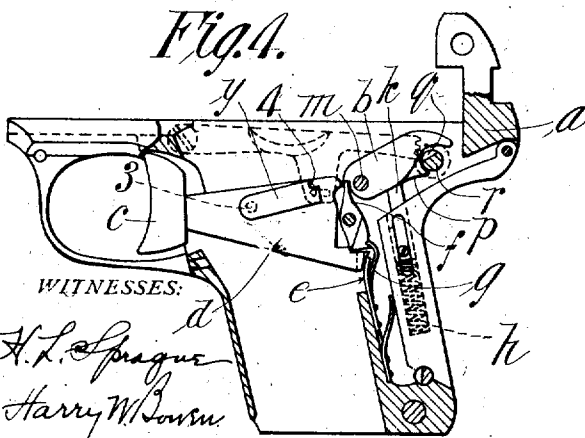
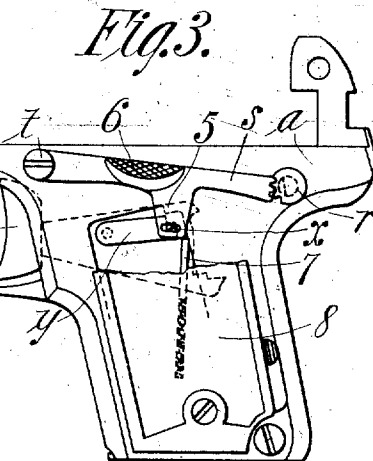
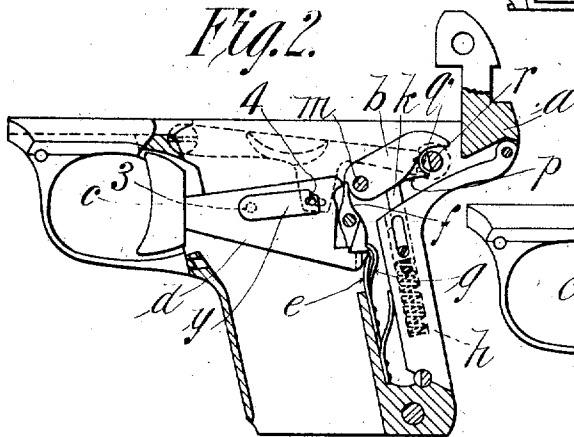
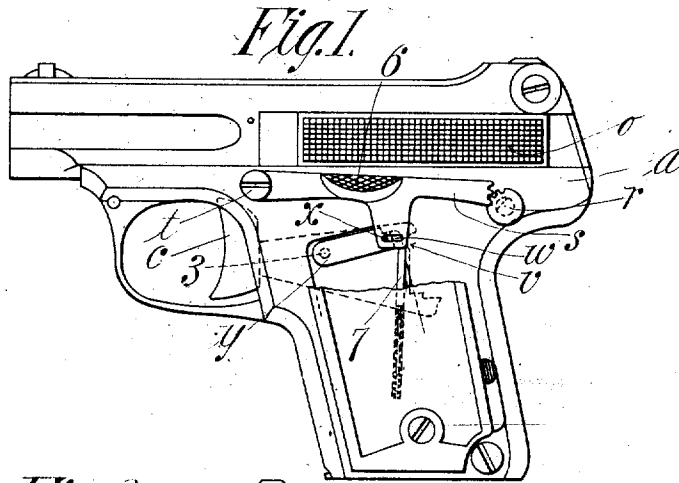


J. H. WESSON.
SAFETY STOP FOR AUTOMATIC PISTOLS.
APPLICATION FILED JUNE 18, 1909.

978,092.

Patented Dec. 6, 1910.



UNITED STATES PATENT OFFICE.

JOSEPH H. WESSON, OF SPRINGFIELD, MASSACHUSETTS.

SAFETY-STOP FOR AUTOMATIC PISTOLS.

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Specification of Letters Patent.

Patented Dec. 6, 1910.

Application filed June 18, 1909. Serial No. 503,032.

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 Hampden and State of Massachusetts, have invented new and useful Improvements in Safety-Stops for Automatic Pistols, of which the following is a specification:

This invention relates to firearms and has special reference to the construction of a safety device for automatic pistols, the object of the invention being, broadly, to provide a safety device which requires an act of volition, at the moment of firing, on the part of the person using the arm, to set the safety device in operative position to allow the hammer to fall on the firing-pin, and it must be borne in mind that this particular characteristic distinguishes this safety device from those which are merely capable of being set by the operator prior to firing the arm, or from those which are automatically set by the act of grasping the butt of the pistol.

