

July 6, 1948.

C. E. JACOBS

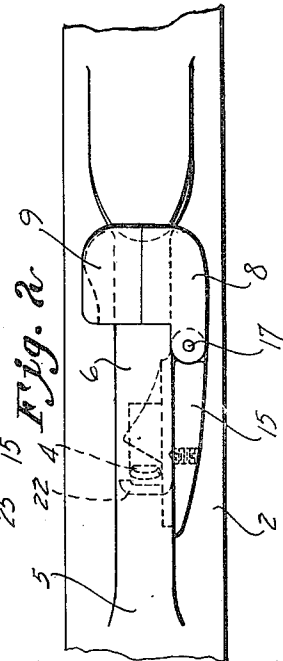
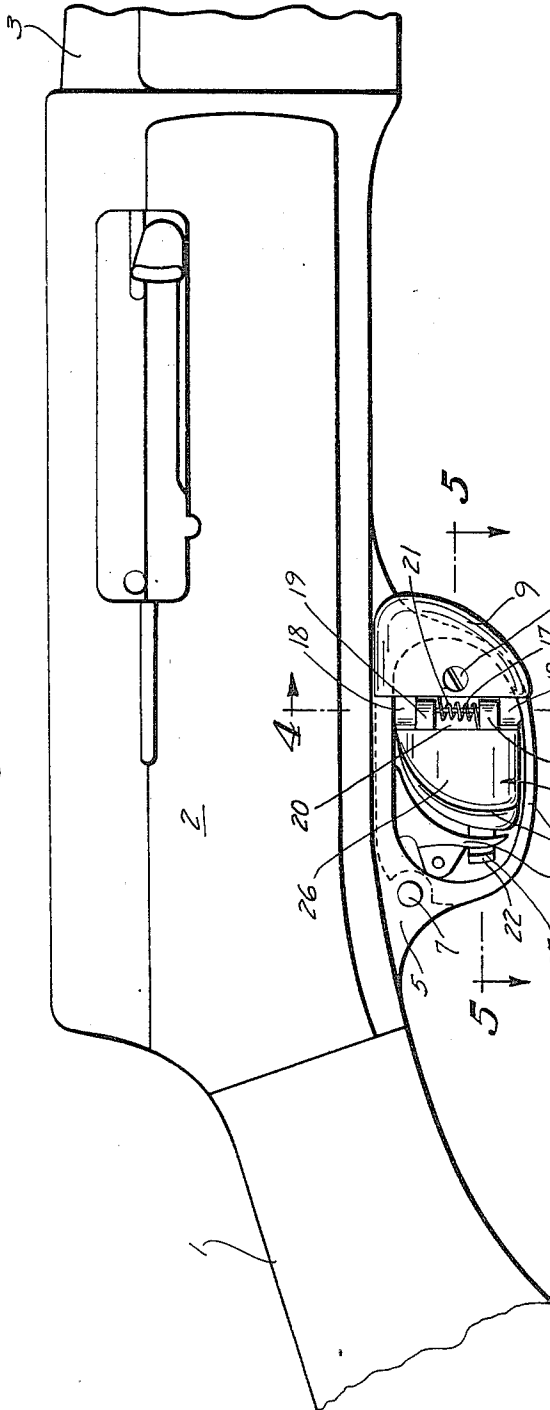
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TRIGGER SAFETY LOCK FOR GUNS

Filed March 20, 1946

2 Sheets-Sheet 1

Fig. 1



Inventor  
Charles E. Jacobs  
By his Attorneys  
Mechant & Mechant

July 6, 1948.

