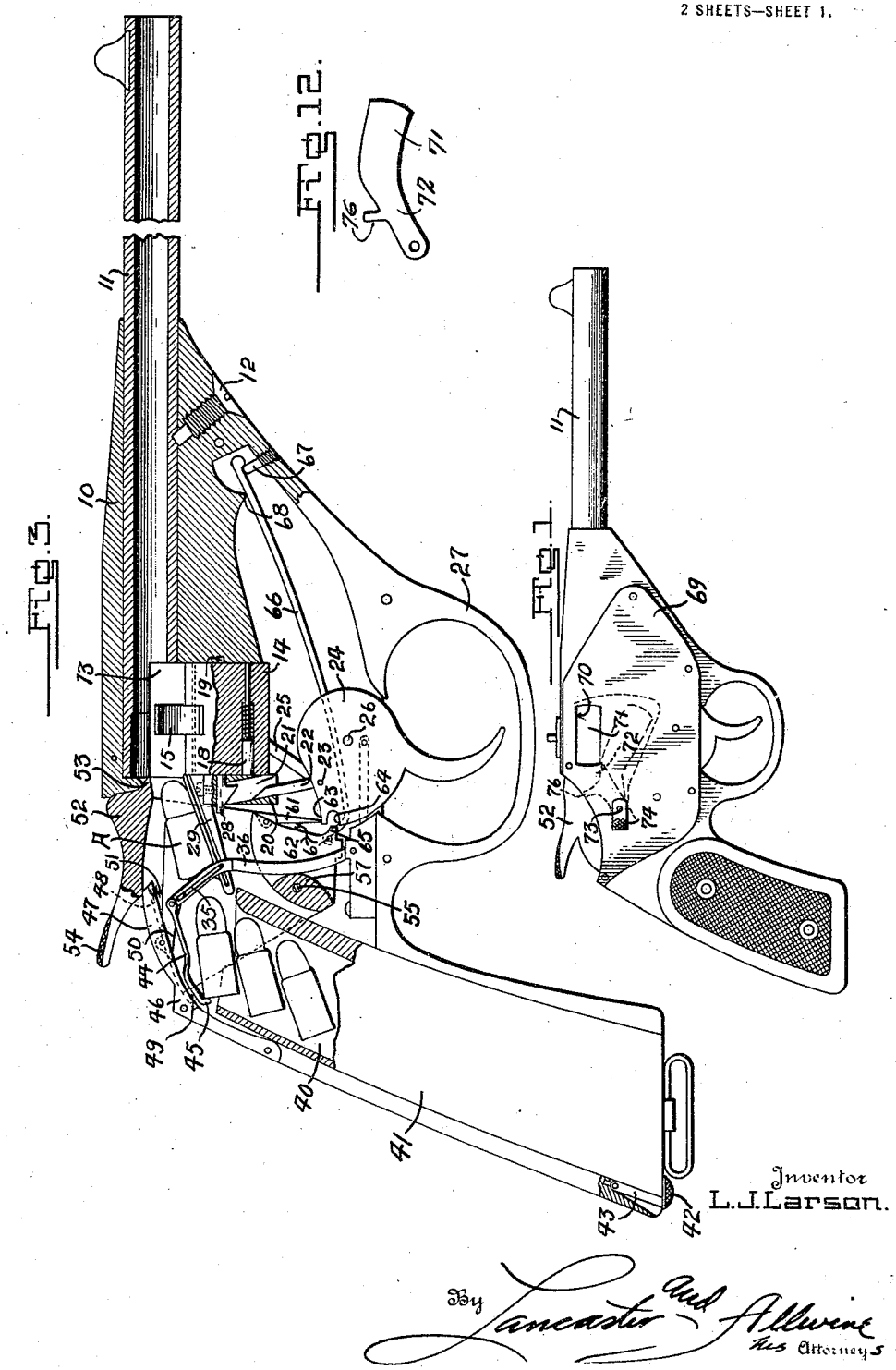
PISTOL.

APPLICATION FILED JUNE 1, 1918.

1,365,509.

Patented Jan. 11, 1921.

2 SHEETS—SHEET 1.



Inventor
L. J. Larson.

