Feb. 16, 1954 E. J. QUICK 2,669,050

SAFETY DEVICE FOR GUNS

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Fig. 1

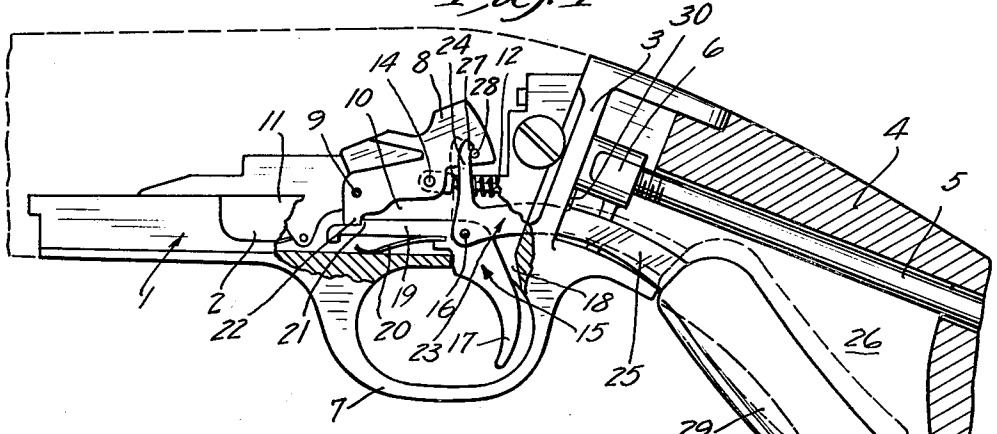


Fig. 2

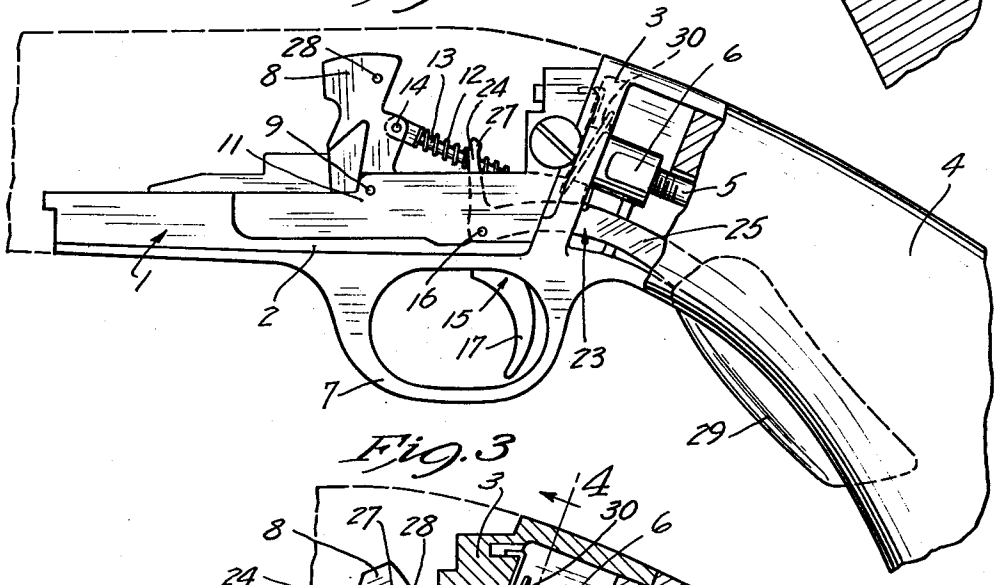


Fig. 3

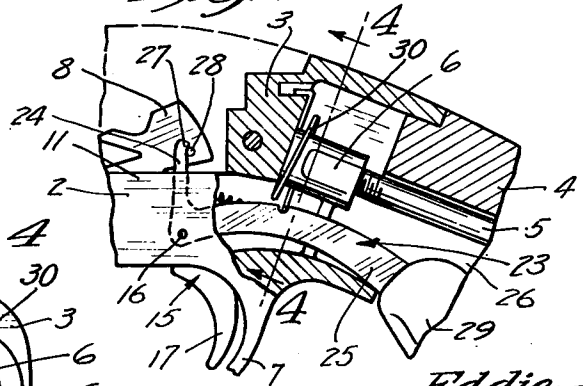
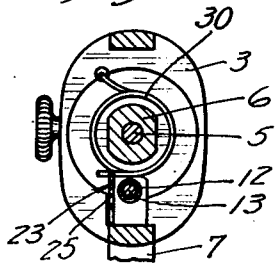


