W. J. WHITING.

AUTOMATIC PISTOL.

APPLICATION FILED SEPT. 14, 1908.

918,406.

Patented Apr. 13, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

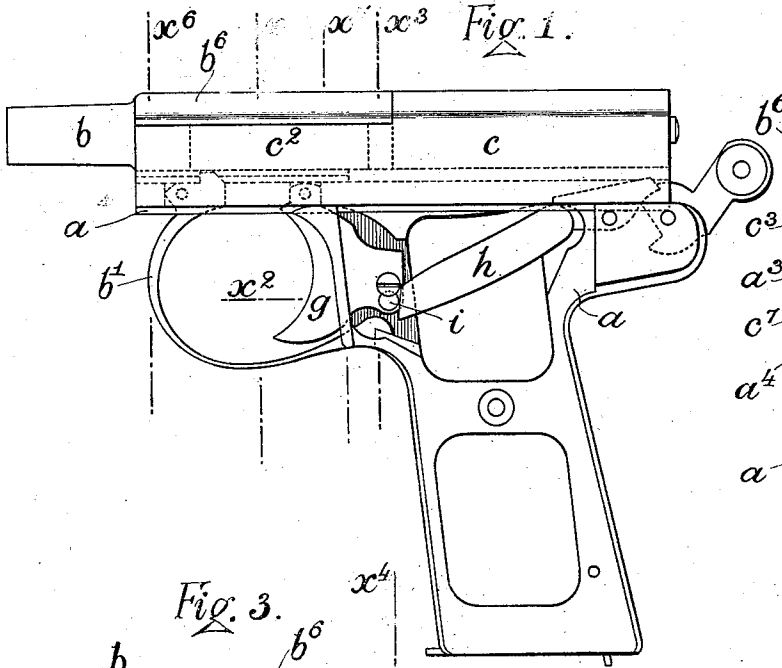


Fig. 12.

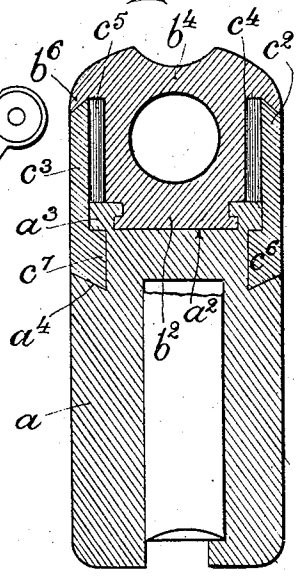
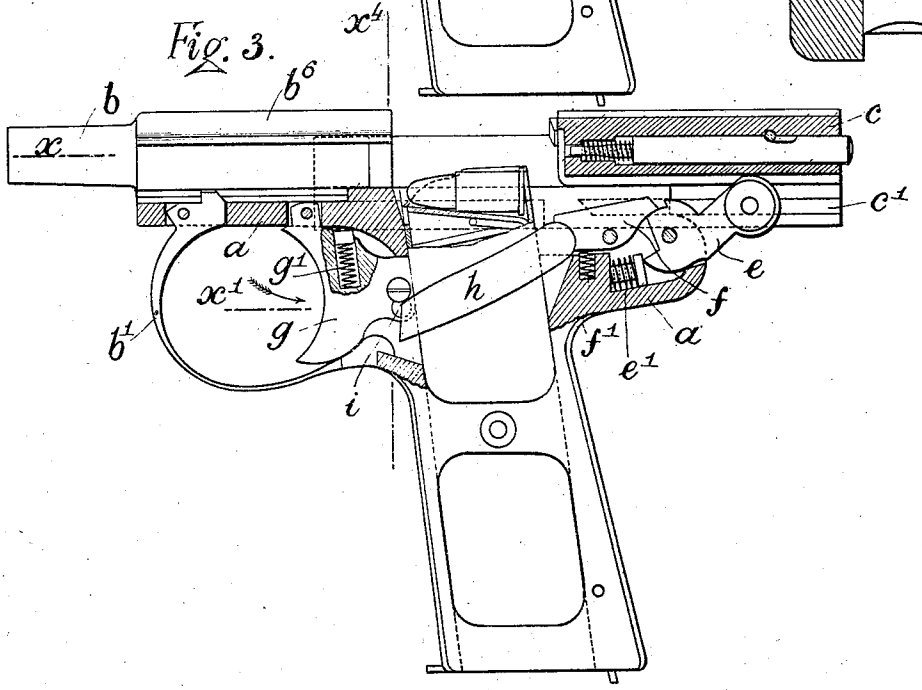