By Lancaster and Allwine
His Attorneys

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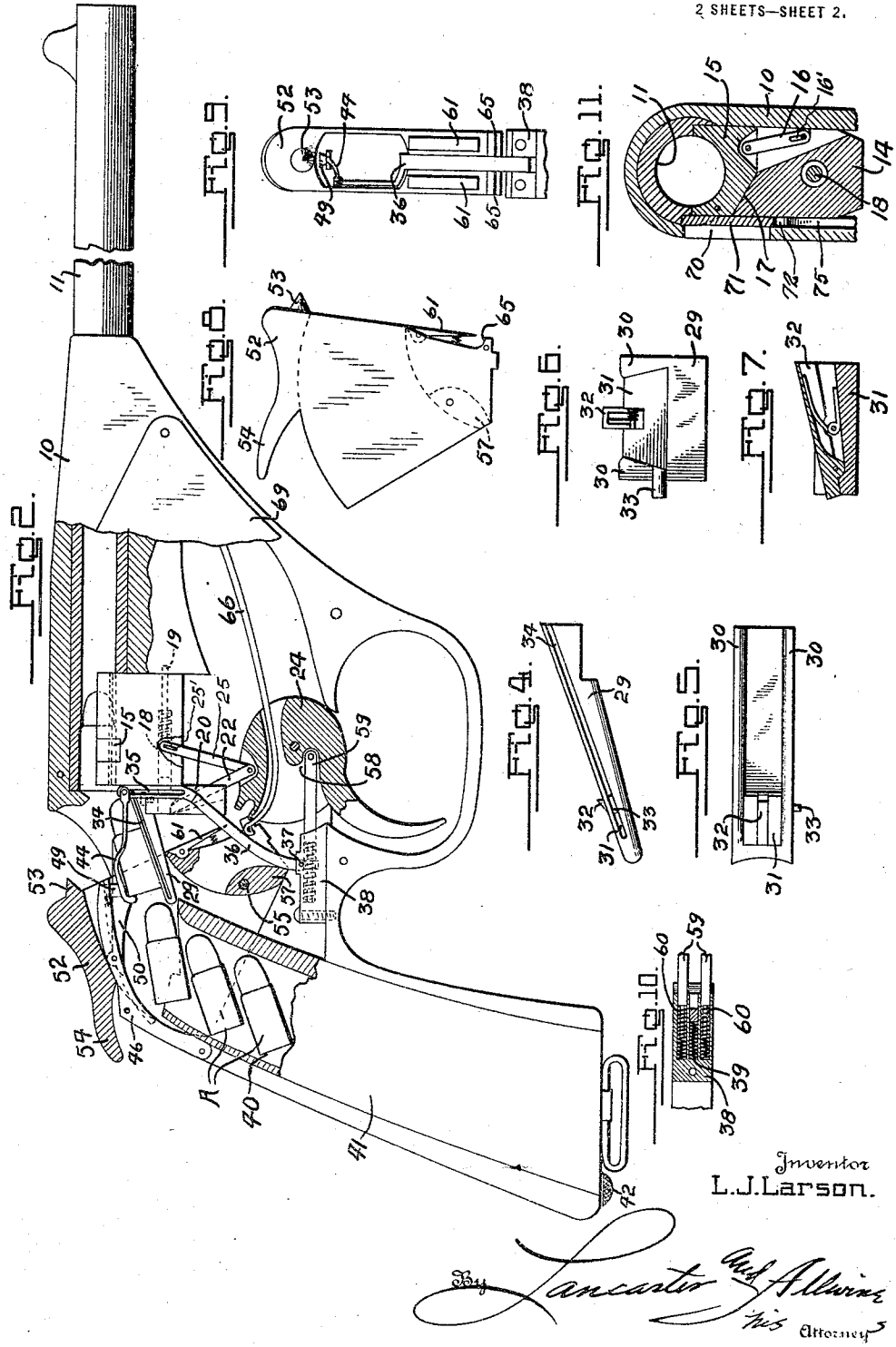
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UNITED STATES PATENT OFFICE.

LARS J. LARSON, OF CROSBY, MINNESOTA.

PISTOL.

1,365,509. Specification of Letters Patent. Patented Jan. 11, 1921.

Application filed June 1, 1918. Serial No. 237,745.

To all whom it may concern:

Be it known that I, LARS J. LARSON, a citizen of Sweden, and a resident of Crosby, in the county of Crow Wing and State of Minnesota, have invented a certain new and useful Improvement in Pistols, of which the following is a specification.

The present invention relates to firing arms, and more particularly to pistols.

