July 5, 1966 F. T. GREEN 3,258,871

KEY OPERATED SAFETY FOR FIREARMS

Filed Aug. 4, 1965

FIG. 1

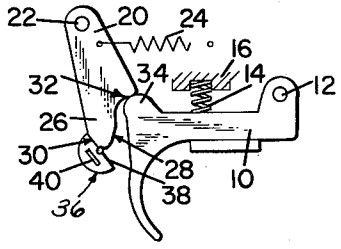
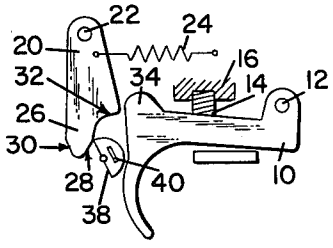


FIG. 2



INVENTOR
FRANK T. GREEN

BY Chas. R. Fay.
ATTORNEY

United States Patent Office 3,258,871
Patented July 5, 1966

3,258,871

KEY OPERATED SAFETY FOR FIREARMS

Frank T. Green, Haydenville, Mass., assignor to Noble Manufacturing Co., Inc., Haydenville, Mass., a corporation of Massachusetts

Filed Aug. 4, 1965, Ser. No. 477,141
6 Claims. (Cl. 42—70)

This invention relates to a new key-operated safety lock for firearms. This lock has application to any kind of a firearm whether a revolver, automatic weapon, rifle, shotgun, etc.

The principal object of the invention resides in the provision of a lock which acts directly on the trigger and holds the trigger in fixed position so that it cannot move toward firing position, by means of a lever bearing on the trigger. There is a movable cam which is controlled by a key and which cannot be turned without the key, but which upon being turned moves the safety lever back out of its operative safety position so that the trigger may be moved to firing position.

Another object of the invention resides in the provision of a key-operated safety lock for firearms as above described in which the safety lever is movable in the opposite direction as for instance by the cam and engages the trigger itself and holds it, the cam being of such a construction that it forces the safety lever toward safety position as well as away from safety position.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which:

FIG. 1 shows the invention with the parts in trigger safe position, and

FIG. 2 shows the parts in firing position.

In disclosing the present invention only so much is shown as will enable those skilled in the art to practice the invention, all extraneous matter being omitted and no particular type of firearm being illustrated. For instance, the trigger is indicated in general by the reference character **10** and it may for instance pivot on a fixed pivot-pin **12** held in the receiver of the firearm or on the frame of a pistol as may be conventional. This trigger moves in a direction to fire, in this case clockwise, releasing a conventional sear, or it may be the hammer, by means not shown but well understood in the art, and in most cases there will be a trigger spring **14** mounted in a portion of the frame here indicated at **16** to return the trigger to its non-firing position when it is released. In this case of course the sear, or the hammer as the case may be, are capable of moving into position where they are reset for the next shot, as by conventional sear or trigger springs, etc.

Arranged in the receiver or in the frame of the pistol as the case may be, is the safety lever which is indicated generally at **20** mounted on a fixed pivot-pin **22**. This lever is normally urged in a counterclockwise direction by means of a spring **24**. The safety lever **20** is provided with a downwardly extending spur **26** having two surfaces **28** and **30** which converge in a downward direction as shown. Intermediate the pivot **22** and the projection **26** is a forwardly projecting shoulder indicated at **32**, this shoulder extending toward the trigger **10** which in this case is provided with a rounded projection at **34**.

If the safety lever **20** is held in the position of FIG. 1, i.e., against motion in a clockwise direction, the shoulder **32** engages the projection **34** and effectively prevents the trigger **10** from moving in a clockwise direction, i.e, to a firing position. On the other hand, if the safety lever **20** is moved slightly in a clockwise direction to release shoulder **32** from projection **34**, then the trigger is free

to move against the action of spring **14** to a firing position.

