J. H. WESSON.

AUTOMATIC PISTOL.

APPLICATION FILED OCT. 13, 1910.

985,482. Patented Feb. 28, 1911.

Fig. 1,

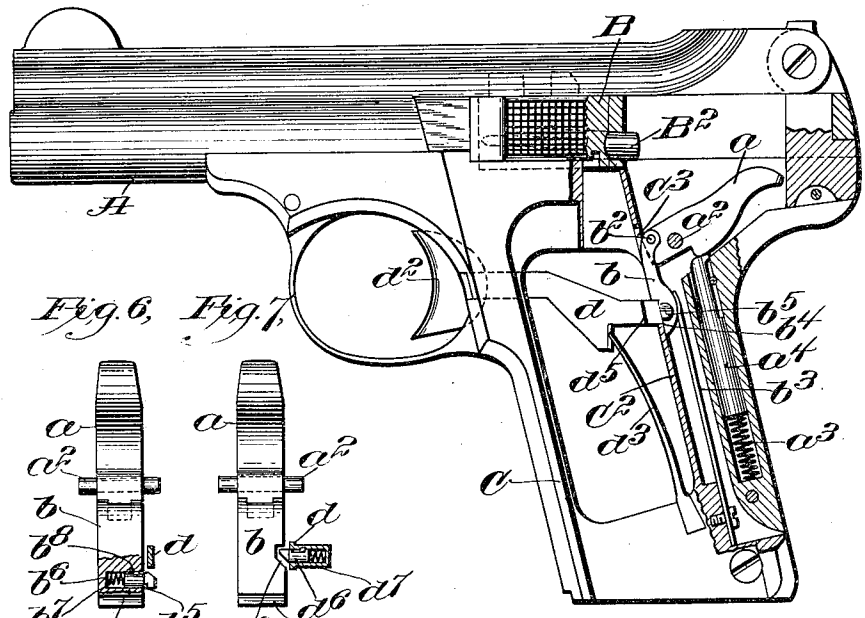


Fig. 6, Fig. 7,

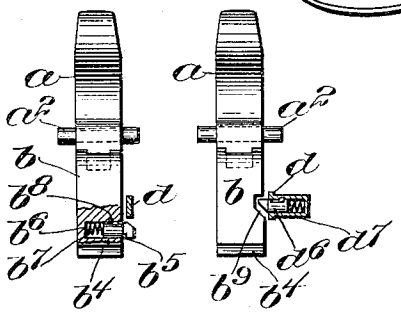


Fig. 2,

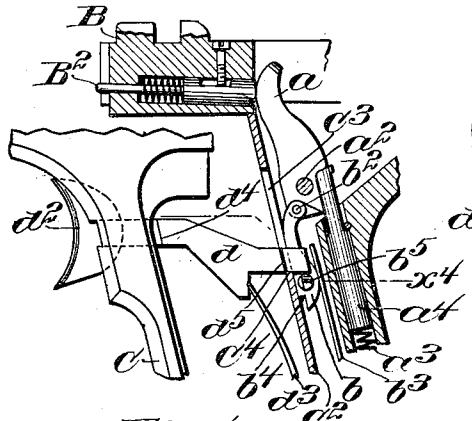


Fig. 3,

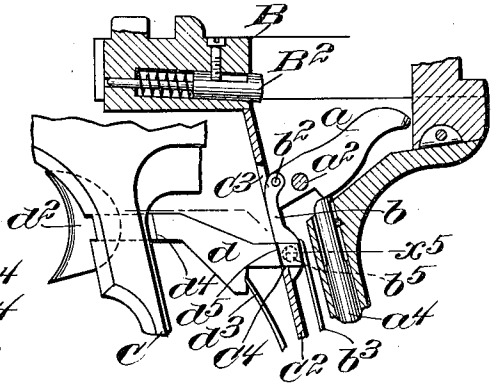


Fig. 4,

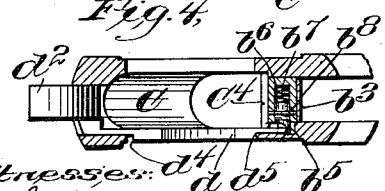
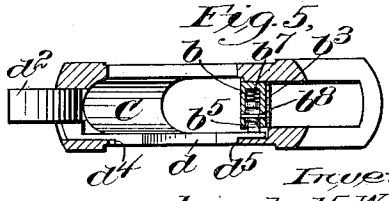


Fig. 5,



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UNITED STATES PATENT OFFICE.

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AUTOMATIC PISTOL.

985,482. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed October 13, 1910. Serial No. 586,840.

