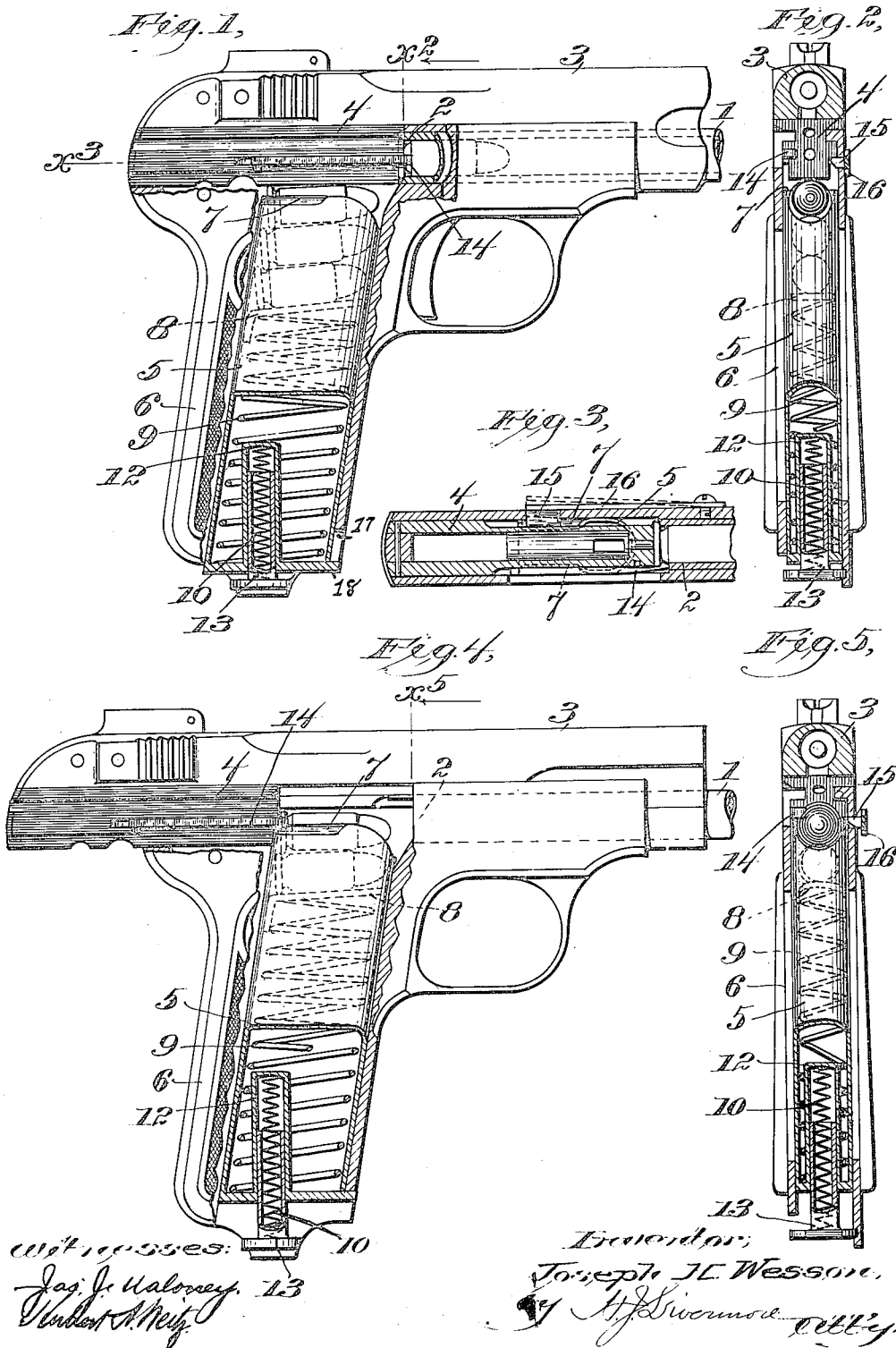


J. H. WESSON.
 AUTOMATIC PISTOL.
 APPLICATION FILED NOV. 10, 1911.

1,059,245.

Patented Apr. 15, 1913.



UNITED STATES PATENT OFFICE.