Fig. 4



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SAFETY DEVICE FOR GUNS

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1 Claim. (Cl. 42—70)

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My invention relates to safety devices for firing arms.

The primary object of my invention is the provision of a safety which will automatically be rendered inoperative by the "pistol grip" exerted upon the gun by the trigger hand.

A still further and highly important object of my invention is the provision of a safety of the class described, which will safely permit a lighter trigger action whereby to materially decrease "flinching" and increase accuracy.

Another object of my invention is the provision of a device of the class described which is particularly adaptable for use with so-called "hammerless" guns, which is extremely inexpensive to produce, easy to install, and durable in use.

A still further object of my invention is a device of the character above-described, which is absolutely fool-proof and positive in its action.

A still further object of my invention is the provision of a safety device which will not replace but supplement the conventional safety device with which a gun is provided and which will render the gun safe even when the conventional safety has been rendered ineffective.

The above and still further objects and advantages of my invention will become apparent from the following detailed specification, appended claim, and attached drawings.

Referring to the drawings, wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view in side elevation of the firing mechanism of a rifle illustrating my invention;

Fig. 2 is a view corresponding to Fig. 1 but showing a different position of some of the parts;

Fig. 3 is a fragmentary view corresponding to Fig. 1 with some parts further broken away to better illustrate the invention; and

Fig. 4 is a view in section taken substantially on the line 4—4 of Fig. 3.

Referring with greater particularity to the drawings, the numeral 1 indicates, in its entirety, a frame comprising a normally horizontal portion 2 and an upstanding portion 3 adjacent its rear end. A hand-engaging butt or stock 4 is rigidly secured to the upstanding frame portion 3 by virtue of an elongated bolt 5 which has screw-threaded engagement with a rearwardly-projected coupler boss 6 on the frame member 3. A depending trigger guard 7, preferably and as shown, is integrally formed with the frame member 2. A hammer 8 is shown as mounted for limited swinging movements in a vertical plane

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by virtue of a pivot pin 9 which projects through the lower end of the hammer and spaced upwardly-projecting side frame members 10 and 11. The cocked position of the hammer 8 is shown in Figs. 1 and 3, whereas the firing position thereof is illustrated in Fig. 2. Inasmuch as the firing pin, the magazine, and the barrel do not form a part of this invention, they are not shown or described. A coil spring 12, as shown encompassing a guide rod 13 pivoted as at 14 to the hammer 8 and running in a channel not shown in the rear end portion of the frame 1, biases the hammer 8 toward a firing position.

An angular trigger member 15 is shown as mounted for limited pivotal movements on a pivot pin 16 extending therethrough and through said side frame members 10 and 11. The depending finger-engaging portion 17 of the trigger 15 is shown as extending downwardly through an opening 18 in the horizontal frame member 2 into the opening provided by the trigger guard 7. Trigger 15 also includes a generally horizontal portion 19 which underlies the hammer 8. As shown, the free end of the portion 19 of trigger 15 is biased in the direction of the pivot pin 9 by means of a leaf spring 20 interposed therebetween and the frame member 2. Adjacent its forward end, the portion 19 of trigger 15 is notched to provide a shoulder 21 which is adapted to have abutting engagement with a tooth 22 on the lower end of the hammer 8 when said trigger is moved to its cocked position, as shown in Fig. 1. Obviously, rearward movement of the portion 17 of trigger 15, against the bias of spring 20, lowers the forward end of the portion 19 sufficiently to release the tooth 22 from the shoulder 21, thereby normally permitting the hammer 8 to be moved toward its firing position under the bias of spring 12, as shown in Fig. 2.

