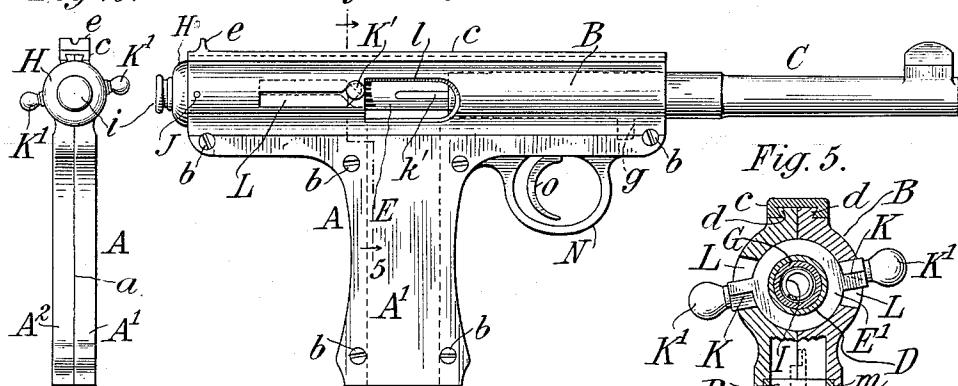


J. H. WESSON,
AUTOMATIC PISTOL,
APPLICATION FILED NOV. 21, 1916.

1,290,855.

Patented Jan. 7, 1919.

Fig. 2.



5 Fig. 1.

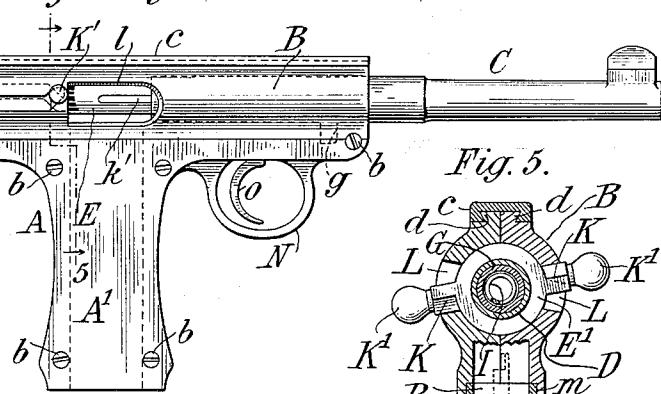


Fig. 5.

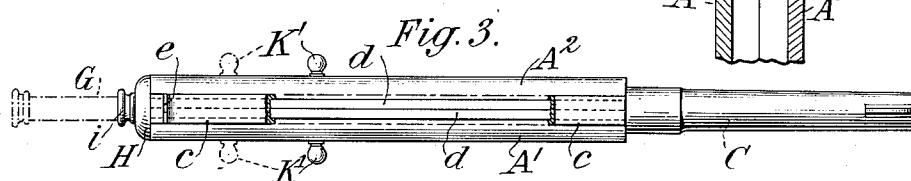
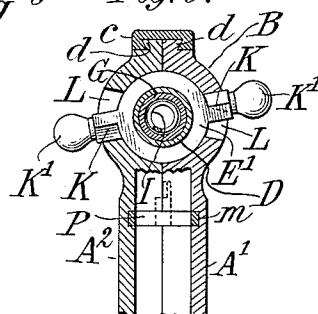


Fig. 4.

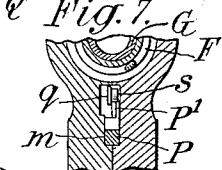
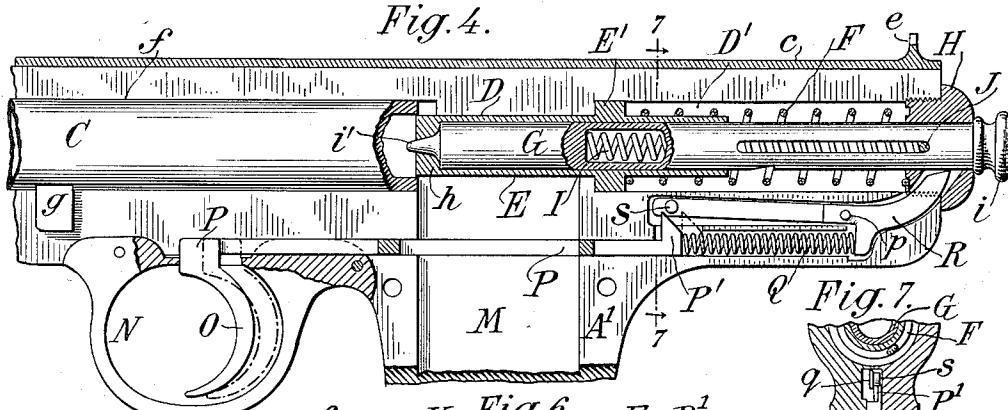
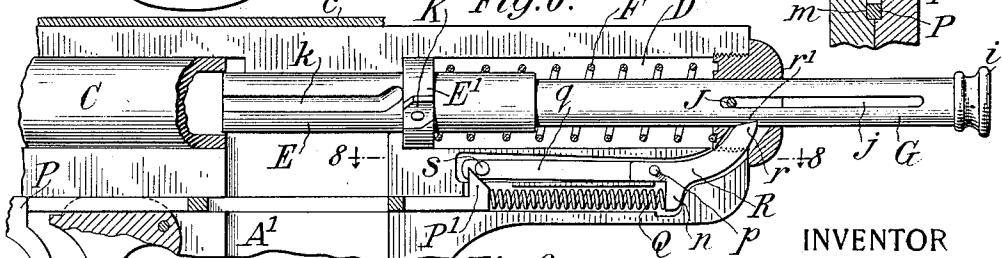


