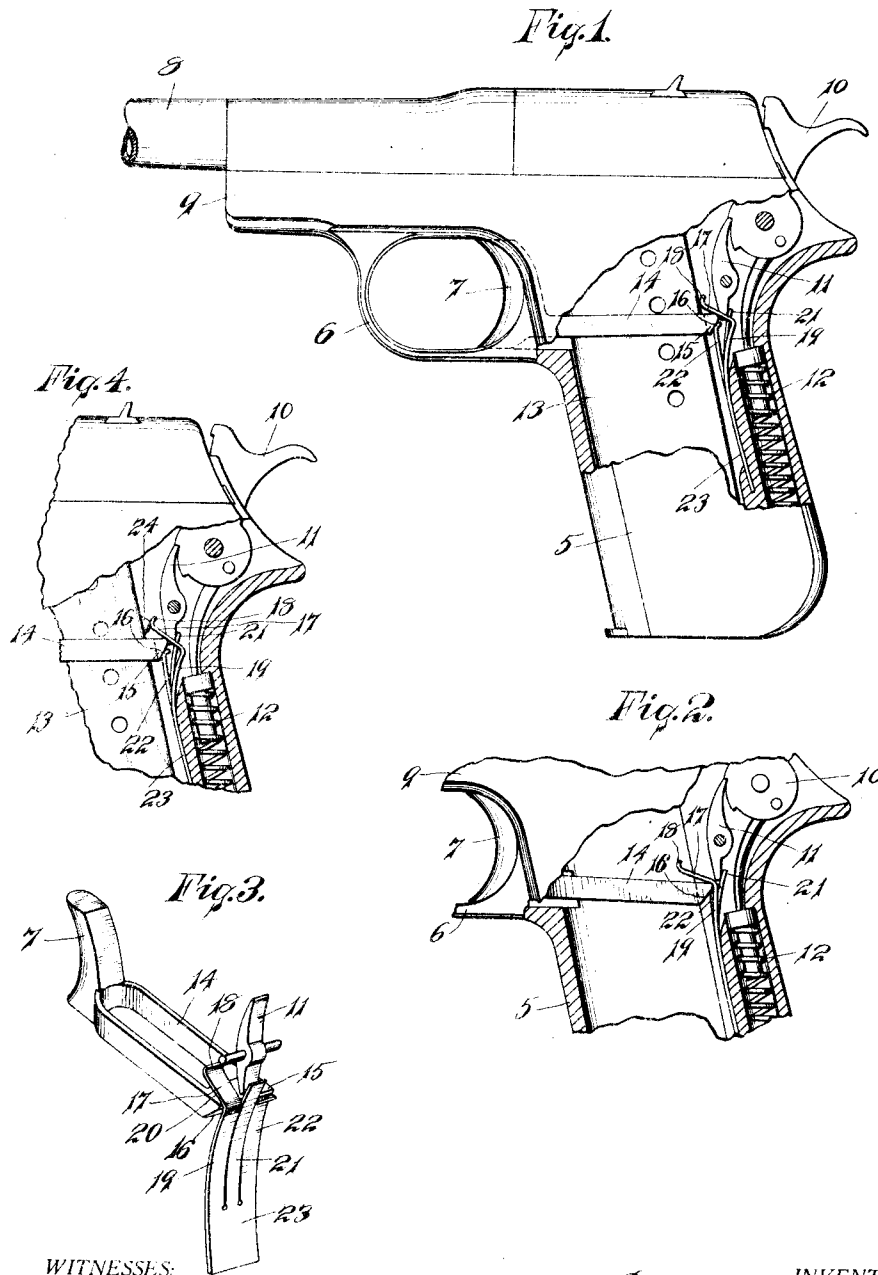


E. G. REISING.
 TRIGGER MECHANISM FOR AUTOMATIC FIREARMS.
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Patented May 16, 1916.



WITNESSES:
Louis Lucin.
E. J. Eaton.

INVENTOR.
Eugene G. Reising
 BY
Arthur B. Jenkins.
 ATTORNEY.

UNITED STATES PATENT OFFICE.

EUGENE G. REISING, OF HARTFORD, CONNECTICUT.

TRIGGER MECHANISM FOR AUTOMATIC FIREARMS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EUGENE G. REISING, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented a new and Improved Trigger Mechanism for Automatic Firearms, of which the following is a specification.

My invention relates to the class of devices above named, and an object of my invention, among others, is to prevent unintentional discharge of the firearm.

One form of device embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a portion of a firearm embodying my invention, with parts broken away to show construction, the trigger being shown in its operative position. Fig. 2 is a fragmentary view in section through the handle of said firearm, the trigger being shown in its inoperative position. Fig. 3 is a detail perspective view showing the relative inoperative positions of the trigger and sear and of the trigger, sear and detent springs. Fig. 4 is a fragmentary view of a firearm embodying the invention in a slightly different form.