The elements heretofore described are conventional and form no part of my invention. Furthermore, the firing mechanism above-described is generally provided with safety mechanisms of one type or another. Inasmuch as these conventional safety mechanisms do not play a part in my novel invention, they have not been shown and will not be described.

As above indicated, my novel safety mechanism is adapted to supplement the conventional safety mechanism and includes a bell crank, identified in its entirety by the numeral 23. As shown, bell crank 23 is in side-by-side relation to the trigger 15 and, preferably and as shown, is also mounted for limited pivotal movements on the pivot pin 16.

Bell crank 23 has an upwardly-projecting lever

arm 24 and a rearwardly-projecting lever arm 25 which extends through an opening in the upstanding frame member 3 and into a downwardly-opening slot 26 in the forward end of the butt or stock 4. Adjacent its upper end, the arm 24 of the bell crank 23 is provided with detent means 27 which is adapted to have locking engagement with a laterally-projecting stop lug 28 adjacent the free end of the hammer 8—when the hammer 8 is moved to the cocked position of Fig. 1. Preferably and as shown, lever arm 25 is provided with an enlarged pad 29. As shown, a torsion spring 30 encompassing the boss 6 has one end securely anchored in the frame member 3 and its opposite end bearing upon the intermediate portion of the arm 25, whereby to simultaneously bias the bell crank 23 to a position in which the pad portion 29 projects outwardly and downwardly from the slot 26 and the detent 27 into locking engagement with the stop lug 28 (all as shown by the full lines in Figs. 1 and 3).

When the hammer 8 has been moved to the cocked position of Fig. 1, it is only possible to release same by pressing upwardly upon the pad 29 and arm 25 of the bell crank 23, against the bias of the spring 30, whereby to move the arm 24 of the bell crank 23 sufficiently forwardly on the pivot 16 to allow the stop lug 28 to clear the detent 27. This movement can only be imparted by squeezing action of the non-trigger-engaging fingers of the trigger hand of the operator which normally encompasses the reduced portion of the stock 4 immediately to the rear of the frame member 3. In other words, simultaneously with the squeezing of the trigger finger, the other fingers of the trigger hand of the operator are caused to contract. I have found not only that it is highly desirable to provide a gun with a safety mechanism which may be released simultaneously with the trigger—and by common squeezing movements by the same hand—but also that the squeezing movements essential to the release of the safety cause the operator to more firmly grip the gun stock thereby greatly decreasing his "flinching" and increasing his accuracy.

While I have disclosed a preferred embodiment of my invention, it is obvious that the same is capable of modification without departure from the spirit and scope of the invention, as defined in the appended claim.

What I claim is:

A device of the class described including a frame having a hand-engaging butt, a hammer mounted in said frame for limited pivotal movements from a cocked to a firing position, means biasing said hammer toward said firing position, a trigger, means mounting said trigger for limited pivotal movements, means biasing said trigger in one direction, means associated with said trigger for arresting movements of said hammer when said hammer is moved to a cocked position, movement of said trigger against said bias releasing said hammer for firing movements, a bell crank mounted for independent pivotal movements on the trigger-mounting means and having an upwardly-extending arm and a rearwardly extending arm, a laterally-projecting stop lug adjacent the free end of said hammer, detent means on the upwardly-extending arm of said bell crank, means biasing said bell crank toward the limit of its movement in one direction whereby to cause said detent means to be engaged by the stop lug on said hammer when said hammer is moved to its cocked position, a portion of the rearwardly-extending arm of said bell crank projecting downwardly and outwardly through the bottom of said frame and engageable by the butt-encompassing fingers of the firing hand of the user, movement of said bell crank against bias exerted thereagainst causing disengagement of said detent means with said stop lug whereby to permit firing movement to be imparted to said hammer through said trigger, said frame being provided with a rearwardly-projecting coupler boss which extends into said butt, the biasing means for said bell crank comprising a torsion spring encompassing said boss, and said torsion spring having one end anchored in said frame and its opposite end in engagement with the intermediate portion of the rearwardly-extending arm.

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