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AUXILIARY TRIGGER MECHANISM FOR FIREARMS

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Fig-1-

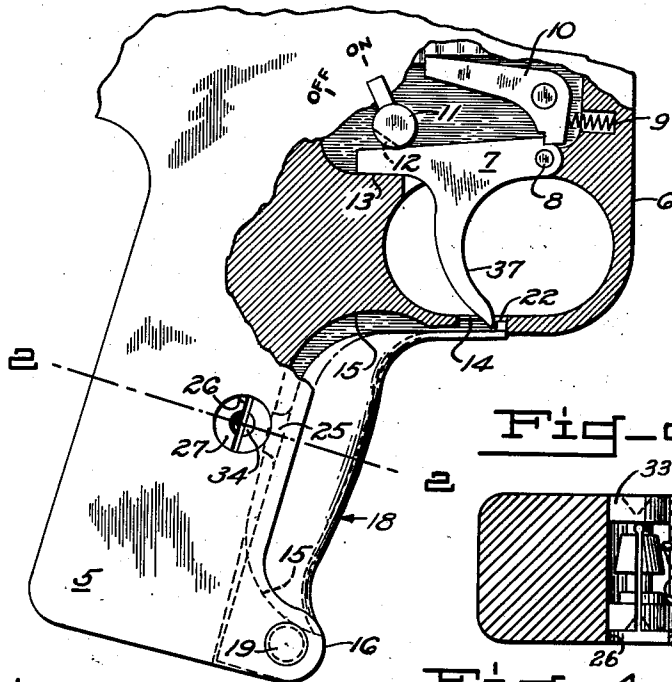


Fig-2-

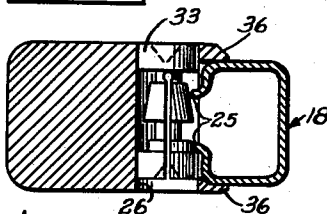


Fig-4-

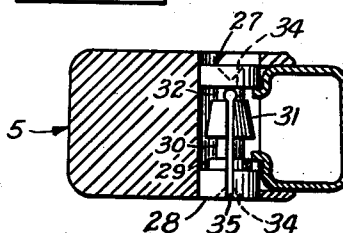


Fig-3-

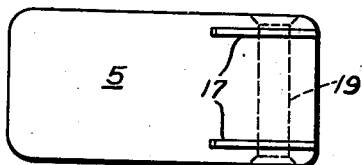
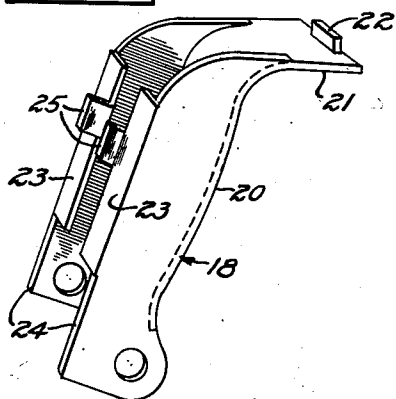


Fig-5-



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AUXILIARY TRIGGER MECHANISM FOR
FIREARMS

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3 Claims. (Cl. 42-69)

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amended April 30, 1928; 370 O. G. 757)

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The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to an auxiliary trigger mechanism for use in the operation of firearms under extreme cold weather conditions.

It has been determined that heavy fingerless mittens offer the utmost protection to the hands against extreme arctic weather. However, the use of such fingerless mittens introduces considerable difficulty in the operation of firearms and especially in the manipulation of the trigger.

Accordingly, it is an object of this invention to provide a firearm with an auxiliary trigger mechanism which can be readily actuated even when the operator is encumbered with heavy fingerless mittens.

It is a specific object of this invention to provide a firearm with an auxiliary trigger mechanism which can be readily inactivated at the will of the operator to permit normal manipulation of the conventional trigger.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawings in which:

Fig. 1 is a side elevational view shown partly in cross-section of the auxiliary trigger mechanism of this invention.

Fig. 2 is a cross-sectional view taken along the line 2-2 of Fig. 1 and showing the blocking member in position to prevent actuation of the auxiliary trigger.