An object of the present invention is to provide a pistol having a magazine adapted to carry a plurality of cartridges; to provide an improved cartridge feeding mechanism actuated by the hammer to feed cartridges to the breech upon the retracting of the hammer; to provide an improved breech block adapted to be automatically advanced into and withdrawn from the breech of the barrel, the breech block being actuated directly by the trigger; and to provide an improved ejector mechanism for automatically ejecting the empty shells through one side of the frame immediately prior to the feeding of the cartridges to the breech block.

The invention further aims at the provision of a novel construction of pistol for effecting the above results, the mechanism being relatively simple, compact and positive in action.

The above, and various other objects, and advantages of this invention will be in part described, and in part understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of a pistol constructed according to the present invention.

Fig. 2 is a longitudinal section through the same, certain parts being shown in elevation.

Fig. 3 is a similar view showing the parts in position to deliver a cartridge to the breech block.

Fig. 4 is a detail view, enlarged, showing in side elevation the cartridge guide or support employed.

Fig. 5 is a top plan view thereof.

Fig. 6 is a front elevation of the same.

Fig. 7 is an enlarged section taken through the cartridge engaging and advancing device.

Fig. 8 is a detail side elevation of the hammer.

Fig. 9 is a front edge view of the same.

Fig. 10 is a longitudinal section through the spring casing for supporting the trigger and cartridge feeding device.

Fig. 11 is a tranverse section taken through the breech of the pistol, showing the shell ejector in closed position.

Fig. 12 is a detail side elevation of the latch plate for covering the extractor opening in one side of the pistol.

Referring to the drawings 10 designates the frame of the pistol which is provided in its upper part with a longitudinal opening to receive the inner end of a barrel 11, the latter being detachably held in place by a screw 12 or the like.

A vertical opening 13 is formed in the frame 10 and lower part of the breech of the barrel, and a breech block 14 is mounted to slide vertically in the opening. Above the breech block 14 is an ejector 15 having a semicircular depression in its upper face complemental to the upper part of the barrel 11 and forming therewith a cylindrical opening for the reception of a cartridge A. The ejector 15 is connected to one side of the frame 10 by a link 16 about the upper end of which the ejector is adapted to rock, the link 16 being connected to the frame by a pin and slot connection 16′ to permit initial downward movement prior to the swinging of the ejector laterally outward. The other side of the ejector has an inclined lower face 17 against which the upper cam end of the breech block 14 is adapted to engage for lifting the ejector into the recess in the lower side of the barrel. A spring pressed bolt 18 is mounted in the block 14 and is normally urged backward from the adjacent wall of the opening 13 and out of the keeper opening 19 formed in the frame. When the block 14 is raised the bolt 18 may be forced forward into the opening 19 to lock the block in position.

Arranged at the rear end of the opening 13 is a guide 20 having an upwardly and rearwardly inclined opening 21 therein to receive a latch lever 22 which is eccentrically pivoted at its lower end by a pin 23 to a trigger 24. The pin 23 also pivotally supports the lower end of a link 25 which is connected to the block 14 by a pin and slot connection 25′ for raising and lowering the same. The trigger 24 is pivoted to the frame

upon a transverse pin 26 and has a finger lever projecting downwardly into the loop 27 of the frame. The upper end of the lever 22 is beveled or inclined and adapted to engage against a correspondingly formed face on a bolt shifter 28 slidably mounted in the upper part of the guide 20. Secured to the upper end of the guide 20 is a cartridge guide or support 29 which is inclined rearwardly and downwardly and has upstanding flanges 30 between which the cartridges A are adapted to rest.

A reciprocating feeder 31 is dove-tailed between the flanges 30 of the guide 29 and carries a spring pressed finger 32 normally urged upward and having a forwardly facing shoulder for contact with the rims of cartridges sliding point end foremost over the guide 29 toward the breech. The reciprocating block 31 is provided with a laterally projecting pin 33 which passes through a longitudinal slot 34 formed in the adjacent flange 30. The pin 33 is adapted to reciprocate in a longitudinal slot 35 formed in a substantially vertically extending feeding lever 36 pivoted at its lower end on a pin 37 in a supporting housing 38. The upper end of the lever 36 is normally urged backward by a spring 39 arranged in the housing 38 to hold the slide 31 in a rearward cartridge engaging position. A vertical magazine 40 is arranged in the handle 41 and is adapted to slide down through the lower end thereof. The magazine is held in position by a button 42 mounted upon the lower end of a leaf spring 43 seated in the lower end of the handle or frame of the pistol. The magazine 40 is curved forward at its upper end to conform to the configuration of the handle. When the magazine is in place its upper end lies in register with the rear end of the guide 29, and the cartridges A in the magazine are adapted to be fed upward therethrough by a spring or the like in the usual manner. The feeding lever 36 has a hook 44 pivotally connected at one end upon the upper end thereof, the bill 45 of the hook being adapted to engage over the rim of the cartridge at the upper side thereof.

