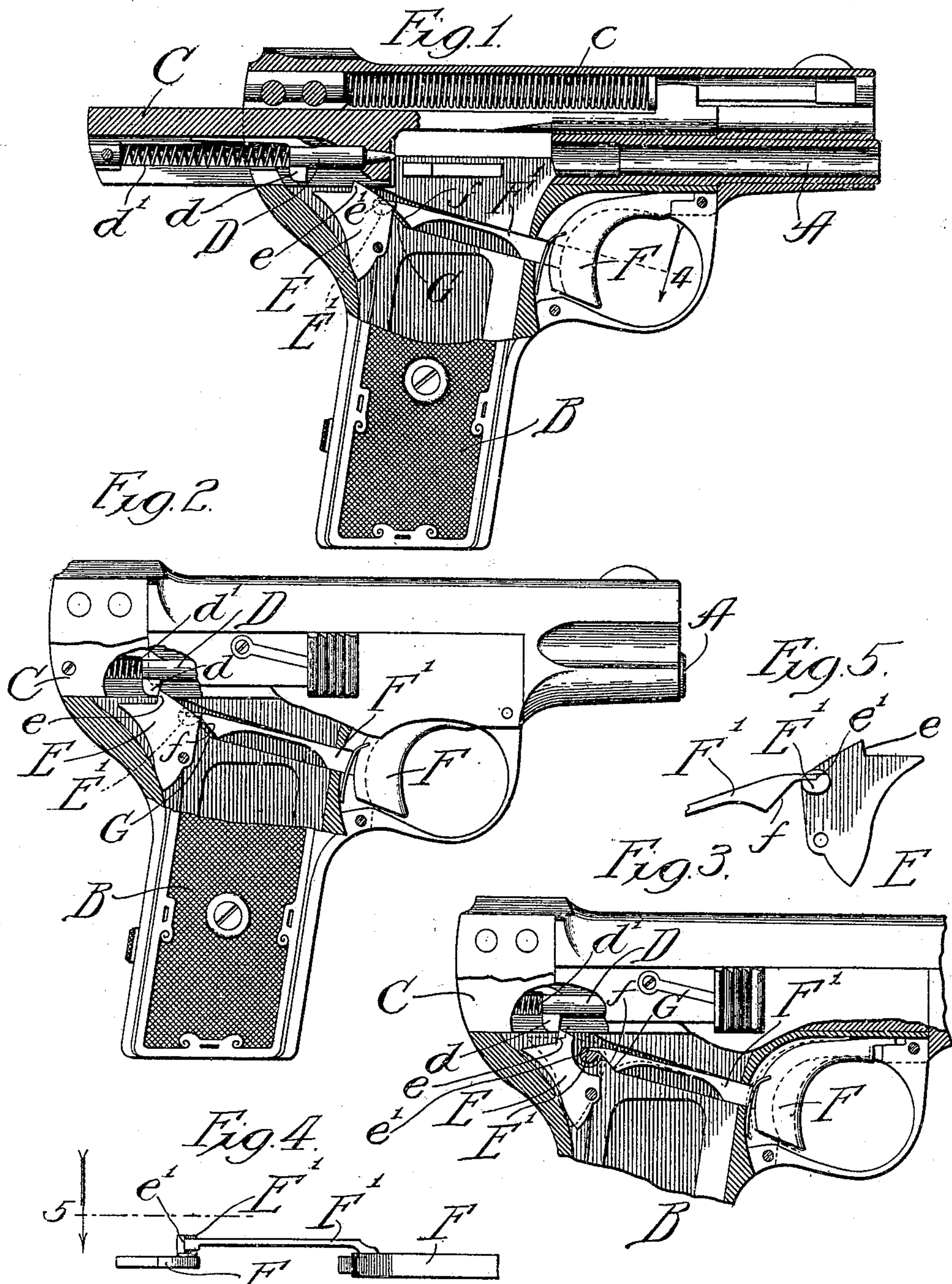


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AUTOMATIC PISTOL.
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930,710.

Patented Aug. 10, 1909.



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UNITED STATES PATENT OFFICE.

RUSSELL WILES, OF CHICAGO, ILLINOIS.

AUTOMATIC PISTOL.

No. 930,710.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RUSSELL WILES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Automatic Pistols, of which the following is a specification.

My invention relates to certain new and useful improvements on automatic pistols, and is fully described and explained in the specification and shown in the accompanying drawing, in which:

Figure 1 is a view partly in side elevation and partly in longitudinal section showing the operating parts of the improved weapon; Fig. 2 is a similar view showing the parts in a different position; Fig. 3 is a similar view showing the parts in a third position; Fig. 4 is a fragmentary section of the trigger and sear in the line 4 of Fig. 1; and Fig. 5 is a fragmentary elevation of the trigger and sear looking in the direction of the arrow 5 in Fig. 4.

The general construction and operation of the weapon herein shown and described is roughly similar to that of the weapon illustrated in the Patent No. 786,099 to C. P. Clement. The improvements have been embodied in this particular type of weapon largely for reasons of convenience and it will be obvious that they can be embodied in weapons of other types if desired. Reference is made to the Clement patent for the reason that the details of the construction of the weapon herein illustrated are fully set forth and described therein and by reason of the nature of the present improvements, such detailed description is not necessary in the present instance.

Referring to the drawings, A is the barrel of the weapon and B the handle which is hollowed out to receive the magazine.