Fig. 3 is a bottom view of the pistol grip.

Fig. 4 is a cross-sectional view similar to Fig. 2 but showing the blocking member in position to permit actuation of the auxiliary trigger.

Fig. 5 is a perspective view of the auxiliary trigger.

Although the auxiliary trigger of this invention is here shown adapted for use with a firearm having a so-called "pistol grip" stock, it should be understood that a trigger of this type is equally applicable to those weapons having a straight conventional stock.

There is shown in Fig. 1 a portion of a firearm having a depending pistol grip 5 and a trigger guard 6 extending forwardly therefrom. A conventional trigger 7 is pivotally mounted within trigger guard 6 as by a pin 8. A sear spring 9 is arranged to bias a pivotal sear 10 into releasable engagement with trigger 7. A safety member 11 is rotatably mounted in the firearm

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above trigger guard 6 for movement between an "on" and "off" position and is slotted as shown at 12 to permit actuation of trigger 7 during the "off" position. The forward pivotal movement of trigger 7 is limited by a suitable stop surface 13 located within trigger guard 6 and the rearward pivotal movement is limited by safety member 11. Trigger 7 is provided with a finger piece 37 arranged to extend into a vertical opening 14 provided through the bottom of trigger guard 6.

The front face of pistol grip 5 is contoured to provide a forwardly projecting portion 16 at the bottom thereof. A substantially semi-elliptical recess 15 is provided in the front face of pistol grip 5 and terminates sufficiently above the bottom of grip 5 to extend slightly into forwardly extending portion 16. A pair of spaced apart relatively narrow slots 17 extend vertically through portion 16 as indicated in Fig. 3.

Recess 15 and slots 17 are arranged to receive an auxiliary trigger 18 which is pivotally secured to pistol grip portion 16 as by a pin 19 or the like. Auxiliary trigger 18, as best shown in Fig. 5, comprises a channel-shaped body portion 20, the outer surface thereof being suitably contoured to conform to the grasp of either a bare or mittened hand, and a forwardly extending integral head portion 21 arranged to lie beneath trigger guard 6 when trigger 18 is assembled to pistol grip 5. An upstanding lug 22 is provided on head portion 21 and extends sufficiently into vertical opening 14 of trigger guard 6 to engage finger piece 37 of trigger 7 when auxiliary trigger 18 is pivoted about pin 19. A flat rectangular portion 23 disposed at right angles to each rear marginal edge 24 of auxiliary trigger body portion 20 is provided with a rearwardly projecting ear 25 for a purpose to be shown.

A hole 26 extends transversely through pistol grip 5 and is located so as to partially intersect recess 15 substantially midway with respect to the vertical axis of grip 5. A blocking member 27 is arranged to slidably engage in hole 26 and comprises in adjacent relationship a cylindrical section 28 at one end, a step portion 29, a first reduced diameter section 30, a forwardly tapering section 31 having a minimum diameter slightly less than that of step portion 29, a second reduced diameter section 32, and a cylindrical section 33 at the other end of blocking member 27. A suitable indentation 34 is formed in end sections 28 and 33 for receiving a drift or the nose of a bullet by means of which blocking member 27 can be moved transversely in either

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direction in hole 26. Blocking member 27 is also provided with a slit 35 along its longitudinal axis extending from end section 28 into reduced diameter section 32. Prior to assembly of member 27 into pistol grip 5, cylindrical end section 28 is forced apart slightly so as to increase the diameter thereof. Consequently, end section 28 is frictionally engaged in hole 26 and thereby prevents accidental movement of blocking member 27 due to the vibration of firing.

When blocking member 27 is positioned as shown in Fig. 4, ears 25 of auxiliary trigger 18 are respectively opposite reduced diameter sections 30 and 32. Consequently, when trigger 18 is pivoted about pin 19 as a fulcrum, lug 22 actuates conventional trigger 7 to release sear 10. Movement of auxiliary trigger 18 is limited by the allowable movement of trigger 7 which depends upon the depth of slot 12 in safety member 11. When auxiliary trigger 18 is depressed, ears 25 extend beyond the respective peripheries of cylindrical end sections 28 and 33 and thereby prevent blocking member 27 from protruding beyond either outside surface of pistol grip 5. When released, auxiliary trigger 18 is pivoted back to its pre-firing position by conventional trigger 7 through the bias of sear spring 9.