A frame piece 46 is riveted or otherwise suitably secured to the frame of the pistol at the top of the handle 41 thereof, and has an overhanging arm 47 in the underside of which is formed a longitudinal groove 48 to receive a projection 49 upstanding from the free end portion of the hook 44. The lever 36 rises against one side of the guide 29 and the hook 44 is offset intermediate its length to overhang the upper side of the adjacent cartridge. The arm 47 pivotally supports one end of a pawl 50 the free end of which is shouldered to seat against the upper edge of the cartridge rim to support the same from falling backward toward the magazine when the hook 44 releases the cartridge. A spring 51 is arranged between the arm 47 and the pawl 50 to normally urge the latter downward and the lower edge of the pawl is rounded to receive the points of the cartridges thereagainst for raising the pawl to permit the cartridges to be advanced in a forward direction.

Arranged between the sides of the frame 10 and in rear of the barrel 11 is a hammer 52 provided with a point or firing pin 53 at its forward edge and a thumb rest 54 at its rear edge. The hammer 52 is slotted to form spaced apart arms or side plates adapted to receive therebetween the guide 29 and its adjacent parts. The arm 47 has an upper curved edge and the inner top wall of the hammer 52 is correspondingly formed to admit the free rocking of the hammer in the top of the frame. A transverse pin 55 is secured in the frame and passes through the lower end portions of the hammer plates to pivotally support the hammer. A cam block 57 is formed in the lower end of the hammer eccentric to its pivotal axis and is adapted to bear against the lower end of the feeding lever 36 above its pivot and advance the same forward when the hammer is retracted. The lower end of the lever 36 is curved to coöperate with the block 57 for swinging the lever a sufficient distance to withdraw a cartridge from the magazine and advance a preceding cartridge into the ejector portion of the breech block.

The trigger 24 is provided at opposite sides with rearwardly opening recesses 58 in which are pivotally connected the forward ends of links 59 which engage in the housing 38 at their other ends and bear against springs 60. The links 59 are arranged below the pivotal axis of the trigger 24 to normally urge the finger lever thereof forward. The forward edges of the hammer 52 are provided with depending pivoted latches 61 normally urged forward by springs 62 interposed between the latches 61 and the hammer. The trigger 24 has a rear prolongation with a transverse notch in its rear edge forming a nose 63 adapted to engage the forward edge of the latches 61 and depress the same when the nose is moved downward and swing the hammer backward when the nose is raised. The prolongation of the trigger 24 has an upwardly facing shoulder 64 arranged beneath and in spaced relation to the nose 63 for contact with a projection 65 on the forward lower corner of the hammer. The projection 65 is formed in two parts, each part being carried by its adjacent plate. A main spring 66 engages over a pin 67 secured transversely through the plates of the hammer 52 immediately in rear of its projection 65. The main spring 66 extends forwardly in the frame and is seated against a removable pin 67 carried

by the frame for securing the spring 66 against the rest or projection 68 depending within the fore-part of the frame.

The sides of the frame are preferably closed by side plates 69 secured by screws or the like in position, and the frame and the side plate at one side of the pistol are slotted as at 70 opposite to the recess in the rear end of the barrel 11 to admit the discharge of shells therefrom. The opening 70 is normally closed by a plate 71 mounted upon an arm 72 hinged on a pin 73. The pin 73 projects through the adjacent plate and carries a finger projection 74 which may be used for swinging the arm and the plate into position for uncovering the opening 70. A spring 75 is carried by the frame and engages the arm 72 to hold the plate 71 normally in position to close the opening.

The arm 72 has a projection 76 lying in the path of the hammer 52 for depressing the arm and uncovering the opening when the trigger is in its forward position.

The operation is apparent, for when the trigger is drawn back by the finger the block 14 is raised to carry the cartridge disposed therein up into the breech of the barrel. As the trigger is thus operated the nose 63 is raised against the latch 61 to initially swing the hammer upward and bring the projection 65 thereof into the path of the shoulder 64. The shoulder swings the hammer back to its full position and escapes from beneath the projection 65 to suddenly free the hammer.

