

R. A. MOORE.
TRIGGER LOCK.
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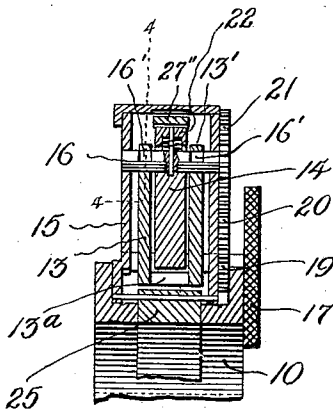
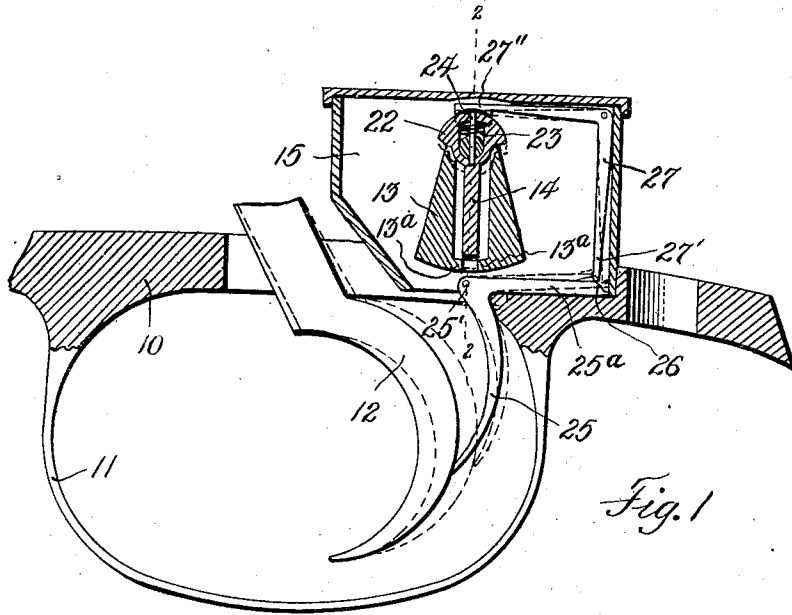


Fig. 2

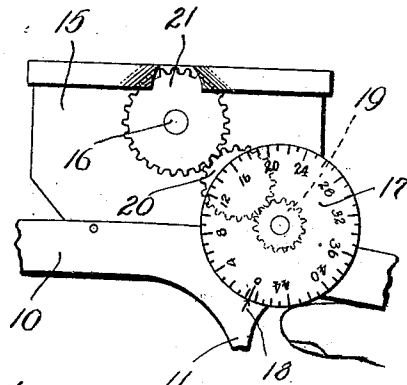


Fig. 3

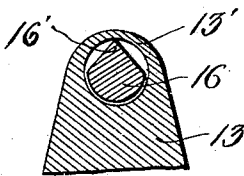


Fig. 4

Witnesses

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TRIGGER-LOCK.

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To all whom it may concern:

Be it known that I, ROBERT A. MOORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Trigger-Locks, of which the following is a specification.

This invention relates to improvements in fire-arms, and particularly to army rifles or the like, and has particular reference to devices for locking the trigger of a fire-arm so as to prevent the pulling thereof when the fire-arm is in any other inclination than the one particular predetermined inclination at which it is to be fired. Devices of this character have been found to be desired in many instances, such for instance as when it is desired to shoot while holding the fire-arm elevated above the head and hence out of position to be sighted in the ordinary way, as when firing over a wall or from a ditch; when firing at night and it is impossible to see the usual sights, and also during the din of battle when it is usual for the smoke to be so dense as to obstruct usual vision. It is a well-known fact that nearly all of the ammunition during the progress of the battle is wasted by reason of shooting too high or too low. It may easily be determined by an officer in command at what elevation or inclination the firing is to be done and for him to direct the soldiers accordingly. Upon receiving such instructions, the soldiers may adjust the devices constituting the locking mechanism so as to accord with the instructions given.