**C. E. JACOBS**

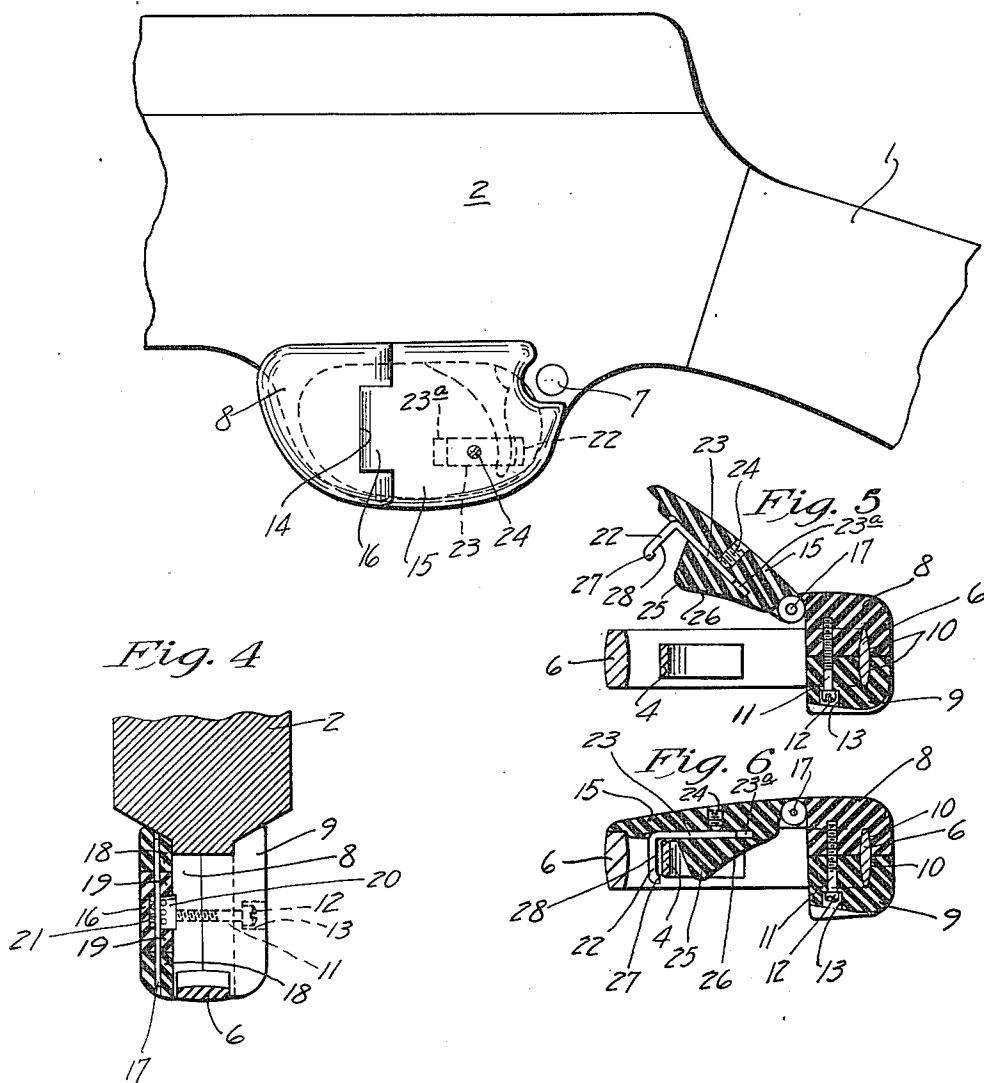
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2 Sheets-Sheet 2

*Fig. 3*



*Inventor*  
*Charles E. Jacobs*  
*By his Attorneys*  
*Mechant & Mearns*

## UNITED STATES PATENT OFFICE

2,444,649

## TRIGGER SAFETY LOCK FOR GUNS

Charles E. Jacobs, Minneapolis, Minn.

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3 Claims. (Cl. 42—70)

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My present invention provides an extremely simple and highly efficient safety lock for trigger-actuated guns; and generally stated consists of the novel devices, combinations of devices and arrangement of parts hereinafter described and defined in the claims.

