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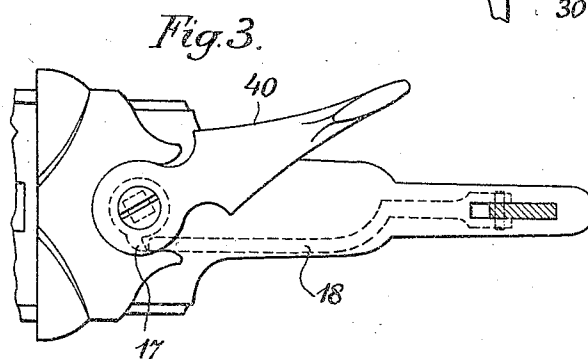
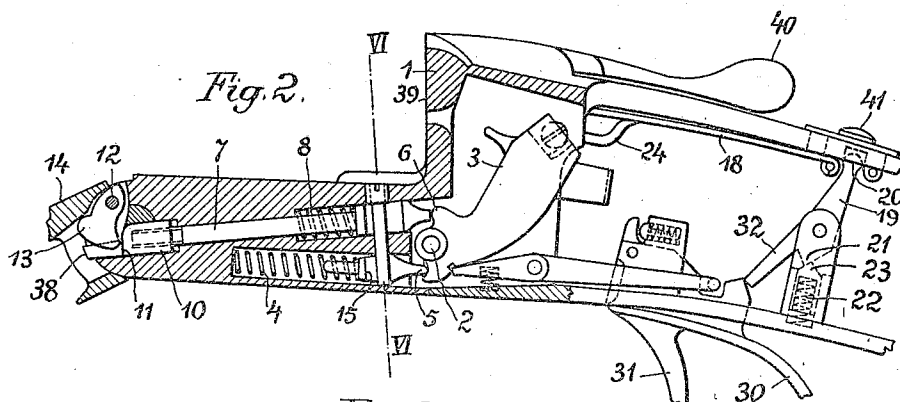
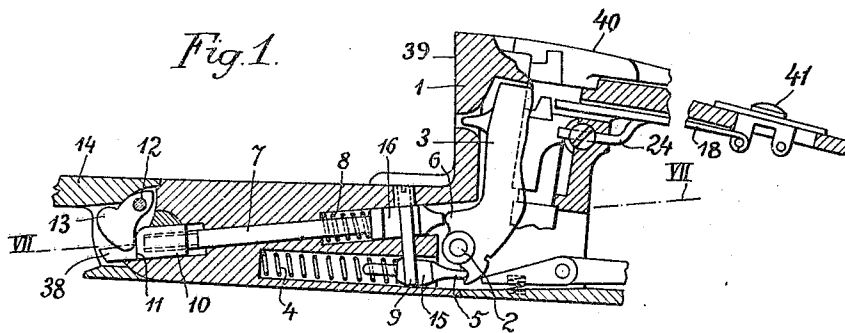
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1,840,478

TRIGGER AND SAFETY MECHANISM FOR SPORTING GUNS

Filed Oct. 16, 1929

2 Sheets-Sheet 1



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TRIGGER AND SAFETY MECHANISM FOR SPORTING GUNS

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2 Sheets-Sheet 2

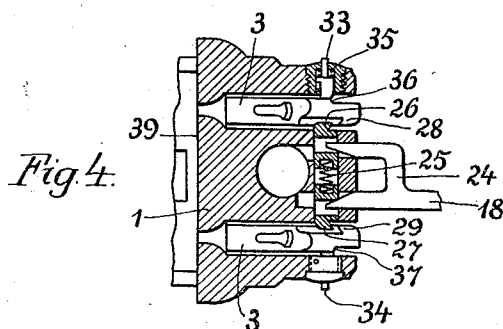


Fig. 5.

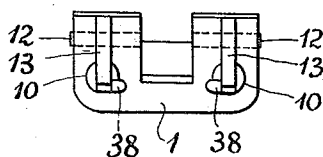
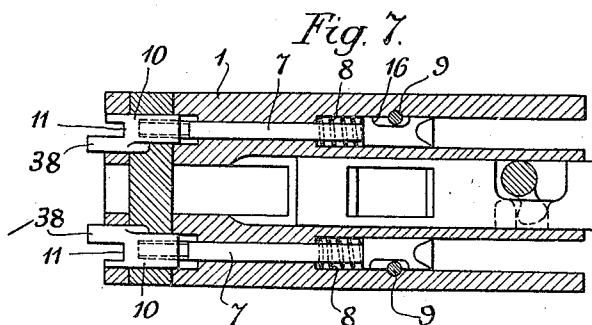
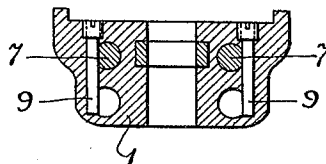


Fig. 6.



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UNITED STATES PATENT OFFICE

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TRIGGER AND SAFETY MECHANISM FOR SPORTING GUNS

Application filed October 16, 1929, Serial No. 399,999, and in Hungary October 20, 1928.

This invention relates to a trigger and safety mechanism for sporting guns.

One object of the invention is to provide a sporting gun the cocking members of which influencing the hammers also serve to release the automatic cartridge ejector.