Fig. 6.

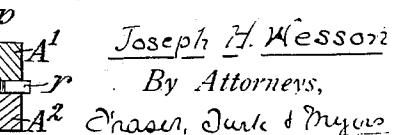


INVENTOR

WITNESSES:

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By Attorneys,
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Fig. 8.



UNITED STATES PATENT OFFICE.

JOSEPH H. WESSON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO SMITH & WESSON, OF SPRINGFIELD, MASSACHUSETTS, A VOLUNTARY ASSOCIATION.

AUTOMATIC PISTOL.

1,290,855.

Specification of Letters Patent.

Patented Jan. 7, 1919.

Application filed November 21, 1916. Serial No. 132,509.

To all whom it may concern:

Be it known that I, JOSEPH H. WESSON, a citizen of the United States of America, residing at Springfield, in the county of 5 Hampden and State of Massachusetts, have invented certain new and useful Improvements in Automatic Pistols, of which the following is a specification.

This invention relates to automatic pistols 10 or other firearms of the blow-back type, that is to say, those in which the breech block is forced back by the reaction of the charge in firing, thereby compressing a spring which forces the breech block forward to introduce 15 a new cartridge into the barrel.

The present invention provides certain 20 improvements in automatic firearms of this general type, wherein the breech block is in the form of a bolt, sliding within the frame. The frame of the arm is divided in a longitudinal, vertical, central plane into like 25 halves which are readily separated to get access to the interior parts, the barrel, guard, bolt and lock mechanism being let into recesses which are formed in the respective sides or halves of the frame. The trigger mechanism is also of novel construction, as 30 will be set forth.

The accompanying drawings show the 35 preferred embodiment of the invention.

Figure 1 is a side elevation, and

Fig. 2 a rear elevation;

Fig. 3 is a plan. The remaining views are on a larger scale;

Fig. 4 is a vertical longitudinal section;

Fig. 5 is a transverse section on the line 5—5 in Fig. 1;

Fig. 6 is a fragmentary, vertical longitudinal section showing the firing pin re- 40 tracted and held by the sear;

Fig. 7 is a fragmentary cross-section on the line 7—7 in Fig. 4;

Fig. 8 is a horizontal section on the line 8—8 in Fig. 6.

In the drawings, A is the frame of the 45 arm as a whole, this frame comprising the breech case and the stock, as is common in automatic pistols. The frame is divided in a vertical plane, forming a joint α (Fig. 2), 50 into two sides or halves A^1 , A^2 , which are fastened together by screws b , b beneath the breech case, and by a dovetailed slide c above the breech case, the latter being best shown in Figs. 2 and 5, it being partly broken out 55 in Fig. 3. This dovetailed slide engages

ribs d , d formed on the top of the sides A^1 , A^2 , these having inclined side faces to fit the dovetailed groove in the slide. The slide may be forced on from either front or rear, and when in place affords a compact 60 and sightly union between the upper edges of the two halves or sides. The rear sight e is formed on this dovetailed slide.

The respective halves of the frame A are swelled into cylindrical or tubular form 65 above, as shown at B, this portion constituting the breech case and the barrel holder. The barrel C is seated deeply and fixedly in the internal socket f formed in the portion B of the frame. To hold the barrel against 70 longitudinal or lateral displacement therein it is formed with a lug g which enters into a branch socket formed in either half, or preferably in both halves, of the frame. Thus the construction is such that when the 75 halves A^1 , A^2 are united the barrel is fixedly united thereto.