When blocking member 27 is moved to the position shown in Fig. 2, one of the ears 25 rides onto tapered section 31 while the other contacts the periphery of step portion 29. Thus movement of auxiliary trigger 18 is blocked while conventional trigger 7 is free to be actuated in a normal manner when safety 11 is in the "off" position. When safety 11 is in the "on" position, movement of trigger 7 is prevented and consequently auxiliary trigger 18 can not be actuated even though blocking member 27 is in the position shown in Fig. 4. The transverse movement of blocking member 27 and consequently the extent to which ear 25 rides up onto tapered section 31 is governed by the contact of lug 22 with the inner front surface of vertical opening 14 in trigger guard 6. It can thus be readily seen that any existing backlash of auxiliary trigger 18 in its safe position is adequately taken up and furthermore that the vibration and shock of firing will not result in any accidental movement of blocking member 27 and consequently auxiliary trigger 18.

Another advantageous structural feature of this invention resides in the provision of a chamfered marginal edge 36 for semi-elliptical recess 15. As a result, the flesh of the hand or the fabric of a mitten can not be accidentally pinched between auxiliary trigger 18 and pistol grip 5.

Thus there is here provided a simple but effective auxiliary trigger means which can be readily manipulated by the operator of the firearm even with the heavy fingerless mittens commonly worn in extreme arctic weather. At the same time, the firearm can be quickly converted to the use of the conventional trigger at the will of the operator by simply pushing a blocking member in the required direction. Furthermore the use of auxiliary trigger 18 introduces the "squeeze method" of trigger release which is believed by many to be superior to the conventional pull required to release a trigger.

I claim:

1. In a firearm having a pistol grip, the combination of a pivotal primary trigger and auxiliary trigger means comprising an auxiliary trigger pivotally mounted in the pistol grip and

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protruding forwardly therefrom in order to be readily grasped by a mittened hand, lug means on the free end of said auxiliary trigger for actuating said primary trigger when said auxiliary trigger is squeezed, and means for blocking movement of said auxiliary trigger whereby discharge of the firearm can be effected only by directly pulling said primary trigger.

2. In a firearm having a pistol grip terminating in a forwardly extending trigger guard provided with a slot extending vertically through the bottom thereof, the combination of a primary trigger pivotally mounted in the trigger guard so that the free end extends into the slot thereof and auxiliary trigger means comprising an auxiliary trigger pivotally mounted at its lower end in the pistol grip and projecting forwardly therefrom to permit ready grasping by a mittened hand, an upstanding lug on the free end of said auxiliary trigger arranged to extend into the trigger guard slot forwardly of the free end of said primary trigger whereby actuation of said auxiliary trigger simultaneously actuates said primary trigger, and means for blocking the actuating movement of said auxiliary trigger whereby discharge of the firearm can be effected only by directly pulling said primary trigger.

3. In a firearm having a pistol grip terminating in a forwardly extending trigger guard, the combination of a primary trigger pivotally mounted in the trigger guard and auxiliary trigger means comprising an auxiliary trigger pivotally pinned at its lower end adjacent the bottom of the pistol grip, the forward edge of the grip being cut away to form a semi-elliptical recess for receiving said auxiliary trigger so that the forward portion thereof projects from said recess in position to be readily grasped by a mittened hand, lug means integrally formed on the free end of said auxiliary trigger and extending upwardly therefrom to contact the front edge of the free end of said primary trigger, and a blocking member slidably mounted in the pistol grip in the path of movement of said auxiliary trigger whereby transverse movement of said member in one direction blocks the actuating movement of said auxiliary trigger so that discharge of the firearm can be effected only by a direct pull on said primary trigger and whereby transverse movement of said blocking member in the opposite direction frees said auxiliary trigger so that actuation thereof will also simultaneously actuate said primary trigger to discharge the firearm.

CLARENCE E. SIMPSON.

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