To all whom it may concern:

Be it known that I, JOSEPH H. WESSON, a citizen of the United States, residing at Springfield, county of Hampden, 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, and is embodied in a pistol of that type which is known as the gas operated, or blow-back automatic in which the barrel is stationary, while the hammer is cocked and the chamber opened for extracting the old shell and reloading, by the movement of a breech block which is thrown back by the reaction of the gases when the pistol is fired. In a pistol of this class, it is impossible for the user to release the trigger in the brief interval of time occupied by the automatic reloading and cocking of the hammer, so that it is necessary to provide the lock mechanism with means for holding the hammer cocked independently of the trigger action.

The present invention relates to a novel device for performing this function, the nature of the device being such that the construction is simplified to a large extent, and also rendered positive in its action, easy to assemble, and unlikely to get out of order.

In accordance with the invention, the hammer is provided with a sear pivotally connected thereto, and acted upon by a spring which causes the sear to engage a suitable cocking shoulder when the hammer is in its full cocked position. The trigger, which consists of a finger piece and a longitudinally movable tripping member, is adapted, when pulled, to engage the sear, in order to push the said sear out of engagement with the said cocking shoulder against the action of the sear spring. In order that the hammer may be re-cocked without necessarily releasing the trigger, that part of the sear or trigger which causes the latter to engage and trip the former, is arranged to be moved out of the way during the cocking action and restored when the trigger has been released.

Figure 1 is a side elevation, partly in section, of a pistol embodying the invention, showing the hammer at full cock, and the trigger in its normal position ready to fire; Fig. 2 is a partial section showing the firing pin, hammer and trigger in the position assumed by said parts at the time of firing; Fig. 3 is a view, similar to Fig. 2, showing the hammer cocked prior to the release of the trigger after the pistol has been fired; Fig. 4 is a horizontal section, on the line x^4 of Fig. 2; Fig. 5 is a similar horizontal section on the line x^5 of Fig. 3; Fig. 6 is a front elevation, partly in section, of the sear and hammer; and Fig. 7 is a similar view showing a modification.

The pistol embodying the invention is of the usual blow-back type, being provided with the barrel A, breech-block B, which contains the firing pin B^2, and the magazine chamber C, which is formed in the pistol grip and adapted to receive the magazine, not shown, which delivers the cartridges to the space behind the barrel where the breech block is blown back.

In accordance with the invention, the hammer a which acts upon the firing pin B^2 is pivotally supported at a^2 and acted upon by the hammer spring a^3 through the plunger a^4, the said hammer being held in cocked position by means of the sear b. The said sear is pivotally connected with the hammer at b^2 and acted upon by a spring b^3, located behind the magazine chamber C, and arranged to press the sear b forward so that it will move over and be held by a suitable engaging shoulder when the hammer is cocked. The rear wall C^2 of the chamber C is shown as provided with an opening C^3, and the wall at the bottom of said opening constitutes the engaging shoulder C^4 which is adapted to coöperate with the shoulder b^4 formed in the front face of the sear. The sear, as clearly shown in Figs. 2 and 3, travels upward during the cocking movement of the hammer, and will obviously be pressed forward by the spring b^3 so that it will snap forward and carry the shoulder b^4 over the shoulder C^4 as soon as the hammer a is fully cocked, as clearly shown in Fig. 3.

To trip the hammer and fire the pistol, it is necessary that the sear be pushed back against the action of the sear spring, and for this purpose it is arranged to be acted on, when the pistol is cocked, by the trigger tripping member d, the actual engaging parts, however, being so arranged as not to interfere with the independent movements of the sear and trigger in the cocking movement. In the construction shown in Figs. 1 to 6, the sear is provided with a lateral pro-

jection b^5 which is adapted to stand behind the trigger tripping member d when the pistol is in condition to be fired, as shown in Fig. 1. The said trigger tripping member consists of a flat plate which projects from the front toward the rear of the grip, extending along one side of the magazine chamber C, so as not to interfere with the insertion of the magazine therein. The rear end of the member d extends into the opening C^3 in the rear wall C^2 of the magazine chamber, and is adapted to be moved through said opening to act upon the projection b^5 when the trigger finger d^2, which is in front of the grip, is pressed. The said trigger is normally held forward by means of a spring d^3 and is limited in its forward and backward movement by shoulders d^4 and d^5. These shoulders engage, respectively, with a shoulder formed in the recess at the rear of the trigger guard, and with the rear wall C^2 of the magazine chamber at the side of the opening through which the trigger member d passes. In order that the hammer may be held in its cocked position to which it is forced by the backward movement of the breech block, whether the trigger has been released or not, the engaging projection b^5 of the sear b, which is acted upon by the trigger tripping member to release the sear and fire the pistol, is arranged to be movable, and is in the form of a spring latch having a beveled upper surface which is in such position as to engage the under side of the trigger tripping member during the cocking movement of the hammer and to be forced in thereby during the upward movement of the sear, so that the said sear can travel past the trigger tripping member and be forced inward into cocking engagement, regardless of the position of the trigger. This operation is clearly shown in Figs. 2 and 3, both of which views show the trigger as pulled back, one view, however, showing the hammer in firing position and the other in full cocked position. It will be seen from these views that as the hammer a is cocked, the beveled projection b^5 will be pressed inward upon engagement with the under side of the trigger tripping member d and lie behind the trigger tripping member when the hammer is at full cock, so that there is nothing to interfere with the forward movement of the sear which causes the same to engage with the shoulder C^4 at the bottom of the frame opening. Upon the release of the trigger, the latter will move forward under the action of the trigger spring d^3, and as soon as it reaches its normal forward position, shown in Fig. 1, the sear projection b^5 will spring outward behind the trigger tripping member d, so as to be engaged thereby when the trigger is next pulled.