Fig. 3.



WITNESSES

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3 SHEETS—SHEET 2.

Fig. 2.

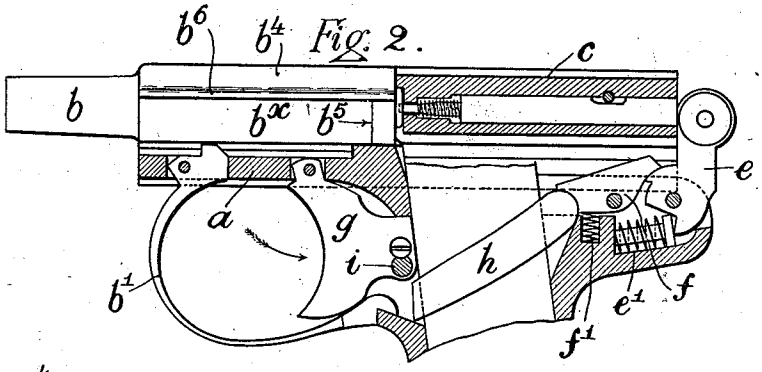


Fig. 13.

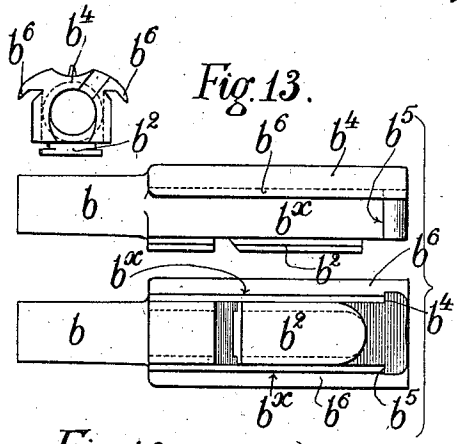


Fig. 14.

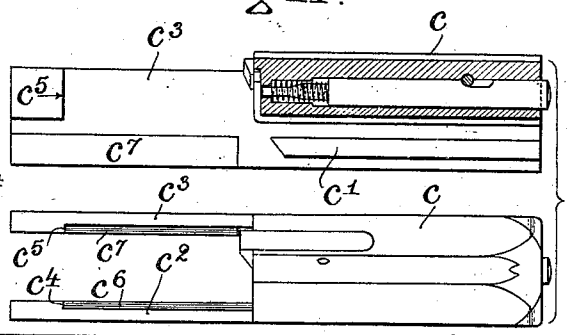


Fig. 16.

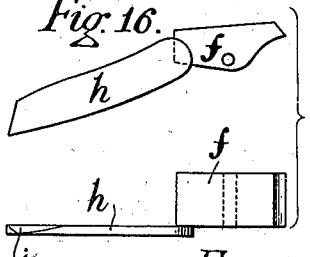


Fig. 17.