In the accompanying drawings the numeral 5 indicates the handle of a firearm embodying my invention, 6 the trigger guard, 7 the trigger, 8 the barrel, 9 the receiver, 10 the hammer, 11 the sear, 12 the main spring and 13 the magazine, all of which, except in combination with other parts to be hereinafter described, may be of ordinary and well known construction. The trigger is provided with a loop 14 extending backwardly and shaped to permit the magazine 13 to be inserted through it, the rear end of the loop constituting a cross bar 15 having a beveled under surface 16. When the loop 14 and the cross bar 15 thereon are in their normal position, the latter, as the trigger 7 is moved back, will be pressed against the sear 11, and upon the application of sufficient force will disengage the sear from the hammer 10.

In automatic firearms of common construction the magazine is ejected from the handle immediately upon the last cartridge being removed therefrom, which cartridge, however, is present in the barrel in condition for discharge. It is, however, quite

impossible at times to determine whether or not such cartridge may have been discharged, and it is to avoid accident from this cause that I have made the invention forming the subject matter of this application, which improvement will prevent any backward movement of the trigger from operating to disengage the sear from the hammer, and this is accomplished by mechanism as follows: A detent 17 is positioned above the cross bar 15, this detent being inclined at an angle to the direction of movement of the trigger loop 14, and said detent is of such length that its end 18 will be located in the path of movement of the magazine 13 when it is inserted in the handle. This end 18 is preferably curved so that it will permit the magazine to pass it, the latter, however, moving the detent backward to the position shown in Fig. 1. The detent is normally pressed forward, or toward the magazine, in the form of construction herein shown it constituting an integral part of a spring 19. When this detent is in the position shown in Figs. 2 and 3, if the trigger be moved backwardly the bar 15 will be cammed downwardly so that it cannot touch the sear 11 but will pass underneath it, and it will be noted, by referring to Fig. 1, that when the magazine is in place and the detent is in its backward position the bar 15 may engage the sear to disengage it from the hammer. As the magazine is removed and the detent is forced forward its inclined under or cam surface 20 will move the cross bar 15 downwardly into its inoperative position above described.

In the preferred form of construction the detent spring 19, a sear spring 21 and a trigger spring 22 are all formed integral with each other, being in the shape of fingers projecting from a base plate 23. The trigger spring 22 presses with its end against the beveled surface 16 of the bar 15 thus operating to force the bar 15 upwardly into position to touch the sear whenever this movement is permitted by the detent 17.

While I have shown and described herein a satisfactory arrangement of parts for carrying out my purpose, these may be departed from to a greater or lesser degree and yet be within the spirit and intent of the invention.

In order that the trigger bar may be placed in its inoperative position whenever the magazine is not fully in place I provide

a projection 24 on the back edge of the magazine, and as shown in Fig. 4 of the drawings, against which the end 18 of the detent rests when the magazine is fully in place. Immediately upon the magazine being moved from this position the detent will travel forward and place the trigger bar in inoperative position while the magazine is yet contained within the handle.

I claim:

1. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar operatively connected with the trigger, a detent having a cam surface to engage the cross bar and determine its position, and means for forcing the detent into the path of movement of the magazine into the handle.

2. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar having a beveled surface, means to engage said surface to force the bar in one direction, a detent to engage said bar and having an inclined surface to force said bar in the opposite direction, and means for moving the detent into the magazine chamber to inoperatively position said cross bar as the magazine is removed from said chamber.

3. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar having a beveled under surface, means to engage said under surface to force the cross bar upwardly, a detent overlying the cross bar and having an inclined surface to force said bar downwardly, and means for moving the detent into the magazine chamber to inoperatively position said cross bar as the magazine is removed from said chamber.

4. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar operatively connected with the trigger, and means upon the magazine to control the position of the cross bar

immediately upon movement of the magazine from its normal position.

5. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar operatively connected with the trigger, means operative by movement of the magazine within its chamber to control the position of said cross bar, and a projection upon the magazine to engage said operative means and control its position upon movement of the magazine from its normal position.

6. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar operatively connected with the trigger, a spring including a base having two arms projecting upwardly, one of which engages said cross bar to force it toward the sear, and the other constituting a detent overlying the cross bar and having an inclined surface to force said bar downwardly, and means for locating the detent in the path of inward movement of the magazine into its chamber.

7. A firearm including a handle having a magazine chamber, a hammer and a sear, a trigger, a cross bar operatively connected with the trigger, a base plate, a spring finger integral with and projecting from the base plate to engage the cross bar to force it toward the sear, another spring finger integral with said plate and projecting upwardly therefrom to engage the sear to operate it, and a third spring finger integral with and projecting upwardly from said plate and having an inclined surface to engage the upper side of the cross bar to force it downward, said finger being normally located in the path of movement of the magazine when inserted in its chamber.

EUGENE G. REISING.

Witnesses:

ARTHUR B. JENKINS,
E. F. EATON.