JOSEPH H. WESSON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO SMITH & WESSON, INCORPORATED, A CORPORATION OF MASSACHUSETTS.

AUTOMATIC PISTOL.

1,059,245.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed November 10, 1911. Serial No. 659,529.

To all whom it may concern:

Be it known that I, JOSEPH H. WESSON, a citizen of the United States, residing in Springfield, in the county of Hampden and State of Massachusetts, have invented an Improvement in Automatic Pistols, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to an automatic pistol of that type in which the breech block is blown back by the reaction of the gases when the pistol is fired, the cartridges being contained in a magazine located below the breech block and acted upon by a spring which causes the uppermost cartridge in the magazine to move into the space behind the chamber when the breech block is blown back. Pistols of this type are also provided with a lateral opening in the frame above the magazine for the ejection of the spent shell, this opening being exposed when the breech block is back, and closed by the breech block when the pistol is in condition to be fired. It is necessary, therefore, during the time of ejection that the walls of the magazine should not obstruct this opening, and it has been customary to locate the magazine in a position in which the walls thereof are wholly below the breech block. It is further necessary that the magazine should be so constructed as to hold the cartridges against the stress of the magazine spring before the magazine is inserted in the pistol, in order that the magazine may be maintained loaded when apart from the pistol. For this purpose, the lateral walls of the magazine are contracted at the top to form retaining wings, so that the space between the upper edges of said walls is less than the diameter of the cartridge, allowing somewhat less than half of the breech end of the cartridge to project above the magazine. If, therefore, the walls of the magazine are below, or on a level with, the lower surface of the breech block while the uppermost cartridge lies in engagement with the lower surface of said block, it is obvious that when the breech block moves back, the cartridge can rise, under the influence of the magazine spring, only a comparatively small distance, so that only a small part of the breech end of the cartridge will lie in front of the breech

block when the said cartridge is moved upward to the limit permitted by the magazine walls. The cartridge, therefore, lies some distance below the chamber, and must ride upward at a somewhat abrupt angle, as it is pushed forward into the chamber by the breech block when the latter returns to its firing position. The cartridge, therefore, is likely to catch and jam, instead of being properly inserted in the chamber. In order to obviate this difficulty and bring the cartridge into a more direct line with the chamber, I have provided the pistol with means whereby the magazine, as a whole, is caused to move upward toward the space in front of the breech block when the latter travels back, and to be automatically restored to a position below the breech block after the top cartridge has been inserted in the chamber. By this expedient, the uppermost cartridge is presented more nearly in line with the chamber, while a greater part of the breech end of the cartridge lies in front of the breech block, so that the action of the breech block in pushing the cartridge into the chamber is more direct, thereby obviating, to a greater extent, the possibility of the cartridge catching and being jammed.

Figure 1 is a side elevation, partly in section, of a pistol embodying the invention, showing the cartridge in the chamber, and the pistol in condition to be fired; Fig. 2 is a vertical section, on the line x^2 of Fig. 1, the section being taken on a plane in the direction of the arrow; Fig. 3 is a horizontal sectional detail on a line x^3 of Fig. 1; Fig. 4 is a view, similar to Fig. 1, showing the breech block back and the new cartridge in position to be inserted in the chamber; and Fig. 5 is a vertical section, on the line x^5 of Fig. 4.

The pistol in which the invention is shown as embodied, is of a well known type, being provided with the barrel 1, having the cartridge chamber 2, and the movable breech block member 3, having the breech block 4, which lies behind the chamber 2 and is adapted to be blown back by the action of the gases when the pistol is fired, so as to uncover the lateral opening above the magazine 5, which is shown as located in the pistol grip 6. The magazine is of the usual construction, and consists of a casing having its lateral walls contracted at the upper end to form retaining wings, as shown at 7, Fig. 110

1, and being provided with a support 8 for the cartridges, which is acted upon by a spring 9, located between said support and the bottom of the magazine.

5 The cartridges in the magazine are contained in the space between the said support 8 and the top of the magazine, being pressed upward by the spring, but confined by the wings 7, the uppermost cartridge projecting
10 a short distance from the magazine, as illustrated in Fig. 1. In the ordinary construction, the upper walls of the magazine are substantially on a level with the bottom of the breech block, the uppermost cartridge,
15 which lies against the breech block, being pressed thereby a short distance into the magazine, so that when the breech block moves back and releases said cartridge, the latter will move upward as far as the wings
20 7 permit, so that a portion of the breech end of the cartridge will lie in front of the breech block 4, and be engaged thereby in the forward movement thereof.