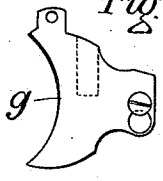
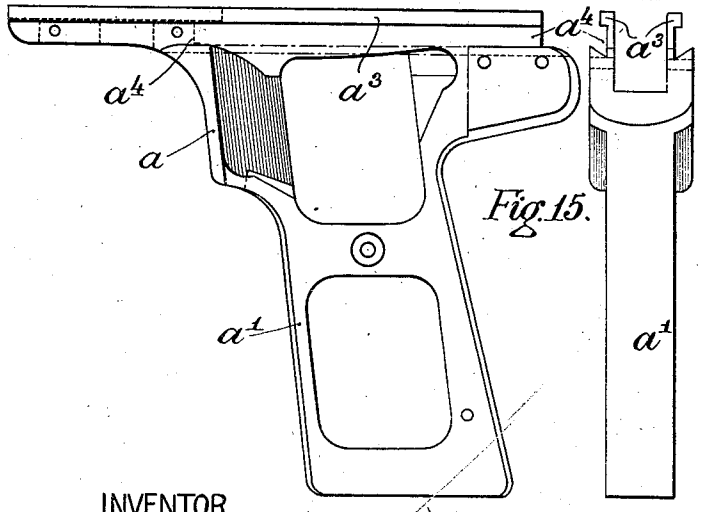


Fig. 15.



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3 SHEETS—SHEET 3.

Fig. 4.

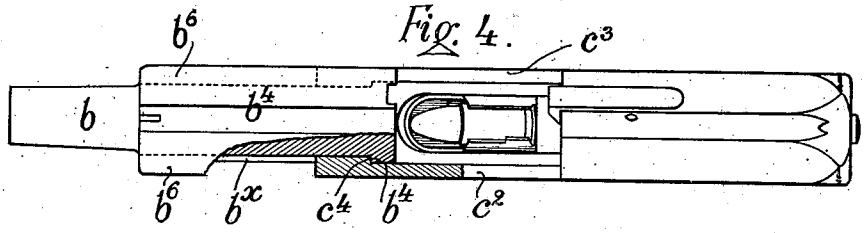


Fig. 5.

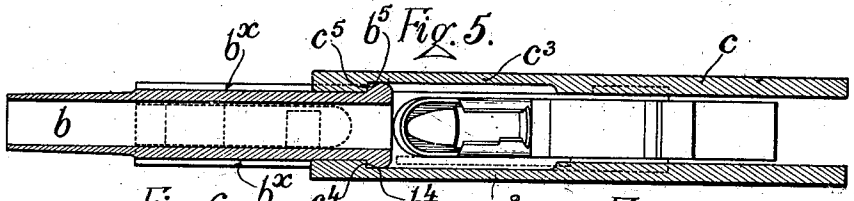


Fig. 6.

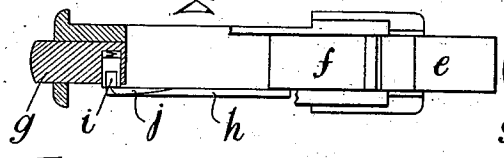


Fig. 7.

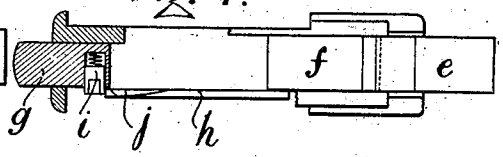


Fig. 8.

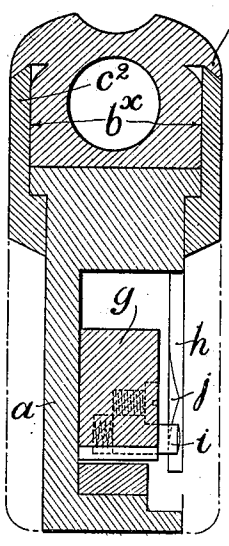


Fig. 9.

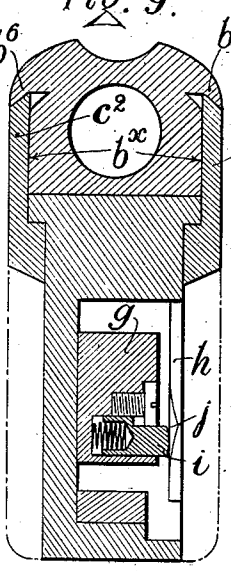


Fig. 10.