The above and other objects of the invention are to be accomplished by the mechanism hereinafter fully described and claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a vertical longitudinal section of a trigger lock made in accordance with this invention; Fig. 2 is a vertical transverse sectional view substantially on the line 2—2 of Fig. 1; Fig. 3 is an elevation of certain parts shown in Fig. 1; and Fig. 4 is a transverse detail substantially on the line 4—4 of Fig. 2.

Throughout the following description and on the several figures of the drawings, similar parts are referred to by like reference characters.

Referring to the drawings and to the reference characters thereon, at 10 is indicated a trigger plate carrying the usual trigger

guard 11. The trigger 12, of any usual or preferred construction, extends into the guard 11 in the usual manner. The trigger lock comprises the following devices: A pendulum 13, a plunger 14 cooperating with the pendulum and movable with respect to the pendulum when the axes of the plunger and pendulum coincide, and devices between the trigger and the plunger which prevent the operation of the trigger when the axes of the plunger and pendulum do not coincide.

The specific details of construction may be varied to a great extent within the scope of the invention hereinafter claimed without departing from the spirit thereof. A preferred embodiment, however, of the invention is described in detail hereinafter.

A casing 15 of substantially dust-proof construction is connected to the trigger plate 10 and extends within the structure of the gun-stock, preferably just in the rear of the lock of the gun. Mounted transversely in the casing is a shaft 16 adapted for rotary adjustment by any suitable means. The means indicated for this purpose includes an indicator wheel 17 projecting beyond the gun-stock and trigger guard, as indicated in Fig. 3, so as to be operated by the thumb or finger of the operator. Said indicator wheel carries graduations and figures of any suitable nature whereby the position of the shaft 16 may be determined. A gage mark 18 may be placed at any suitable stationary point as on the trigger guard for cooperation with the indicia on the indicator wheel. A train of gears 19, 20 and 21 transmit the rotary movement of the indicator wheel to the shaft 16, the arrangement being such that the shaft will be turned relatively slowly from the indicator wheel so that the shaft 16 may be adjusted with extreme delicacy. The shaft 16 is provided with one or more knife edges 16', and suspended therefrom is the pendulum 13, the straps 13' of the pendulum bearing freely upon said knife edges. The pendulum therefore tends to swing downwardly freely from the shaft. The pendulum indicated is hollow and is provided with spaced shoulders 13^a, the space between the shoulders being substantially of the width of the lower end of the plunger 14, the plunger surrounding the shaft 16 and extending within the hollow center of the pendulum. The plunger and pendulum are shown as symmetrically ar-

ranged and when their axes coincide, that is to say, when the plunger extends exactly central of the pendulum, the plunger may be depressed so as to make its lower end enter the space between said shoulders. The above results may be accomplished in various ways, but as shown, the plunger includes a yoke 22 which surrounds the shaft 16 and normally spaced upwardly therefrom and held in such position by a spring 23 within the yoke and bearing upon the shaft. A pin or key 24 connects the plunger to the shaft so as to prevent rotation thereon, but permitting radial movement of the plunger with respect to the shaft against the tension of the spring 23.

At 25 is shown a dog, bearing normally at its lower end against the rear face of the trigger and pivoted at 25' to the casing. An angular extension 25^a of the dog projects rearwardly toward the rear end of the casing and is provided with a cam 26. A bell-crank 27 is pivoted near the top of the casing and has one arm 27' extending down into co-operation with the cam end of the dog. The other arm of the bell-crank extends forwardly and has a shoe 27'' bearing upon the yoke 22. When the axes of the plunger and pendulum coincide, as for instance as indicated in Fig. 1, the trigger may be pulled into the dotted line position, causing the dog and bell-crank to be turned on their pivots with the result that the shoe 27'' will depress the plunger so as to bring its lower end between the shoulders 13^a. When the plunger is in any other position with respect to the pendulum an effort to depress the same by the pulling of the trigger would result in its lower end striking against one or the other of said shoulders, thereby making it impossible for the trigger to be pulled at such time.