The construction of the sear projection b^5 is best shown in Figs. 4, 5 and 6, the said projection consisting of a pin contained in a recess b^6 extending transversely across the sear, the said recess containing a spring b^7, adapted to act upon the back of the pin which is limited in its movement and held in position by means of a transverse pin b^8 which extends over a flattened portion of the pin b^5. The position and action of the beveled portion are indicated in the said views, in Figs. 4 and 6, the pin being shown as below the trigger tripping member d, to correspond with the position shown in Fig. 2, and in Fig. 5, being shown as engaged and pressed inward by the trigger tripping member to correspond with the position shown in Fig. 3. It is obvious from Fig. 5 that the pin will spring outward behind the tripping member as soon as the said member is moved forward and the trigger finger d^2 has been released.

It is obviously not essential to the invention that the specific construction and arrangement above described should be employed, and the structure is susceptible of modification without departing from the invention. It is practicable, for example, to locate the yielding engaging member on the trigger instead of on the sear, such a construction being shown in Fig. 7, in which the trigger tripping member d is provided with a pin d^6 contained in a socket d^7. In this construction, the sear b is provided with a notch b^9 having a beveled lower edge, the notch being so positioned as to come in line with the pin when the hammer is in firing position, thus allowing the sear to move forward so that it can engage the shoulder C^4 when the hammer is back. As the sear travels upward, it will crowd in the pin d^6 if the trigger is still pulled, but the pin will snap into place in front of the sear when the trigger moves forward.

What I claim is:

1. In an automatic fire arm, the combination with a movable breech-block; of a hammer adapted to be moved into cocking position through the action of said breech block; a sear pivotally connected with said hammer and provided with a spring adapted to move it into engagement with a cocking shoulder when the hammer is at full cock; a trigger adapted to engage and trip said sear; and means whereby said sear and trigger are capable of independent movement except when the hammer is cocked.

2. In a fire arm, the combination with a recoil-operated hammer; of a sear connected and movable therewith; a trigger tripping member coöperating with said sear; and a movable engaging member carried by one of said parts and adapted to be engaged by the other, when the pistol is cocked and ready to be fired.

3. In an automatic pistol, the combination with a recoil-operated hammer; of a

sear pivotally connected with said hammer; a spring acting on said sear; a shoulder adapted to engage and hold said sear when the hammer is cocked; a longitudinally movable trigger adapted to engage and trip the said sear; and a depressible projecting member extending laterally from said sear and normally lying behind the trigger, said depressible member being arranged to be depressed by engagement with the trigger during the cocking movement of the hammer, and to be automatically moved into place behind the trigger when the latter has been released by the finger.

4. In an automatic pistol, the combination with a movable breech block containing a firing pin; of a hammer adapted to be moved into cocking position by the recoil movement of the breech block; a sear connected with said hammer and adapted to cooperate with a fixed shoulder to hold the hammer cocked; a trigger member adapted to disengage said sear from said shoulder to fire the pistol; and an engaging device adapted to be automatically moved into engaging position when the hammer and trigger are in firing position, without interfering with the independent movement of the sear and trigger.

5. In an automatic pistol, the combination with a hammer; of a movable breech block adapted to cock the said hammer; a magazine chamber below the breech block; a sear pivotally connected with the hammer and provided with a sear spring adapted to move it toward the rear wall of the magazine chamber; said magazine chamber having an opening through the rear wall, the lower portion of which opening constitutes a cocking shoulder for the sear; a trigger having a tripping member extending across said magazine chamber into the opening in the rear wall thereof, the said trigger tripping member being normally out of the path of the said sear, and an engaging member connected with one of said parts, and adapted to be automatically brought into engaging position when the sear and trigger are in cocking position.

6. The combination with a recoil operated hammer; of a sear pivotally connected therewith; a spring actuated projection extending laterally from said sear and provided with a beveled surface; a trigger provided with a tripping member movable transversely with relation to said sear and adapted to engage said spring actuated projection; and a shoulder adapted to retain said sear when the hammer is at full cock.

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

JOSEPH H. WESSON.

Witnesses:

HAROLD K. SCHOFF,

GEO. P. CHAPIN.