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HAMMER SAFETY FOR FIREARMS

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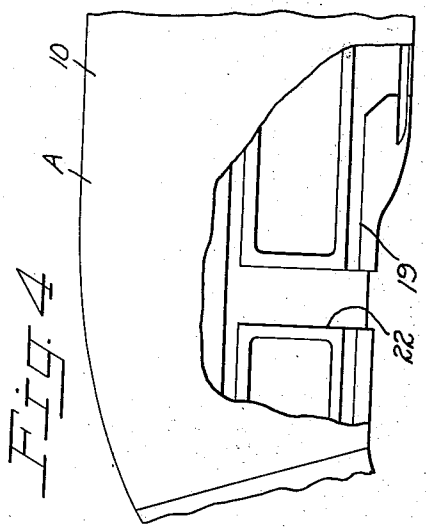


Fig. 4

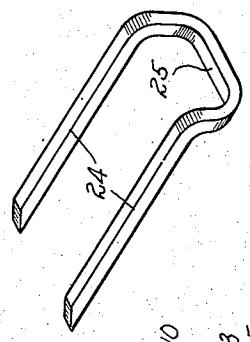


Fig. 5

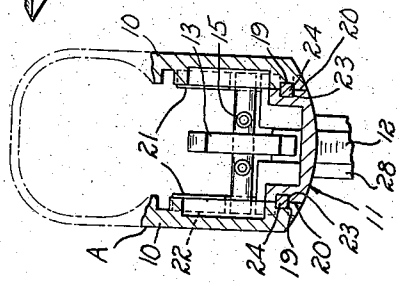


Fig. 3

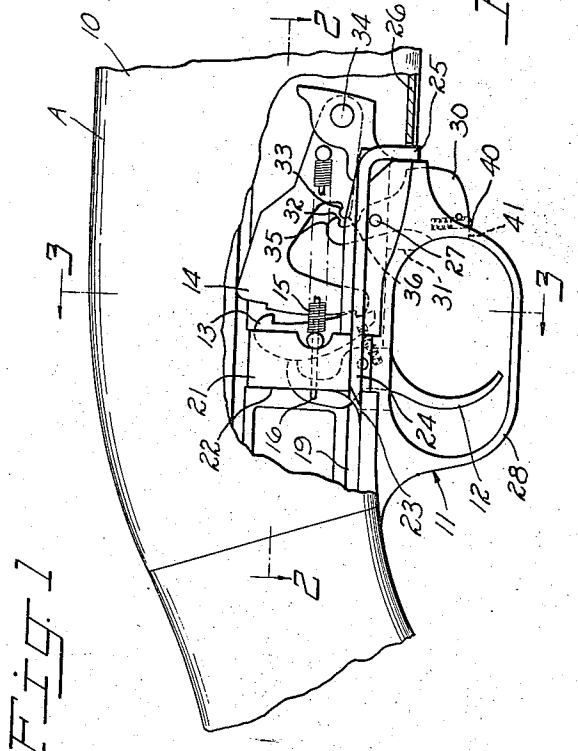


Fig. 1

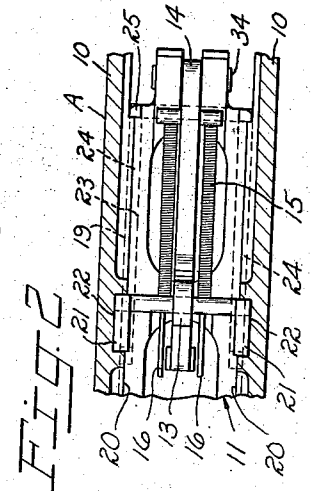


Fig. 2

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HAMMER SAFETY FOR FIREARMS

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4 Claims. (Cl. 42—70)

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This invention relates to firearms and, more particularly, to a firearm in which the receiver and the firing mechanism are separable units.

An aim of the invention is to provide a firearm in which the receiver and the trigger mechanism are separate units and may be simply assembled and disassembled.

A further aim of the invention is to provide an improved arrangement of a simple, economical character for securing the trigger plate to the receiver.