As the hammer is drawn backward the cam block 57 thereof swings the lever 36 forward. The block 31 is moved up in the guide against the adjacent cartridge to urge it into the breech block and the hook 44 draws the uppermost cartridge from the magazine over the guide 29, the latch 32 being depressed by the cartridge and rising behind the same to hold it in position. The pawl 50 also engages the upper portion of the cartridge while the block 31 is drawn backward to engage a succeeding cartridge.

When the trigger 24 is released, after the firing of the pistol, the forward movement under action of the springs 60 will move the latch lever 23 downwardly out of engagement with the bolt shifter 28 and the action of the spring which engages the pin 18 will force this pin out of the latch 19 releasing the breech block 14 which will move downwardly under its own weight. The downward movement of the breech block 14 will move the support from the ejector 15 which will rock upon its pivotal connection with the lever 16 and throw the shell of the discharged cartridge outwardly through the opening 17, from in front of which the plate 71 has been moved by the forward movement of the hammer.

It is of course understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:

1. In a pistol, the combination, of a frame and a barrel, a magazine in the frame, a breech block in the frame, a hammer in the frame, a pivoted lever in the frame in the path of the hammer to be advanced forwardly thereby when the hammer is retracted, a hook carried by said lever for engaging cartridges in the magazine for advancing the same forwardly and means for receiving cartridges from said hook and advancing them into said breech block.

2. In a pistol, the combination, of a frame and a barrel, a breech block vertically movable in the frame, a trigger in the frame connected to the block for raising the same when the trigger is depressed, a hammer in the frame adapted to be actuated by the trigger, said breech block having a pivoted ejector portion for receiving the cartridges, said frame having an opening at one side, and a connection between the frame and said ejector portion for turning the latter when the block is depressed by the trigger for ejecting empty shells through said opening in the frame.

3. In a pistol, the combination of a frame having a barrel, a vertically movable breech block in the frame, a magazine in the frame, a hammer in the frame, feeding means connected to the hammer for advancing cartridges from the magazine to the breech block, and a trigger connected to the breech block and adapted to engage the hammer for actuating the same and raising the breech block into the barrel.

4. In a pistol, the combination of a frame and a barrel, a magazine in the frame, a hammer in the frame, a lever pivoted in the frame in the path of the hammer to be advanced toward the barrel thereby, cartridge engaging means carried by the lever for advancing cartridges from the magazine into the breech block, and a trigger in the frame for engagement with the hammer to actuate the same.

5. In a pistol, the combination of a frame and a barrel, a magazine in the frame, a breech block in the frame, a hammer in the frame, a pivoted lever in the frame in the path of the hammer to be advanced forwardly thereby when the hammer is retracted, a hook carried by said lever for engaging cartridges in the magazine for advancing the same forward, an advancing device connected to said lever to receive cartridges from the hook and move the same into the

breech block, a trigger for actuating the hammer, and a connection between the trigger and the breech block for moving the same and the cartridge carried thereby into the barrel.

6. In a pistol, the combination of a frame and a barrel, a hammer pivoted in the frame and having a cam block, a lever pivoted in the frame in the path of said block and adapted to be urged forward when the hammer is retracted, cartridge engaging means carried by the lever for withdrawing cartridges from the magazine, a guide for the cartridges, an advancing device on the guide connected to said lever for engagement with cartridges delivered to the guide by the lever, and a trigger in the frame for actuating the hammer.

7. In a pistol, the combination of a frame and a barrel, a breech block in the frame, a trigger in the frame connected to the breech block for moving the same into the barrel when the trigger is depressed, a hammer in the frame, a guide in the frame, means actuated by the hammer when retracted to feed cartridges to the guide, and advancing means actuated by the hammer for delivering the cartridges from the guide to the breech block.

8. In a pistol, the combination of a frame and a barrel, a breech block vertically movable in the frame, a trigger in the frame connected to the block for raising the same when the trigger is depressed, a hammer in the frame adapted to be actuated by the trigger, cartridge feeding means operated by the hammer to advance cartridges to the breech block, said breech block having a pivoted ejector portion for receiving the cartridges and the frame having an opening at one side, and a connection between the frame and said portion of the block for turning the latter when the block is depressed by the trigger for ejecting empty shells through said opening in the frame.