The device is exceedingly simple in construction and occupies a minimum amount of room within the body of the gun-stock. The only portion of the improvement which projects into view is the indicating wheel above described. Furthermore, it is practically impossible for any dust or rain to enter the mechanism to render it inoperative.

Having thus described the invention, what is claimed as new is:—

1. The combination with a trigger, of a device to indicate the inclination at which the trigger should be pulled, and means operative from the indicating device to prevent the pulling of the trigger at any other inclination, said means including two co-operating members mounted for movement on the same axis.

2. The combination with a trigger, of an adjustable device to indicate the inclination at which the trigger should be pulled, a shaft adjustable in connection with the adjustment of said indicating device, and a

lock to prevent the pulling of the trigger at any other inclination, said lock including a pendulum suspended from said shaft and a member carried by the shaft and coöperating with the pendulum.

3. In combination with a trigger, a shaft, a pendulum mounted to swing around said shaft, a member connected to the shaft and movable vertically with respect to the pendulum in a certain predetermined position and immovable in other positions, and devices between the trigger and said member to prevent the pulling of the trigger when said immovable positions are assumed.

4. In combination, a trigger, a shaft, a pendulum mounted to swing on said shaft and having a vertical axis, a plunger connected to said shaft and movable radially thereof when the axes of the plunger and pendulum coincide and immovable when they do not coincide, and devices between the trigger and the plunger to prevent the pulling of the trigger when the plunger is immovable as aforesaid.

5. In combination, a trigger, a shaft, a pendulum suspended from the shaft, a plunger connected to the shaft, one of the last two mentioned members having spaced shoulders and the other adapted to move radially with respect to the shaft between said shoulders when in a certain predetermined position and immovable in other positions, and devices between the trigger and said movable member to prevent the pulling of the trigger when said member is immovable as set forth.

6. In combination, a trigger, a shaft, a pendulum suspended from the shaft and having spaced shoulders, a plunger connected to the shaft and movable radially of the shaft between said shoulders when in a certain predetermined position and immovable in other positions, and devices between the trigger and the plunger to prevent the pulling of the trigger when the plunger is immovable between said shoulders.

7. The combination with a trigger, of a lock therefor comprising a shaft, a hollow pendulum suspended from the shaft and having a slot in its bottom and shoulders adjacent said slot, a plunger connected to the shaft and movable radially thereof within the pendulum, the lower end of the plunger lying normally opposite said shoulders, and means operative by the trigger to cause the plunger to enter said slot when in alignment therewith.

8. In a trigger lock, in combination, a shaft, a pendulum suspended from said shaft, a plunger on the shaft and movable with relation to the pendulum when the latter is in a certain predetermined position and immovable in other positions of the pendulum, and devices between the trigger and the plunger to control the operation of

the trigger in accordance with the relative positions of the pendulum and plunger.

9. In a firearm, in combination, a trigger, a trigger plate, an inclosed casing above the trigger plate, a shaft mounted transversely in said casing, locking means for the trigger comprising cooperating members within the casing and mounted for independent movement on said shaft, and adjusting devices for the shaft to vary the effective positions of the locking means, said adjusting devices including an indicator wheel adjacent to the trigger plate and reduction gearing between the indicator wheel and the shaft.

10. In a trigger lock, in combination, a

trigger, a shaft, a member mounted for rotation on said shaft, a member mounted to slide on said shaft in relation to the first member but fixed from rotation on the shaft, and devices between the trigger and said members whereby the movement of the trigger is controlled by said members in accordance with their relative positions.

In testimony whereof I affix my signature in presence of two witnesses.

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Witnesses:

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