A still further object of the invention is to provide means for securing the trigger plate to the receiver of such character that the securing means is concealed within the receiver so that the securing means does not in any way mar the appearance of the receiver; openings, pins, or the like observable from the sides of the receiver being entirely eliminated.

A further object of the invention is to provide an improved safety which cooperates directly with the hammer to positively hold the same in cocked position, whereby, in the event that the sear is jarred for any reason from the hammer, the gun will not be accidentally discharged. Further, the construction of the safety and hammer is such that, in the event the safety is put into "on" position while the hammer is in uncocked position, and the gun is manually operated to cock the hammer, the hammer will automatically throw the safety into "off" position and injury to the hammer or safety is prevented.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

The following description will be readily understood by reference to the accompanying drawings in which similar reference numerals refer to similar parts, and in which

Figure 1 is a side elevational view of a portion of the receiver and a portion of the stock of the firearm, the receiver being broken away in order to more clearly show the trigger plate, the firing mechanism, and the means for securing the trigger plate to the receiver;

Fig. 2 is a longitudinal horizontal sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a vertical transverse sectional view through the receiver, the same being taken substantially on line 3—3 of Fig. 1;

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Fig. 4 is a detail view looking at that portion of the inside face of one of the side walls of the receiver which is provided with the grooves for receiving certain ribs on the trigger plate and the arms of the retaining means; and

Fig. 5 is a perspective view of the retainer for securing the trigger plate in place.

Referring to the drawings, A denotes generally the receiver of the firearm, only so much of which is shown as is necessary to illustrate my invention, the particular construction of the receiver being immaterial. The receiver is provided with side walls 10 and, positioned therebetween is a trigger plate 11 which carries the firing mechanism which is here shown as comprising a trigger 12, a sear 13, a hammer 14, and a pair of main springs 15 positioned about guide rods 16. In the present illustrative disclosure, this firing mechanism is substantially the same as that shown in my co-pending application Serial No. 560,743 filed October 28, 1944, now Pat. No. 2,474,180, dated June 21, 1949, and entitled "Firing Mechanism."

In accordance with the present invention, the trigger plate has parallel lateral side faces 20 and the width of the trigger plate is such that it closely fits between the side walls 10 of the receiver at the lower rear portion thereof. Projecting laterally from the side faces of the trigger plate are vertical lugs or ribs 21 adapted to fit into vertical grooves 22 in the side walls of the receiver and which grooves are open at their lower ends. The side faces of the trigger plate are also provided with longitudinally extending grooves 23, and these grooves are complementary to, and are adapted to register with, longitudinally extending grooves 19 in the inner faces of the side walls of the receiver adjacent the lower rear edges thereof. The grooves 19 and 23 may be of any suitable cross section, they here being shown for illustrative purposes as being rectangular.

In order to secure the trigger plate in position within the receiver, retaining means is provided and the same comprises a pair of pins 24 adapted to engage within the registered complementary grooves 19 and 23, as most clearly shown in Fig. 3. If desired, these pins may be separate pieces but, in the present instance, they are shown as being connected together by a cross portion 25 in order to facilitate assembly.

In assembling the trigger plate on the receiver, the trigger plate is positioned beneath the receiver so that the vertical ribs 21 register with the vertical grooves 22 in the side walls of the

receiver. The trigger plate is then moved upwardly between the side walls of the receiver, thereby engaging the ribs 21 in the grooves 22 and bringing the grooves 19 and 23 into registry with one another. The retaining pins 24 are then inserted in the registered grooves and, in the present illustrative disclosure, this may be done by inserting the free ends of the pins into the forward ends of the registered grooves and then moving the retainer rearwardly until the cross piece engages the front end of the trigger plate. Accidental withdrawal or displacement of the retaining pins may be prevented by any suitable means, in the present instance the retainer being shown as held in place by a closure plate 26. This plate is adapted to close the opening in the receiver between the trigger plate and the forearm, the later not being shown.