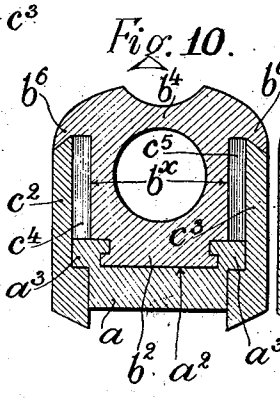
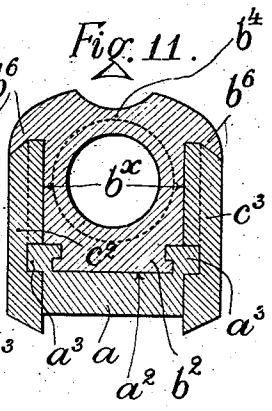


Fig. 11.



WITNESSES

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James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM JOHN WHITING, OF HANDSWORTH, ENGLAND, ASSIGNOR TO WEBLEY AND SCOTT LIMITED, OF BIRMINGHAM, ENGLAND, A CORPORATION OF GREAT BRITAIN.

AUTOMATIC PISTOL.

No. 918,406. Specification of Letters Patent. Patented April 13, 1909.

Application filed September 14, 1908. Serial No. 452,997.

To all whom it may concern:

Be it known that I, WILLIAM JOHN WHITING, a subject of the King of Great Britain, residing at 111 Antrobus road, Handsworth, near Birmingham, England, have invented certain new and useful Improvements in Automatic Pistols, of which the following is a specification.

This invention has reference to automatic pistols of the type in which a reciprocating breech block is mounted upon a body or frame that carries both the stationary barrel and a firing mechanism whose trigger is arranged in front of the magazine-containing handle or grip of the said body while the hammer and sear are fitted behind the said handle; said sear and trigger being connected by a sear-operating limb that extends across one side of the handle.

In order to limit the rearward or recoiling movement of the breech-block or breech-slide the breech slide has to be provided with a set of stops to coöperate with corresponding stops on the stationary barrel, and in one well-known form of construction, such breech-slide stops are formed on the inside of the forward end of a hood-like extension from the front end of the said slide, which said hood completely incloses the rear part or breech end of the barrel, even when the slide is at the limit of its rearward movement, and consequently it has to be provided with an ejection aperture wherethrough the spent cartridge shell is ejected during the recoiling movement of the slide. This form of breech slide and hood-like stop carrier is difficult and expensive to machine in manufacture and is, in other respects, disadvantageous, and one of the objects of the present invention is to provide an improved and simplified construction of pistol in which the breech-slide stops are carried by simple side-cheeks or extensions of the said slide so that when the latter recoils, the spent shell may be ejected through the space which is opened between the said cheeks, while the barrel, the body and the breech-slide are formed so that there is an interlocking or dovetail connection between the whole of the parts which, while offering no impediment to the reciprocating action of the breech-slide or to the ready detachment and separation of the slide and barrel from the body, effectually braces together and prevents the spreading of the extended side cheeks of the said slide and also materially strengthens the pistol as a whole, as all the dovetailed parts are mutually supported and are thus better adapted to resist the strains to which they are subjected when the pistol is in use.

Another object of the invention is to reduce the number of parts and simplify the construction and arrangement of the firing mechanism and also to render it impossible for the pistol to be inadvertently or unintentionally discharged by the involuntary pull or pressure which is applied to the trigger by the shooter's finger as a consequence of the recoil following a discharge.