9. In a pistol, the combination of a frame and a barrel, a vertically movable breech block in the barrel, a trigger in the frame connected to the breech block for raising the same, a latch bolt carried by the block for locking the latter to the frame when the block is raised, bolt operating means connected to the trigger for locking the block by the depression of the trigger when the block is raised, cartridge feeding means adapted to deliver cartridges to the block, and a hammer actuated by the trigger and having connection with said feeding means to operate the same.

10. In a pistol, the combination of a frame and a barrel, a breech block movable in the frame, a trigger pivoted in the frame and having connection with said block to advance the same into the barrel, locking means for the block to hold it in the barrel, operating means carried by the trigger for actuating the locking means when the block is in the barrel, cartridge feeding mechanism, and a hammer connected to the mechanism for operating it and adapted to be actuated by the trigger.

11. In a pistol, the combination of a frame and a barrel, a cartridge magazine in the frame, a breech block in the frame, a guide between the magazine and the block, a hammer, a lever pivoted in the frame in the path of the hammer to be actuated thereby when the hammer is retracted, means carried by the lever for withdrawing cartridges from the magazine to the guide, means for retaining the cartridges on the guide, advancing means on the guide connected to the lever for intermittently advancing cartridges from the guide to the block, and a trigger in the frame connected to the block for moving the same into the barrel and adapted to engage the hammer to retract the same.

12. In a pistol, the combination of a frame and a barrel, a magazine in the frame, a hammer pivoted in the frame, a lever pivoted in the frame in the path of the hammer adapted to be advanced thereby toward the barrel, a breech block, means for intermittently feeding cartridges from the magazine to the block and having connection with the lever to be actuated thereby, a trigger in the frame adapted to retract the hammer, a connection between the trigger and the block to advance the latter into the barrel subsequent to the deposit of a cartridge on the block, and locking means operable by the trigger to secure the block in the barrel prior to the release of the hammer by the trigger.

13. In a pistol, the combination, of a frame and a barrel, a vertically movable breech block in the barrel, a trigger in the frame connected to the breech block for raising the same, a latch bolt carried by the block for locking the latter to the frame when the block is raised, bolt operating means connected to the trigger for locking the block by the depression of the trigger when the block is raised.

14. In a pistol, the combination, of a frame and a barrel, a vertically movable breech block in the barrel, a trigger in the frame connected to the breech block for raising the same, a latch bolt carried by the block for locking the latter to the frame when the block is raised, bolt operating means connected to the trigger for locking the block by the depression of the trigger when the block is raised, means for normally urging the trigger forwardly, said bolt operating means adapted to be operated by forward movement of the trigger to release said latch bolt.

15. In a pistol, the combination, of a frame and a barrel, a breech block movable in the frame, a trigger pivoted in the frame

and having connection with said block to advance the same into the barrel, a hammer in the frame adapted to be actuated by said trigger, a pivoted lever in the frame in the path of said hammer to be advanced forwardly thereby when the hammer is retracted, a hook carried by said lever for engaging cartridges in the magazine to advance them forwardly, and means for receiving cartridges from said hook and advancing them into said breech block.

16. In a pistol, the combination, of a frame and a barrel, a breech block movable in the frame, a trigger pivoted in the frame and having connection with said block to advance the same into the barrel, a hammer in the frame adapted to be actuated by said trigger, a pivoted lever in the frame in the path of said hammer to be advanced forwardly thereby when the hammer is retracted, a hook carried by said lever for engaging cartridges in the magazine to advance them forwardly, and means for receiving cartridges from said hook and advancing them into said breech block, locking means for the block to hold it in the barrel, operating means carried by the trigger for actuating said locking means when the block is in the barrel.

17. In a pistol, the combination, of a frame and a barrel, a magazine in the frame, a hammer pivoted in the frame, a lever pivoted in the frame in the path of the hammer adapted to be advanced thereby toward the barrel, a breech block, means for intermittently feeding cartridges from the magazine to the block and having connection with said lever to be actuated thereby, a trigger in the frame adapted to retract the hammer, a connection between the trigger and the block to advance the latter into the barrel subsequent to the depositing of a cartridge on the block.

18. In a pistol, the combination, of a frame and a barrel, a magazine, means for feeding cartridges to the barrel from the magazine comprising a pivoted lever, a cartridge guide, means carried by the lever for moving the cartridges from the magazine onto the guide, means operated by said lever for moving the cartridge over said guide, a spring actuated pawl carried by the frame and adapted to engage behind the cartridge.

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