In accordance with the present invention,
25 the magazine, as a whole, is provided with means whereby it is capable of automatic movement, the said magazine being shown in Fig. 1 as provided with a spring 10, one end of which bears against an abutment 12 stationary with relation to the magazine, while
30 the other end bears against an abutment 13 which is stationary with relation to a part of the pistol, in this case the lower end of the grip 6. The position of the uppermost
35 cartridge is determined by the breech block 4, which lies over the said cartridge when the breech block is forward, as shown in Fig. 1; and as a simple means for causing
40 the position of the magazine 5, as a whole, to be determined in the same way the spring 10 is made weaker than the magazine spring 9, so that the latter, reacting against the bottom of the magazine will hold the wing 7
45 in engagement with the upper cartridge, against the stress of the spring 10, which is capable, however, of acting on the magazine, as a whole, to raise the same to the position
50 shown in Fig. 4, when the breech block 4 is carried back by the action of the gases. The upward movement of the magazine is limited by a shoulder 17 near the bottom of
55 the grip, the said shoulder being engaged by a projection 18 from the magazine when the magazine is in its uppermost position, as shown in Fig. 4. As soon, therefore, as the
60 breech block travels back to the position shown in Fig. 4, the magazine and its contents will be raised by the spring 10 to the position shown in said figure, so that the
65 uppermost cartridge is brought nearly in line with the chamber 2, while a greater part of its breech end lies directly in front of the breech block 4, to be engaged by said breech block in the forward movement thereof.

The lower portion of the breech block is

made somewhat narrower than the body thereof, being provided with lateral recesses at opposite sides so that it will pass between the wings longitudinally, pushing out the cartridge without engaging the wings to
70 separate them, and without depressing the magazine. As the uppermost cartridge is pushed forward, however, the wings are released therefrom, and, at the same time, the next cartridge in the magazine comes into
75 contact with the breech block, as shown in Fig. 1. When the said cartridge, which is then the top one, is thus prevented by the breech block from further upward movement, it is obvious that the magazine, as a
80 whole, will be moved downward by the reaction of the spring 9, until the wings engage the top cartridge, as shown in Fig. 1, owing to the fact that the spring 9 is stronger than the spring 10. The magazine
85 wings are then wholly below the breech block, so that they will not obstruct the opening through which the spent shell is to be ejected.

From the foregoing description, it will be
90 seen that the movement of the magazine is entirely independent of the breech block which does not engage the magazine during any part of the operation, which is as follows: Upon firing the pistol, the breech
95 block is moved back from the position shown in Fig. 1 to the position shown in Fig. 4, allowing the spent shell to be ejected and releasing the top cartridge in the magazine, thus allowing the magazine, as a whole, to
100 rise under the influence of the spring 10 to the position shown in Fig. 4. The breech block then travels forward inserting in the chamber the uppermost cartridge in the magazine, as shown in Fig. 1, and overlying
105 the cartridge next below. Since the said cartridge is thus prevented from rising further, the spring 9 causes a downward movement of the magazine overcoming the stress of the spring 10 until the wings 7 engage
110 the uppermost cartridge, as shown. The wings 7 are not engaged by the breech block at any part of the operation, since the upward movement of the magazine is limited by the shoulder 17, as hereinbefore de-
115 scribed.

I have shown the pistol as provided with the usual ejector mechanism, which consists of the extractor hook 14 which is connected with, or forms a part of the breech block 4,
120 the said hook being adapted to engage in the usual way, the flange at the breech end of the cartridge, so as to form a lateral abutment therefor as the breech block and cartridge travel back. This hook operates
125 in conjunction with the ejector which consists of a shoulder or abutment 15 located in the frame at the side opposite the hook 14, so that it engages the end of the cartridge before the hook has completed its
130

entire travel, whereby the shell is given a sudden spinning movement, causing it to be thrown bodily through the lateral opening.