The objects are attained, according to the present invention, by the arrangements as hereinafter described with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the improved pistol, with the firing mechanism exposed and showing the parts in the positions they assume when the hammer is at full cock. Fig. 2 is a part elevation and part longitudinal section of the said pistol showing the parts of the firing mechanism in the position they assume when the hammer falls after the sear has been disengaged therefrom and while the shooter's finger pressure is still being applied to the trigger and when the breech slide is about to commence its rearward or recoiling movement. Fig. 3 is a similar view to Fig. 2 but shows the whole of the pistol and illustrates the parts in the positions they assume when the breech slide is at the limit of its recoiling movement. In this view also the trigger is shown held back by the application of finger pressure thereto. Fig. 4 is a top side plan of the pistol with the parts in the same positions as in Fig. 3. Fig. 5 is a horizontal section of the pistol upon the dotted line x Fig. 3 and shows the arrangement of the side cheeks or extensions of the breech slide, also the disposition of the stops on the said slide and on the breech end of the stationary barrel. Fig. 6 is a horizontal section taken through part of the firing mechanism upon the dotted line x^1 Fig. 3. Fig. 7 is a similar section but is taken upon the dotted line x^2 Fig. 1, so as to show the dispositions of certain of the parts of the firing mechanism before the trigger is pulled. Fig. 8 shows, upon an enlarged scale, a transverse vertical section of a portion of the pistol taken upon the dotted line

x^3 Fig. 1 through the dovetailed and interlocking parts of the barrel, breech slide and body and also through part of the cocked firing mechanism. Fig. 9 is a similar view to Fig. 8, but the section is taken on the line x^4 Fig. 3; the parts of the firing mechanism thereby illustrated being shown in the positions they assume after a discharge and while finger pressure is still being exerted upon the trigger. Figs. 10 and 11 are two further enlarged sections, taken respectively upon the dotted lines x^5 and x^6, Fig. 1 through the dovetailed and interlocking parts of barrel, breech-slide and body. Fig. 12 is another cross-section of Fig. 1, taken upon the dotted line x^7. Fig. 13 shows an elevation and end view and an underside plan of the barrel separately. Fig. 14 shows an elevation and plan of the breech slide separately. Fig. 15 is a separate elevation and front end view of the body. Figs. 16 and 17 are detail parts of the firing mechanism.

The same letters of reference indicate corresponding parts in the several figures of the drawing.

a is the body or frame of the pistol and a^1 is the handle or grip, which is adapted to contain a detachable magazine.

b is the barrel, whose breech portion has a dovetail or inverted-T sectioned base b^2 which is engaged with an open-ended channel or seating a^2 of corresponding section in the forward part of the body, while normally the said barrel and body are immovably locked together by any suitable fastening, such as the combined trigger-guard and bolt b^1, although when the said fastening is disengaged, the barrel may be dismounted by sliding the same forwardly off the body in the usual way.

c is the breech-slide, which is slidably and detachably mounted upon the rear of the said body, and is secured thereto, in the known manner, by means of straight ribs or feathers c^1 engaging under corresponding ribs a^3 that are formed from end to end of the opposite sides of the body, while in order to carry the stops which limit the rearward or recoiling movement of the breech-slide and to simplify the construction while admitting of the dovetailing and interlocking of the parts a, b and c, the forward end of the said breech slide is provided, under the present invention, with a pair of laterally-separated cheeks or extension pieces c^2, c^3, which closely embrace the opposite sides of both the breech part of the barrel and the forward portion of the body, and are of sufficient length to admit of the prescribed recoiling movement of the breech slide; the said movement being limited by means of stops c^4, c^5, which are arranged on the inner sides of the forward extremities of the said extensions and are adapted to coöperate with corresponding stops or shoulders b^4, b^5, on the rear or breech end of the barrel. These stops are so formed and arranged that, when the bolting device b^1 is disengaged and after the barrel and breech slide have been slid collectively off the body, the barrel can be lifted away vertically from between the stop-carrying extensions of the breech slide.

In addition to the stops c^4, c^5, the said extensions are also formed, along their inner sides, with ribs or tenons c^6, c^7, which (when the breech slide is closed) engage both under the forward portions of the body ribs a^3 and also with the front parts of dovetail-sectioned grooves or raceways a^4 (best seen in Fig. 12) which are formed below the said ribs a^3 and from end to end of the opposite sides of the body, while when the breech slide is in motion, the said ribs c^6, c^7, of the extensions traverse to and fro within the said race-ways.