C indicates the sliding breech-block which is spring-pressed forward by a spring *c* against the pressure of which, the breech-block is forced back by the recoil of the shell for ejection and which, after the shell is ejected serves to advance the next cartridge into the end of the barrel for firing. The sliding breech-block C carries a movable firing-pin D projecting downward, the firing-pin being spring-pressed forward by means of the spring *d*¹ which is lighter in its pressure than the spring *c*.

Within the frame of the machine and back of the handle is a sear E provided with a

shoulder *e* and positioned, when the sear is forward, to engage the lug *d* on the firing-pin D. The sear is spring-pressed and pivoted in the usual manner so that it will normally occupy its forward position, illustrated in Fig. 1, and be in position to engage the said lug, but so that it can be thrown backward for the passage of the lug when desired. It will be obvious that as the breech-block moves backward under the impetus given it by the shell, the lug *d* will ride over the shoulder on the sear, and when the breech-block returns to position and is driving in the next cartridge, the lug will catch on the shoulder of the sear and hold back the firing-pin in the manner shown in Fig. 2.

To fire the pistol, it is obviously only necessary that the sear be given a backward motion to lower its shoulder out of the path of the lug on the firing-pin, but in order to cause the pistol to fire only one shot at a time instead of emptying the entire magazine, it is necessary that means be provided whereby the sear will return to position to catch the lug as early as the next succeeding backward movement of the breech-block. These results are accomplished by the peculiar trigger arrangement which forms the subject matter of this invention, the remainder of the operation as heretofore set forth being that of the Clement pistol and other automatic weapons of a similar type.

F indicates the trigger of the improved weapon. This trigger is mounted to slide longitudinally in the frame of the weapon in the manner illustrated in Fig. 3, and the finger portion of the trigger is mounted in front of the magazine in a convenient position to be reached by the user. The trigger is provided with an integral rearwardly extending arm F¹ which is elastic, and capable at its rear end of a considerable vertical oscillation, the elasticity being given in the preferred form of construction by tempering the extension or arm on the trigger and thinning it out at its center. The sear E is provided with a laterally extending lug E¹ having a shoulder *e*¹ in position to be engaged by the tip of the arm F¹ on the trigger F. Backward movement of the trigger will consequently bring pressure to bear against the lug E¹ on the sear E and cause a rocking of the sear about its pivot with the consequent release of the firing-pin. It is to be observed that the arm-like extension on the trigger is made thin and is laterally offset

with respect to the trigger so that it will pass to one side of the magazine contained in the handle without unduly interfering with the mechanism of the weapon. It has been found exceedingly desirable in automatic weapons to place the firing mechanism behind the magazine and the trigger in front of the magazine and the arrangement of providing the trigger with an arm extending beside the magazine is unusually simple and efficient producing the desired result without unnecessary complications or size.

In order to permit the quick return of the sear after a backward movement so as to certainly catch the firing-pin on the next succeeding oscillation of the breech-block, the arm F^1 of the trigger is provided with a cam-surface f which is adapted to engage the cam G in the frame of the weapon, toward one end of the channel therein, which receives the arm of the trigger. By this means as the trigger is moved backward, its end moves back in a straight line until the two cam-surfaces contact, whereupon the rear end of the arm is bent upward by the working action of the cam-surfaces upon each other, so that it rides off the shoulder e^1 of the lug E^1 on the sear, quickly releasing the sear and permitting it to return to the proper position to catch the firing-pin on its next oscillation. The operation is read from the position shown in solid lines in Fig. 2, where the weapon is shown just ready to be fired to the position shown in solid lines in Fig. 3, where the sear is shown swung backward just to the point where it is about to release the firing-pin. A very slight further movement will cause the release of the firing-pin and the release of the pressure of the firing-pin from the finger of the operator will cause the pressure of the finger to carry the trigger through its full backward movement, so that it will finally reach the position shown in dotted lines in Fig. 3, with its rear end pushed up when the sear is returned to position. This movement occurs very quickly and the sear is necessarily at all times ready to catch the firing-pin at the instant of its next oscillation.

It is to be observed that this construction greatly simplifies the weapon in that the number of movable parts necessarily employed in its construction is reduced. It is possible to reduce the mechanism so that there are only the trigger, the sear and the

firing-pin in the entire firing-mechanism of the weapon and these parts can be simply and substantially made and readily assembled. The principle of utilizing in an automatic weapon a trigger with a flexible extension engaging directly with the sear and bent at its end to produce the desired operation is capable of great variation and can be embodied in weapons of various sorts provided with various kinds of firing-mechanism. Therefore by setting forth in particular detail the form in which the invention happens to have been embodied as a matter of practice, it is not the intention to limit it to such form except as hereinafter pointed out.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic weapon of the type having its magazine in the handle, a sear located behind the magazine, a trigger located in front of the magazine and a flexible extension on the trigger engaging the sear, and means for flexing the extension of the trigger to release the sear prior to the completion of the next succeeding cocking movement.

2. The combination in an automatic pistol of the type in which the magazine is contained in the handle, of a sear located behind the magazine and a trigger located in front of the magazine and provided with an elastic rearward extension to one side of the magazine, the said extension being adapted to engage a portion of the sear to operate the same, and means for flexing the extension to disengage the same from the sear to permit the return of the sear independent of the trigger.

3. In an automatic pistol of the type in which the magazine is located in the handle, with the sear behind the magazine and the trigger in front of the magazine, of an elastic extension on the trigger running to one side of the magazine to a position to cooperate with the sear and mutually engaging cam-surfaces on the frame of the weapon and the extension for flexing the extension to disengage the sear from the extension to permit the return of the sear independent of the extension.

RUSSELL WILES.

In presence of—

RALPH SCHAEFER,
JOHN WILSON.