The breech case is bored out to form a longitudinal chamber D, D^1 of two diameters, the portion D of the smaller diameter 80 receiving the forward part of the bolt E, the front end of which constitutes the breech block h , which, in the loaded position, as shown in Fig. 4, slightly enters and closes 85 the rear end of the barrel. The bolt has a flange E^1 which moves in the portion D^1 of the bore, this latter being the portion of the larger diameter. Back of the flange E^1 the bolt is shown as having the same diameter 90 as the portion forward of it, so that between this and the walls of the bore or recess is left an annular chamber which receives a helical spring F for storing up power during the recoil or blow-back, to be utilized in forcing the bolt forward for 95 reloading in the manner well understood.

The bolt is hollow, and through it works the firing pin G, the rear end of which extends out through the breech of the arm, where it passes through a bushing H and has on its rear end a head i which, in the position shown in Fig. 4, stands just back of the bushing. The bushing is shown as screw-threaded and screwed into the rear 100 of the frame so as to close the rear portion of the socket D^1 and form an abutment for the spring F. The firing pin G is bored through from its rear end for most of its length so as to form an internal chamber 105 for receiving a spring I for forcing the fir- 110

ing pin forward when released, in order that its tip or spur i' may be projected through the breech block h to fire the cartridge. The rear end of the spring I abuts against a transverse pin J which passes through the rear portion of the frame and through the bushing H , and through the firing pin G , the latter being formed with a prolonged slot j in each side so that it may execute its longitudinal movements without interference by the pin. The pin J has the functions of forming a rear abutment for the spring I , and of locking fast the bushing H so that the latter cannot be turned and unscrewed. To disassemble the arm it is necessary to drive out this pin J .

The flange E^1 of the bolt is formed with lateral ears K , K which work through longitudinal slots L , L in the breech case portion of the frame, these slots being angular at one end so that at the instant of firing the friction generated by the ears K in encountering the angular ends of the slots will afford a momentary resistance, which will afford a slight retardation so as to give time for the projectile to move a suitable distance through the barrel, or even beyond the muzzle, before the bolt is pushed back far enough to open the breech, whereby to avoid an excessive blow-out of gases from the breech. This feature is not herein claimed.

The bolt is formed on one side with the usual groove k for receiving the stationary ejector pin (not shown), and on the other side with an extractor spring k' of usual construction. The breech case portion of the frame is formed with the usual ejecting opening l (Fig. 1).

The stock portion of the frame is formed, as usual, with a vertical chamber M for receiving the magazine or cartridge clip, or for in any manner feeding cartridges to just beneath the bolt. The cartridges are thence fed by the bolt into the barrel in the well-known manner.

The trigger guard N is shown as formed in a separate piece which enters between the two halves of the frame to be held in place therein by pins. The trigger O is mounted on a slide P which extends rearwardly and terminates in an upturned toe P^1 . The slide P is housed in longitudinal grooves m formed in the two halves of the frame and so constructed that the slide may have a limited movement endwise. The middle portion of the slide is widened and formed with an opening sufficiently large to not obstruct the magazine chamber M , so as to permit the cartridges to freely feed up through it. The grooves m are extended forward and form a housing for confining a helical spring Q which bears against the rear end of the slide P and pushes the trigger forward. The rear end of this spring abuts against a downwardly projecting arm n on a sear lever

R , so that the spring serves both as a trigger spring and sear spring. The lever R is pivoted at p , and its sear arm extends thence rearwardly and upwardly, terminating in the sear r which engages a notch r' in the underside of the firing pin G when the latter is retracted, as shown in Fig. 6. The sear lever R has a forwardly extending arm q which is formed as a leaf spring and carries on its front end a pin s which is beveled on its end, as shown in Fig. 8. The upturned toe P^1 on the trigger slide is beveled on its side, as shown in Fig. 8.

The trigger mechanism as thus constructed has the following movements: In the cocked position, as shown in Fig. 6, with the trigger forward, the toe P^1 stands in front of the pin s . As the trigger is pulled the slide P is moved rearwardly and the inclined rear upper face of this toe acts against the abrupt side of the pin s and lifts it, thus throwing up the arm q and rocking the sear lever, thus drawing down the sear and releasing the firing pin, so that the pin instantly executes its forward firing movement, at the end of which, as shown in Fig. 4, the sear is still held in its released position, notwithstanding the stress of the spring Q , because of its contact with the underside of the firing pin. Instantly after the firing the bolt is thrown back, carrying the firing pin with it, until its notch reaches the position of the sear, whereupon the latter springs up, enters the notch, and again holds the firing pin in cocked position (Fig. 6). Ordinarily this will occur before the marksman can release the trigger, so that the latter stands in the position shown in dotted lines in Fig. 4. Before the arm can be again fired the trigger must be released and again pulled back. On the releasing movement as the slide P moves forward the toe P^1 displaces and passes to the front of the pin s . In this movement the beveled faces of the pin and toe (Fig. 8) come into play. The beveled side of the toe engages the beveled face of the pin and pushes the latter toward the right, this being permitted by the resiliency of the spring arm q . As this movement is completed the arm springs back to the left again, bringing the pin s into the plane of and behind the toe P^1 , as shown in Fig. 6. Then upon the next pull of the trigger the operation is repeated. Because of this construction, which acts in the manner of a detent, the arm will fire only one shot at a time, requiring that the trigger be released and again pulled after the reloading and cocking movement to fire another shot.