The invention is shown in the accompanying drawings as applied to a well known type of automatic pistol though its use is not confined to that type or even to any automatic pistol, since any one skilled in the art might apply it to self-cocking or other revolvers, if desired.

In the drawings forming part of this application,—Figure 1 of the drawings shows an automatic pistol having the invention applied thereto, a part of the cheek-piece of the grip being broken away to more clearly show the various parts of the safety device,—the extension of the trigger within the frame being shown in dotted lines.

Fig. 2 is a view similar to Fig. 1 showing the breech-block and barrel removed, the frame being shown partly in vertical section; the hammer being shown at full cock with the safety device set in position for firing. Fig. 3 is similar to the view shown in Fig. 1 except that the frame is shown in side elevation and the position of the safety lever or pawl is shown whereby the safety devices shown in Fig. 2 are actuated to bring them to a position which will permit the firing of the arm. Fig. 4 is a view similar to Fig. 2 showing the hammer at full cock, but showing the safety device in such position as to lock both the hammer and the trigger, the position of the actuating arm for these safety devices being shown

in dotted lines, and in the same position as that shown in Fig. 1 in full lines.

Referring now to these drawings, *a* indicates the frame of the arm, *b* the hammer, *c* the trigger having a flat, rearwardly extending portion *d*, the trigger having a sliding movement back and forth against the tension of the trigger-spring *e* instead of a pivotal movement.

f indicates the sear, *g* the sear-spring; *h* the main spring, and interposed between this and the hammer is a plunger *k* through the medium of which the energy of the main spring *h* is imparted to the hammer.

The hammer *b* is pivoted at *m* in the frame, and in common with other arms of this type is retracted to the full cocked position shown in Fig. 2 by the rearward movement of the sliding breech-block *o*, Fig. 1, which movement is imparted at the moment of explosion of a cartridge, as is well known. Further detailed description of the automatic action of the pistol is unnecessary as it forms no part of the invention.

The hammer *b* is provided with a spur *p* which, when the hammer is thrown back to full cock, swings through a slot *q* milled transversely of the rotatable safety stud *r*. This stud *r* and the hammer with the spur thereon, has been shown and described in prior patents as a means for locking the hammer in full cocked position, the stud *r* having been provided with a short arm on the outside of the frame whereby it could be rotated, either to the position shown in Fig. 2 to permit the arm to be fired, or to the position shown in Fig. 4 which is a position of safety, the transverse groove in the stud having been rotated out of a position of registration with the spur *p* on the hammer. Such a construction, however, permits the setting of the pistol as a separate act prior to, and distinct from, the act of firing, and whereby the pistol may be rendered either operative or inoperative until such time as by another separate act, and separate from the act of firing, the adjustment of the safety devices may be again changed; but the present invention involves a construction which requires at the moment of firing, or just prior thereto, a separate and distinct act on the part of the operator, whereby the parts must be held in a certain position which will make it possible to fire the arm, which parts, when released, return automatically to a position

which renders the firing mechanism of the arm inoperative. In the present invention, the stud *r* is provided with a head on the outside of the frame, as shown in Figs. 1 and 3, which head is provided with a number of gear-teeth, with which similar teeth on the end of a thumb-lever *s* mesh. This lever *s* is pivotally supported on the frame, as at *t*, and it is provided with a downward extension *v* having a slot *w* therein parallel with the thumb-lever through which a pin *x* extends which is secured in the end of a latch-lever or pawl *y*, pivotally supported at 3 on the trigger extension *z*. The latch-lever or pawl *y*, as shown in Figs. 2, 3, and 4 particularly, has a shoulder 4 thereon which engages with a like shoulder 5 on the frame. The normal position of the lever *s* is that shown in Fig. 1, and in that position, the safety-stud *r* is so positioned rotatively, as to bring the spur *p* on the hammer out of registration with the groove *q* on the stud, thus absolutely locking the hammer in safety position, and by means of the pin *x*, in the latch-lever or pawl *y*, the shoulder 4 on the latter is raised into engaging position with the shoulder 5 on the frame. The thumb-lever *s*, therefore, operates the safety device for the hammer and for the trigger simultaneously, and the depression of this lever will effect the release of both the hammer and the trigger simultaneously. To provide for the easy manipulation of the thumb-lever *s*, a broad knurled bearing for the thumb is provided on the outside of said lever, as indicated by 6. To always maintain the lever *s* in its normal position of safety that is, the position shown in Fig. 1, a spring plunger 7 (which is carried in the cheek-piece 8 of the butt in this instance) bears against the lower end of the projection *v* on the thumb-lever *s*, normally pressing the latter upward. Any other form of spring against which the lever *s* may be actuated would serve as well as the spring plunger 7.