Some trigger-actuated guns are without safety devices of any kind, but many guns now on the market are provided with so-called safety devices that require manipulation independently of the act of manipulating the trigger. One well-known form of such safety device is in the nature of a laterally movable bolt, which when set for safety, is moved to inactive position to lock the trigger against tripping movement, but which in a releasing position, leaves the trigger free for tripping action to actuate the firing mechanism. In the use of such safety devices, many accidents have been caused by failure of the user of the gun or persons handling the gun to take note as to whether or not the safety device is set in trigger-locking position. If such safety device is not properly set to lock the trigger, then the gun is liable to go off or to be set off accidentally by careless manipulation.

My present invention provides a practical remedy for all the above defects. It positively locks the trigger against tripping movement at all times except when the trigger finger is inserted into firing position, at which time the locking mechanism is laterally displaced to an inoperative position. One of the objects of my invention is to provide means whereby the trigger-locking mechanism may be laterally displaced by the operator's finger being placed into trigger-tripping position, with so little effort that the operator will not be conscious of its presence.

My improved device, if applied to a trigger-actuated gun having no other safety device, will perform the whole safety function; but if applied to a gun having a primary safety device, such as above indicated, will act as a final safety device in addition thereto.

A further object of my invention is the provision of a safety device which is of such character that it may be very easily and quickly applied to standard guns such as are now in general use, regardless of whether or not they have any other safety device.

Another object of my invention is the provision of such a safety device which can be applied to guns without making any holes in the gun for this purpose or even without marring the gun.

What is believed to be the best and most simple embodiment of the invention is illustrated

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in the accompanying drawings, wherein like characters indicate like parts throughout the several views;

Referring to the drawings:

Fig. 1 is a side elevation showing my novel safety device secured to a conventional shot gun;

Fig. 2 is a bottom elevation, some parts being shown in dotted lines;

Fig. 3 is a side elevation taken from the opposite side of Fig. 1;

Fig. 4 is a vertical axial section taken on the line 4—4 of Fig. 1;

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 1 and illustrating the trigger mechanism in tripping position; and

Fig. 6 is a view similar to Fig. 5 but showing the trigger locked against tripping movement.

Of the ordinary or standard parts of the gun illustrated, it is only necessary for the purposes of this case to particularly note: the gun stock or butt 1, the metallic receiver 2, the barrel 3, the trigger 4 and the metallic breech frame 5, which, normally and as shown, is formed integral with the laterally open trigger guard 6. The numeral 7 indicates the old or hitherto employed safety lock bolt mounted in the trigger guard 6 for transverse movements, and which, in one position, stands in the path of movement of the trigger 4 and locks the same against tripping and firing movements, and in the other position releases the trigger for firing action.

Preferably, and as shown, my novel safety device is secured to the gun by means of an anchoring block 8 and a matching clamping block 9, each of which is provided with opposing recesses 10 designed to snugly receive approximately one-half of the forward portion of the trigger guard 6. A threaded bolt 11 having an enlarged head 12 which is countersunk at 13 into the side surface of the clamping block 9, extends there-through and has screw threaded engagement with anchoring block 8. It will be observed that in this manner the anchoring block 8 and clamping block 9 are securely anchored to the front end of the trigger guard 6 without the necessity of drilling any holes or the like in the gun itself.

As shown particularly by reference to Fig. 3, the anchoring block 8 is provided at its rear edge with a recess 14. A gate-like latch plate 15 is provided with a forwardly extending portion 16 which fits into the recess 14 and is pivoted to anchoring block 8 on a vertical axis by means of a pivot pin 17. As shown particularly in Figs. 1 and 4, pivot pin 17 extends through spaced bosses 18 on the inner edge of anchoring block 8 and

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cooperating spaced bosses 19 on the forwardly projecting portion 16 of the latch plate 15. Carried by pin 17 in the space 20, between the bosses 19, is a coil torsion spring 21 which has its opposite ends abutting, one against the anchoring block 8 and one against the latch plate 15 and tending to bias the latter in a closed position against the trigger guard 6.