Referring now to the safety and its relation to the hammer, the safety is pivoted by means of a pin 27 to the trigger plate adjacent the forward end of the trigger guard 28. The safety has a finger piece 30 which is accommodated by a slot 31 in the forward end of the trigger plate and guard. The upper end of the safety is provided with a forwardly extending hook 32 which cooperates with a complementary rearwardly extending hook 33 provided on the hammer rearwardly of the pivot 34 of the hammer. The hook 32 is rounded above its holding shoulder, as at 35, and the hook 33 is rounded, as at 36 adjacent its holding shoulder, and these curved portions constitute camming surfaces which cause the safety lock to be cammed from "on" to "off" position in the event that the hammer is moved to cocked position before the safety is moved to "off" position. The finger piece 30 of the safety is provided with a spring pressed plunger 40 which cooperates with the edge 41 on the trigger guard so as to releasably maintain the safety in either "off" or "on" position against accidental operation.

The operation of the safety will be readily understood from the foregoing description. It is here sufficient to say that, with the part shown in the position disclosed in Fig. 1, when it is desired to put the safety "on," it is merely necessary to draw the finger piece back thereby engaging the hook 32 over the hook 33 and, when it is desired to manually disengage the safety, the same is moved to "off" position by merely pushing with the finger within the guard on the rear part of the finger piece. As previously indicated, in the event that the hammer is uncocked and the safety is in "on" position and the hammer is moved to cocked position as, for instance, when the breech block is moved back by the usual operating handle, the cam surface 36 engages the cam surface 35 of the safety so that the safety is automatically moved to "off" position without the likelihood of injuring any of the parts. When the hammer is cocked, and the safety is "on," the hammer is positively held in its cocked position and cannot be jarred loose in case the firearm is jarred.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim as my invention:

1. In a firing mechanism, a trigger plate, a hammer pivoted thereon for swinging movement into and out of cocked position and having a rearwardly facing hook, a trigger associated with said hammer and pivotally supported rearwardly of said pivot for said hammer, and a safety member pivotally mounted on said plate rearwardly of the pivot for said hammer and forwardly of said pivot for said trigger for movement between an "on" and "off" position and having a forwardly extending hook adapted to cooperate with said first-mentioned hook to hold said hammer in cocked position when the safety member is "on."

2. In a firing mechanism, a trigger plate, a hammer pivoted thereon for swinging movement into and out of cocked position, a trigger associated with said hammer and pivoted relatively to said trigger plate, and a safety member mounted for movement on said plate between "on" and "off" positions and directly engageable with said hammer to hold the same in cocked position after the hammer is moved to cocked position and the safety member is moved to "on" position, said safety member having a depending finger piece forwardly of said trigger and movable forwardly to move said safety member to said "off" position thereof.

3. In a firing mechanism, a trigger plate, a hammer pivoted thereon for swinging movement into and out of cocked position and having a rearwardly facing hook, a trigger associated with said hammer and pivotally supported relative to said trigger plate rearwardly of said pivot for said hammer, a trigger guard on said trigger plate and slotted in its forward portion, and a safety member pivotally mounted on said plate rearwardly of the pivot for said hammer for movement between an "on" and "off" position and having a forwardly extending hook adapted to cooperate with said first-mentioned hook to hold said hammer in cocked position when the safety member is "on," said safety member having a finger piece extending into said slot of said trigger guard and engageable from the exterior of said guard to move said safety member to said "on" position thereof or from the interior of said guard to move said safety member to said "off" position thereof.

4. In a firing mechanism, a trigger plate, a hammer pivoted thereon for swinging movement into and out of cocked position and having a hook, a trigger associated with said hammer and supported relative to said trigger plate rearwardly of said pivot of said hammer, a trigger guard on said trigger plate and slotted in its forward portion, a safety member pivotally mounted on said plate rearwardly of the pivot for said hammer for movement between an "on" and an "off" position and having a hook adapted to cooperate with said first mentioned hook to hold said hammer in cocked position when the safety member is in the "on" position thereof, said safety member having a finger piece extending into said slot of said trigger guard and engageable from the exterior of said guard to move said safety member to said "on" position thereof or from the interior of said guard to move said

safety member to said "off" position thereof, and interengaging means on said finger piece and trigger guard operable releasably to hold said finger piece in either position thereof.

VAL A. BROWNING.

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