There is provided a key-operated generally cylindrical cam which is generally indicated by the reference numeral **36**. This cam may be arranged in the trigger plate, on the frame, in any convenient position, in cooperative relation to projection **26**. This cam is mounted on a fixed central axis to turn in a counterclockwise direction from the position shown in FIG. 1 to the position shown in FIG. 2 and back again, and it is provided with a diametrical surface **38** which is actually the cam surface, and extends radially to each side of the axis of the cam.

Any kind of conventional key-operated lock or the like may be used so that this cam can only be turned by the use of a key which could be inserted for instance in the slot **40** for this purpose, the tumblers being located in the body of the cam in a conventional manner.

The cam surface at **38** will be seen to form a stop in FIG. 1 so that the safety lever **20** cannot move in a clockwise direction. However by inserting the key and operating the lock, releasing the cam for rotary motion from the FIG. 1 position to the FIG. 2 position, it will be seen that the surface at **38** will engage the surface at **28** and positively move the safety lever **20** in a clockwise direction against the action of its spring **24**; and when it reaches the FIG. 2 position, the trigger is in condition to be moved in a clockwise direction in order to fire the firearm.

The cam will hold the safety lock **20** in this position against the action of spring **24** at all times until the key is once more utilized in order to turn the cam back to the FIG. 1 position, in which case surface **38** engages face **30** of projection **26** and forces the safety lever back into the position of FIG. 1 where the shoulder at **32** engages the rounded projection **34** forcibly holding the trigger in fixed position as for instance against the stop **18**.

This invention has been illustrated in such a way as to cause the locking lever **26** to directly engage a part of the trigger. However, in many cases a sear is interposed to hold the trigger in cocked condition and in this case the lever **26** could just as well be engaged to hold the sear against being released inasmuch as a conventional sear is pivoted in much the same manner as the illustration of the trigger pivot **12** in the present case.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. A safety for a firearm having firing mechanism and movable means to actuate the same, a locking safety lever, means pivoting said locking lever in direction toward and away from said firearm actuating means, said lever engaging the latter in one position and holding the same against motion toward firing position, said lever having a position of release for said actuating means wherein the latter may be moved to firing position, and said locking lever pivoting means including a rotatable key-actuated cam, a cam surface thereon, said cam surface having a position engaging said lever in one position thereof and holding it fixed to hold the firearm actuating means against motion, said cam having a second position releasing said safety lever and engaging the same and moving it to a position releasing the firearm actuating means.

2. The safety for a firearm as recited in claim **1** wherein said lever includes a pair of surfaces one of which is engaged by the cam surface in one position thereof and the other of which is engaged by said cam surface in the opposite position thereof.

3. The safety for a firearm as recited in claim 1 wherein said lever includes a pair of surfaces one of which is engaged by the cam surface in one position thereof and the other of which is engaged by said cam surface in the opposite position thereof, said surfaces generally converging in a direction toward the cam, the cam being located adjacent said surfaces.

4. A safety device for a firearm having a trigger, means pivotally mounting said trigger so that it may be manually moved from inoperative to firing position, a safety lever, means pivotally mounting said safety lever, means on said safety lever engaging said trigger to hold it in inoperative position, and a pair of oppositely facing surfaces on said lever, a rotatable key-operated cam, said cam having a surface selectively engaging said opposite surfaces on the safety lever for engaging and moving the safety lever toward a position wherein said trigger engaging means engages said trigger to hold it fixed, said cam surface being movable to a position wherein it engages the other

surface on said safety lever and moves it and the trigger engaging means out of engagement with said trigger.

5. The safety device of claim 4 in which said cam is in the form of a cylinder and the cam surface thereon extends generally radially with respect thereto, said cylindrical cam being mounted on a fixed axis.

6. The safety device of claim 4 in which said cam is in the form of a cylinder and the cam surface thereon extends generally radially with respect thereto, said cylindrical cam being mounted on a fixed axis, the oppositely facing surfaces on the lever terminating generally uniformly adjacent the cam surface.

References Cited by the Applicant

UNITED STATES PATENTS

2,945,316	7/1960	Mulno.
2,994,981	8/1961	Carrigan.

BENJAMIN A. BORCHELT, *Primary Examiner.*