From the above-described arrangement it results that the body has interlocking engagement, by virtue of the dovetailed parts both with the barrel and the breech slide and its extensions, but in order to complete the interlocking system and to laterally tie or brace together the said extensions so as to prevent them spreading, the opposite sides of the breech portion b^4 of the said barrel are formed with recesses or clearances $b^\times$ which are engaged by the extensions c^2, c^3 and their stops c^4, c^5 and terminate rearwardly at the barrel stops b^4, b^5, while the top edges of the said extensions and the overhanging parts b^6 of the barrel are dovetailed, as shown in the enlarged sections. Thus the breech slide extensions are dovetailed to the body by the ribs a^3 and race-ways a^4 and to the barrel by the parts b^6, and as the body and barrel are also dovetail keyed to one another as above described, it follows that all the parts mutually support one another and are thereby enabled to effectually resist the strains to which they are subjected on the pistol being discharged and during the recoiling and return movements of the breech slide following each discharge. And when the breech slide is at the limit of its rearward movement, as determined by the stops, the laterally-separated extensions c^2, c^3 move from underneath the overhanging parts of the barrel, as shown in Fig. 4, and an opening or clearance is presented wherethrough the spent cartridge-shell is ejected prior to the said slide commencing its return or closing movement.

With regard to the firing mechanism with which the body is fitted; this consists of a minimum number of simple parts, but is positive in action and provides effectually against inadvertent discharges or unintentional second shots in the event of finger-pressure being maintained on the trigger after the first discharge. Thus the hammer e and its spring e^1 and the sear f and its

spring f^1, are arranged, in substantially the usual manner, in the rear part of the body and behind the magazine-containing handle, while the trigger g and its spring g^1 are fitted in front of the said handle, also in the known manner. The connection between the trigger and the sear is, however, effected in a novel manner by providing the sear with a rigid limb or bar h, which is also influenced by the sear spring and is extended across one side of the handle frame so that its forward end lies alongside the rear portion of the trigger. This limb and the trigger have no direct connection with one another but that side of the trigger which is overhung by the extremity of the limb is fitted with a spring-influenced contact-stud i, which, when the hammer is cocked as in Fig. 1, extends laterally from the side of the trigger and lies against the end of the sear-limb, so that if the trigger is pulled when the parts are positioned as in the said Fig. 1, the trigger movement is imparted to the limb through the said stud, the sear is tripped and the hammer is released and falls as shown in Fig. 2. On being thus disengaged from the hammer, the combined or one-piece sear and limb are momentarily shifted, by the spring f^1, to the position shown in Fig. 2 in which the forward extremity of the said limb is below the contact stud, but the recoiling breech-slide immediately recocks the hammer (see Fig. 3) and brings back the combined sear and limb to the full-cock position Fig. 1. During this re-cocking action, the trigger is held back by the pressure of the shooter's finger in the position shown in Fig. 3, and in order to render it impossible for any operative connection between trigger and sear to be reëstablished until the trigger has been first allowed to resume the normal (Fig. 1) position, and thus effectually guard against inadvertent or double shots, the inner side of the forward extremity of the limb is formed with a cam or incline j which, in course of the upward angular movement which the limb makes under the influence of the sear-spring on the hammer being re-cocked (*i. e.* in moving from the Fig. 2 position to that shown in Fig. 3), is made to wipe past the end of the contact stud and to force the same inward (see Figs. 3, 6, and 9), and so long as the trigger is held back by finger pressure or only partially released, so long will the said trigger and limb remain in the relative unconnected positions shown in the said Figs. 3, 6 and 9 and any involuntary or other movement which may be imparted to said trigger cannot be transmitted to the sear, but when finger pressure is fully relieved and the trigger is permitted to be moved forward, by its spring, to the position shown in Fig. 1, the stud is carried clear of the restraint of the limb and is projected, by its spring, across the front end of the said limb, as shown in Figs. 1, 7 and 8, so that the operative connection between the trigger and the sear is reëstablished. If desired, the incline or cam may be formed on the end of the stud or yielding connection instead of upon the inner side of the limb; or the stud or yielding connection may be mounted in the end of the sear limb and controlled by a cam or incline on the side of the trigger, or any other provision may be made for disengaging a laterally-movable spring-influenced connection device by the relative movement which occurs between the sear-limb and trigger when the hammer is cocked before finger-pressure is relieved from the said trigger.