To enable the bolt to be drawn back by hand the ears K , K are extended outwardly and formed with knobs K^1 which can be grasped by the operator.

To disassemble the weapon it is only nec-

essary to slip off the locking slide *c*, drive out the pin *J*, and withdraw the screws *b*, *b*. The two halves *A*¹, *A*² of the frame may then be separated, and the internal parts are at 5 once accessible.

What I claim is:—

1. An automatic pistol having its frame divided into two parts on a longitudinal central vertical plane, with a slide joining 10 said parts at the top, and suitable fastenings uniting them beneath.

2. An automatic pistol having its frame divided into two parts on a longitudinal central vertical plane, said parts having at 15 top inclined ribs and a dovetailed slide engaging said ribs to fasten said parts together at top.

3. An automatic pistol having its frame divided into two parts on a longitudinal central vertical plane, the barrel held fixedly 20 between said parts, the upper part of the frame formed as a breech case, and the lower part formed as a stock and having a bolt sliding in said breech case.

25 4. An automatic pistol having its frame divided into two parts on a longitudinal central vertical plane, with the barrel held between said parts, the upper part of the frame formed as a breech case, and the 30 lower part formed as a stock, with a magazine passage through said stock to the breech.

35 5. An automatic pistol of the sliding bolt type, comprising a frame divided into two parts on a longitudinal central vertical plane, the upper part of the frame formed as a breech case, a sliding bolt movable in said breech case, a firing pin movable within the bolt, and a bushing, through which said 40 firing pin passes, secured between the parts of the frame.

45 6. An automatic pistol of the sliding bolt type, comprising a frame divided into two parts on a longitudinal central vertical plane, the upper part of the frame formed as a breech case, a sliding bolt movable in said breech case, a firing pin movable within the bolt, a spring for said firing pin inclosed within it, and a pin intersecting said firing 50 pin and seated in the frame at the rear of said spring and serving as an abutment therefor.

55 7. An automatic pistol of the sliding bolt type, comprising a frame divided into two parts on a longitudinal central vertical plane, the upper part of the frame formed as a breech case, a sliding bolt movable in said breech case, a firing pin movable within the bolt, and a bushing, through which said

firing pin passes, secured between the parts 60 of the frame, and a pin passing transversely through said frame and bushing.

8. An automatic pistol of the sliding bolt type, comprising a frame divided into two parts on a longitudinal central vertical 65 plane, the upper part of the frame formed as a breech case, a sliding bolt movable in said breech case, a firing pin movable within the bolt, and a bushing, through which said firing pin passes, secured between the parts 70 of the frame, a spring within said firing pin and a pin passing transversely through said frame, bushing, and firing pin, and receiving the reaction of said spring.

9. In a pistol, a sear lever, a trigger, and 75 a slide to which the trigger is connected, and a spring interposed between said slide and sear lever.

10. In a pistol, a sear movable in a normal 80 plane, and a trigger adapted when pulled to so move the sear to withdraw it, one of said parts having a portion movable in a direction transverse to such normal movement, and said parts having reciprocally inclined faces adapted on the release of the 85 trigger to pass one another in returning to their original positions.

11. In a pistol, a sear movable in a normal plane and having a part movable transversely thereto, and a trigger adapted when 90 pulled to engage and withdraw the sear, and said parts having reciprocally inclined faces adapted on the release of the trigger to move said sear part transversely to restore the trigger and sear to their original 95 positions.

12. In a pistol, a sear lever having a yielding arm formed with a projection, and a trigger having an inclined face adapted when the trigger is pulled to engage such projection and withdraw the sear, said parts having inclined faces adapted on the release of the trigger to flex said yielding arm and restore the parts to their original 100 positions.

13. An automatic pistol having its frame divided into two parts with grooves in their meeting faces, a sear and trigger movable in such grooves, and an intervening spring confined in such groove and reacting against 110 the sear and trigger.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH H. WESSON.

Witnesses:

EVERETT A. KINNEY,
DAVID H. REDDIE.