If it is desired to rely solely on the rotatable stud *r* as a safety device for the pistol, the latch-lever *y* may be omitted, or, if desired, the latch-lever or pawl *y* might be used to block the trigger, and the rotatable stud *r* omitted: or either of these locking devices might be changed, but whatever their form they must be capable of actuation by the person using the arm by an act of the will separate and distinct from any act which is merely incidental to, or consequent upon, the act of grasping the arm, and one which must be performed while the arm is being held in readiness for firing.

In using a pistol or other firearm equipped with a safety device of the character herein described, when the pistol is grasped and presented in the act of firing, the one using it must, by the use of the thumb against the

projection 6, depress the lever *s* and thus rotate the stud *r* to release the hammer, and simultaneously spring down the latch lever or pawl *y* to release the trigger before the arm can be discharged, and as soon as the pressure of the thumb is removed from the lever *s*, the spring 7 will immediately rotate the stud *r* to block the hammer and simultaneously spring up the latch-lever or pawl *y* into engagement with the notch 5 on the frame. The mechanism of the arm is thus locked against accidental manipulation at two different points, and if, for example, the spur *p* should be broken off of the hammer, it would in no wise derange the efficient locking of the trigger by means of the latch-lever or pawl *y*: and, on the other hand, if for any reason this last named lever should become inoperative, then, although the trigger might be pulled, and the sear disengaged from the hammer, the latter could not be released until the stud *r* had been rotated. Furthermore, it will be observed that this safety device can not be so actuated as to set permanently the hammer and the trigger-locking elements in a position to permit the arm to be fired, but these two elements must be held in inoperative position at the moment the trigger is actuated to discharge the arm.

Wherever the word "finger" is used herein it is intended to designate either the thumb or finger.

What I claim, is:—

1. In a firing mechanism for fire arms, the combination with the trigger, the hammer, and the sear, of a safety device comprising separate locking means for the trigger and for the hammer, and operating means including a lever controlled independently of the trigger, for simultaneously freeing the separate locking means to permit the operation of the trigger.

2. In a firing mechanism for fire arms, the combination with the trigger, the hammer, and the sear, of means for locking the hammer comprising a rotatable stud, means for locking the trigger against operative movement, and a lever adapted to actuate the said locking means simultaneously to release both the hammer and the trigger.

3. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear, and the hammer, of an element carried by said trigger for locking engagement with said frame, an element mounted to normally obstruct the movement of said hammer, and a manually movable device in operative engagement with both of said elements to unlock said trigger and said hammer for firing.

4. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear and the hammer, of a manually operated device pivoted to the side of said frame,

a stud carried by said frame to obstruct said hammer and having an operative engagement with said pivoted device whereby to release said hammer, a pawl carried by said trigger to normally lock the latter on said frame and operatively connected to said pivoted device to release said trigger at the instant that said hammer is unlocked.

5. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear, and the hammer, of a manually operated device pivoted to the side of said frame, a pawl pivoted to said trigger, and formed to be locked against said frame, a pin and slot connection between said pivoted device and said pawl, a stud carried by said frame for rotary movement, a spur carried by said hammer to be locked behind said stud, a rack and pinion connection between said pivoted device and said stud, and means to normally maintain said pivoted device upraised to hold said trigger and said hammer in locked position.

6. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear and the hammer, of a manually operated device pivoted to the side of said frame, a pawl pivotally carried by said trigger and

formed to be locked against said frame, a downward extension formed on said pivoted device, a pin and slot connection operatively joining said extension and said pawl, and spring actuated means bearing against said extension to normally hold said pivoted device upraised, whereby said pawl is held in engagement with said frame.

7. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear and the hammer, of a manually operated device pivoted to the side of the said frame, a stud mounted transversely through said frame for rotary movement in the path of said hammer, means provided on said stud to permit the movement of said hammer in said path, a toothed element carried by said stud, teeth formed on the rear end of said pivoted device in engagement with said toothed element, and spring actuated means bearing on said pivoted device to cause the latter to normally obstruct the path of said hammer.

JOSEPH H. WESSON.

Witnesses:

K. I. CLEMONS,

HARRY W. BOWEN.