Having fully described my invention, what I desire to claim and secure by Letters Patent is:—

1. In an automatic pistol; the combination with a body and a fixed or stationary barrel, of a breech-slide having separately formed forward extensions or side cheeks which carry stops to coöperate with corresponding barrel stops for limiting the recoiling movement of the said slide, substantially as described.

2. In an automatic pistol, the combination of a barrel, and a breech slide provided with stop-carrying extensions or side cheeks which have an interlocking or dovetail connection with the barrel and are thereby tied or braced together laterally.

3. In an automatic pistol, the combination with a body and a stationary barrel which are dovetail-keyed to one another, of a breech slide whose stop-carrying extensions are slidably dovetailed or keyed to the said body and are also dovetailed into the sides of the barrel; whereby the said barrel, body and breech-slide are interlocked and adapted to mutually support and strengthen one another.

4. In an automatic pistol; the combination with a hammer-cocking breech-slide, of firing mechanism comprising a sear-operating limb influenced by a sear spring, a trigger, and a spring-controlled device normally so positioned as to establish connection between the trigger and the sear limb but is adapted to be disengaged during the movement which the said sear-limb makes relative to the trigger on the pistol being re-cocked and is held out of operative engagement until after finger pressure on the said trigger has been relieved.

5. In an automatic pistol, the combination with a one-piece sear and sear-operating limb and a spring which tends to impart an angular movement to the said one-piece element, of a trigger which carries, on the side thereof, a laterally-movable and spring-influenced contact or connecting stud; the latter being moved into an inoperative position by the action of a cam on the sear limb when the latter moves relative to the held-back

trigger on the hammer being re-cocked, and is there held until the trigger, on being allowed to resume its normal position, carries the said stud clear of the limb, when the connection between the said limb and trigger is again restored.

6. In an automatic pistol, the combination of a frame, a barrel, a breech slide reciprocable relatively to the barrel and having forward extensions thereon arranged at opposite sides of the barrel, and individual guides formed between the barrel and said extensions for guiding the latter during the reciprocatory movements of the breech slide.

7. In an automatic pistol, the combination of a frame, a barrel mounted in fixed relation thereon, a breech slide reciprocable axially of the barrel and provided with a pair of extensions forming cheek-pieces arranged at opposite sides of the barrel, and means for preventing relative spreading of said extensions.

8. In an automatic pistol, the combination of a frame, a barrel mounted thereon, a breech slide movable axially of the barrel, a pair of cheek-pieces movable with the slide and arranged at opposite sides of the barrel, and rectilinear guides formed between the cheek-pieces and the barrel for maintaining the latter in alinement with the breech slide during the reciprocatory movements thereof.

9. In an automatic pistol, the combination of a frame, a barrel mounted thereon, a breech slide movable axially of the barrel and having a pair of forward extensions which are arranged at opposite sides of the barrel, and means formed between the barrel and the respective extensions to prevent spreading of said extensions laterally of the barrel.

10. In an automatic pistol, the combination of a frame, a barrel mounted thereon, a breech slide movable axially of the barrel and provided with a pair of forward extensions, and interlocking guides formed between the barrel and said extensions for preventing spreading of the latter and for maintaining the barrel and slide in alinement.

11. In an automatic pistol, the combination of a frame, a barrel mounted thereon, a breech slide movable axially of the barrel and provided with forward extensions arranged at opposite sides of the barrel, and guides formed between said extensions and the barrel and frame for interlocking the breech slide both to the frame and barrel.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM JOHN WHITING.

Witnesses:
HENRY NORTON SKERRETT,
WILLIAM STAITES SKERRETT.