Shown as carried by the latch plate 15 and projecting inwardly therefrom is a latch detent 22 which is so orientated on the latch plate 15 as to project behind the trigger 4 and positively lock the same against tripping movements when said latch plate 15 is in closed position on the trigger guard 6. Latch detent 22 could be secured to the latch plate 15 in any one of a number of ways but, as shown, is in the form of an L-shaped bar having a longitudinally-extending portion 23 which projects into a longitudinally extending slot 23a in the body of the latch plate and is held securely in place by set screw 24. One advantage of securing the latch detent 22 to the latch plate 15 in the manner illustrated, is that it permits limited longitudinal adjustment thereof by loosening set screw 24 and sliding member 23 in slot 23a to the desired position.

Shown as secured to and projecting inwardly from latch plate 15, and occupying a trigger-finger space within the trigger guard 6 immediately forwardly of the trigger 4, is a cam block 25 which, as shown, tapers from its rear portion toward its front portion as indicated at 26. Cam block 25 projects inwardly, at the point of its greatest thickness immediately forward of the trigger 4, to a vertical plane substantially parallel to the outer edge of trigger 4.

This forwardly tapering cam block 25 is very important for, as the gun operator's trigger finger swings inwardly on an arc to a trigger-tripping position, it necessarily rides up the inclined surface 26 of the cam block 25, thus progressively pushing latch plate 15 laterally until, when the trigger finger is actually in trigger-tripping position, the latch plate 15 and latch detent 22 are substantially in the position indicated in the Fig. 5. It necessarily follows that when the trigger finger is removed from trigger-tripping position, the latch plate 15 and latch detent 22 will be returned, under the action of coiled torsion spring 21 to the position shown in Fig. 6.

As shown particularly in Figs. 2, 5 and 6, latched detent 22 is provided at its extreme outer end with a forwardly projecting tooth 27 which, together with longitudinally extending member 23, defines a cross-sectionally rectangular channel 28 into which the trigger 4 is adapted to come to rest upon a straight backward movement thereof. This feature makes it impossible for backward movement of the trigger to laterally displace the latch detent 22 to inoperative position. In other words, the lateral displacement of the latch detent 22 and the latch plate 15 can

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be accomplished only by lateral pressure brought to bear upon latch plate 15.

The improved safety device described has been put into actual use and has proved to be highly satisfactory for all of the purposes of a safety device of the above character.

What I claim is:

1. In combination with a gun having a trigger and a transversely-open trigger guard, a latch plate normally closing one side of the trigger guard and vertically pivotally mounted in forwardly spaced relation to the trigger, a longitudinally adjustable latch detent carried by and projecting inwardly from said latch plate and orientated to project behind the trigger and positively lock the same against tripping movements, when said latch plate is in closed position on said trigger guard, and means yieldingly biasing said latch plate toward said trigger guard.

2. The combination with a gun having a trigger and a transversely-open trigger guard extending in front of and below said trigger, of an anchoring block having a recess to snugly receive a forward portion of the trigger guard, an opposed matching clamping block also having a recess to snugly receive a forward portion of the trigger guard, means independent of said gun for clamping said anchoring block and clamping block together one on each side of said trigger guard, a latch plate normally closing one side of the trigger guard and vertically pivotally mounted to said anchoring plate in forwardly spaced relation to the trigger, a latch detent carried by and projecting inwardly from said latch plate, and orientated to project behind the trigger and positively lock the same against tripping movements when said latch plate is in closed position on said trigger guard, spring means yieldingly biasing said latch plate toward said trigger guard, and a finger actuated forwardly tapering cam block carried by and projecting inwardly from said latch plate and occupying a trigger finger space within the trigger guard and forwardly of the trigger when said latch plate is in trigger-locking position.

3. The structure defined in claim 2 in which said latch detent is longitudinally adjustable in said latch plate.

CHARLES E. JACOBS.

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