With this form of ejector, it is necessary that the ejector parts should not interfere with the upward movement of the magazine prior to the forward movement of the breech block, and the stop 17, which limits the upward movement of the magazine, is so located that the tops of the magazine wings lie just below the hook when the magazine is in its uppermost position. The ejector, which is on a lower level than the extractor hook, is shown as yieldingly supported and provided with a beveled lower surface which is adapted to be engaged by one of the magazine wings in the upward movement thereof, and pushed out of the way during the forward movement of the breech block, returning to its working position when the magazine moves downward. In the construction shown, the ejector is mounted on a spring 16 (see Fig. 3) fastened to the outside of the frame.

While the construction shown and described constitutes a practicable embodiment of the invention, it is obvious that modifications can be made in the construction, arrangement and means for operating the magazine; and it is not intended to limit the invention to the specific construction which has been chosen for purposes of illustration.

What I claim is:

1. An automatic pistol having a stationary barrel; a cartridge magazine below and behind the barrel, said magazine having retaining wings at the top and a spring reacting between the magazine and the cartridges to hold the cartridges in contact with said wings; a traveling breech block, the lower part of which is narrower than the space between said wings; and means for producing an upward movement of said magazine into the path of said breech block when the breech block is in its rearward position.

2. In an automatic pistol, the combination with a stationary barrel; of a reciprocating breech block behind the barrel; a magazine located below the breech block, said magazine having an end wall and lateral walls provided with retaining wings at the top; a spring located between said end wall and the contents of the magazine, whereby the said contents and the retaining wings are held in engagement with each other; and means for automatically moving said magazine into the space in front of the breech-block, substantially as and for the purpose described.

3. In an automatic pistol having a stationary barrel and a reciprocating breech block behind the barrel, a movable magazine below the barrel, and means for arresting

the upward movement of the magazine when the bottom of the uppermost cartridge is substantially on a level with the bottom of the breech block.

4. An automatic pistol having a stationary barrel and a reciprocating breech block behind the barrel; a movable magazine below the barrel, said magazine comprising a cartridge chamber and a follower; means for arresting the upward movement of the magazine when the bottom of the uppermost cartridge is substantially on a level with the bottom of the breech block; and means for producing a downward movement of the magazine relative to its follower after the top cartridge has been moved by the breech block.

5. A pistol having a stationary barrel and a lateral opening in the frame back of the barrel; a longitudinally movable breech block behind the barrel; ejector mechanism for ejecting the spent shell through said opening when the breech-block is in its rear-most position; a cartridge magazine below that part of the frame which is provided with a lateral opening; means for moving said magazine into the space between the breech block and the barrel when the breech-block has reached its rearmost position; and means independent of the breech block for moving said magazine out of said space to uncover said lateral opening.

6. A pistol having a longitudinally movable breech block provided with an extractor hook, said breech block being provided with a lateral recess below said hook; a yieldingly supported ejector member located in the pistol frame at the opposite side of said breech-block; a magazine located below the breech-block; means for moving said magazine into the space in front of the breech-block, the magazine in such movement displacing said ejector member; and means for moving said magazine out of said space in response to the forward movement of the breech-block, whereby the ejector member is restored to its operative position and the ejector opening left unobstructed.

7. In an automatic pistol having a stationary barrel, a cartridge magazine below and behind the barrel, said magazine having retaining wings at the top, and a spring reacting between the magazine and the cartridges to hold the cartridges in contact with said wings; a traveling breech block, the lower part of which is narrower than the space between said wings; and a spring located between the magazine and a fixed part of the frame, the tension of said spring being less than that of the spring reacting between the wings and the cartridges.

8. In an automatic pistol, the combination with a stationary barrel; of a reciprocating breech block behind said barrel; a magazine below the barrel, said magazine comprising

a cartridge chamber and a follower; means for moving said magazine upward into the space between the barrel and the breech block; and means for moving said magazine
5 downward with relation to its follower.

9. In an automatic pistol, the combination with a stationary barrel; of a reciprocating breech block behind said barrel, the frame of the pistol being provided with a lateral
10 ejector-opening behind the barrel; a magazine comprising a cartridge chamber and a follower; means for moving said magazine

upward into the space between the barrel and the breech block; and means for moving said magazine downward with relation to its
15 follower.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH H. WESSON.

Witnesses:

GEO. P. CHAPIN,
H. LESLIE POMEROY.