Another object of the invention is to provide a cocking mechanism for sporting guns in which the member releasing the automatic cartridge ejector is coupled with the cocking member by means of a screw thread this rendering the effective length of said cocking element as well as that of the releasing element for the automatic cartridge ejector adjustable at will.

A further object of the invention is to provide a cocking mechanism for sporting guns in which the cocking elements are in permanent contact with the hammers under the positive action of a spring.

A still further object of the invention is to provide a sporting gun in which the hammers may act as backthrow hammers for which purpose the cocking mechanism according to the present invention is so devised that the firing springs may not get into contact with the hammers in the uncocked position thereof or in other words that between the hammers and the firing springs an idle space should exist. Therefore, in the uncocked condition of the hammers the firing springs will be unable to exert any influence upon the same and will not be able to press the hammers and their firing pins towards the chamber. In this position the cocks are influenced by the springs establishing contact between the cocking members and the hammers, the said springs in the uncocked position of the hammers pushing the latter backwards so that the firing pins of the hammers are forced away from the chambers.

A still further object of the invention is to provide a trigger and safety mechanism for sporting guns in which not only the triggers but also the hammers are secured by the safety mechanism by means of hooks provided on the side faces of the hammers, the said hooks co-operating with counterhooks governed by the safety bar, the hammers being thus secured in their cocked position. For governing the

counterhooks the safety bar is provided with suitable oblique surfaces. The counterhooks, as well as their actuating spring are arranged in the same apertures in which the signal pins marking the actual condition (cocked or uncocked) of the hammers and actuated thereby are provided.

A still further object of the invention is to provide a sporting gun in which the safety or released condition of the gun will always be completely established as soon as the operation of the safety device is initiated by hand so that the completion of the operation of the safety device does not depend on the gunman. For this purpose the safety bar is constructed in such a manner as to be influenced by a spring controlled lug having a wedge shaped end so that if the actuating of the safety mechanism is initiated by hand one of the conditions above mentioned will be automatically established.

In the accompanying drawings one form of the trigger and safety mechanism according to the invention is shown by way of example.

Fig. 1 is a vertical section through the breach body of the gun the hammers being uncocked.

Fig. 2 is a similar section with the hammers cocked, hammers and triggers secured.

Fig. 3 is a top view of the breach body showing the key effecting the opening of the gun, the said key having a nose operating the safety bar which is shown in dotted lines.

Fig. 4 is a horizontal sectional view of the breach body showing the hammers cocked and secured by the safety device the safety bar being shown with its forked front end, the arrangement of the signal pins being also shown in this figure.

Fig. 5 is a partial front view of the breach body and shows the front end of the cocking members together with the member effecting the release of the automatic cartridge ejector.

Fig. 6 is a cross sectional view of the breach body taken on line VI—VI of Fig. 2.

Fig. 7 is a longitudinal sectional view of the breach body taken on line VII—VII of Fig. 1.

The hammers 3 are pivotally arranged on the axle 2 in the breach body 1 and are actu-

ated by the pin 5 which is under the action of the firing spring 4. The nose portion 6 of the hammers 3 is influenced by the cocking rods 7 pressed against the nose portion 6 of the cocks by the spiral springs 8. The stroke of the cocking rods 7 is limited by the screws 9 (Figs. 1 and 6). To the front end of the cocking rods 7 are secured the release members 10 which are screwed on the cocking rods 7 and are of such construction that their shoulder 11 cooperates with the cocking levers 13 pivotally mounted round the pin 12. The release members 10 have a tooth 38 arranged at their front end and adapted to release some known type of automatic cartridge ejector. If the cocking rods 7 and therewith the teeth 38 are in their foremost position (Fig. 1) the automatic cartridge ejectors are released at the tilting of the barrels in a known manner while in the rear position of the said teeth (Fig. 2) the ejector mechanism is not influenced. The release members 10 may be screwed inwards or outwards on the cocking rods within the limits of the screw thread provided thereon whereby on the one hand the length of the teeth 38 of the release members and on the other hand that of the cocking rods may be adjusted at will. This adjustment is of importance for the reason that thereby the cocking of the hammers as well as the automatic ejection of the cartridge may be influenced.

As will be seen in Fig. 2 the cocking levers at the tilting of the barrels will actuate the cocking rods 7 in consequence of the stress exerted upon the cocking levers by the barrel extension, the hammers 3 of the gun being thereby cocked.

In order that the firing pins of the hammers which are protruding from the surface 39 of the breech body after the firing of the gun may not strike or scrape the bottom of the cartridges or the primers thereof the hammers 3 are made in the form of back-throw hammers. For this purpose the stroke of the firing springs 4 or more correctly of the pins 5 actuated thereby is restricted by the shoulder 15 arranged on the pins 5 the end position of the pin 5 and therewith that of the spring 4 being determined by said shoulder. In their firing position the hammers 3 will therefore not be influenced by the springs 4 but by the springs 8, and they will be pressed backwards to some extent by the latter (Fig. 1), so that the firing pins will be somewhat withdrawn behind the front surface 39 of the breech body. The screws 9 also prevent the turning of the cocking rods 7, by their contact with the surface 16 of the cocking rods 7 (Fig. 7).

The opening of the gun is effected in a well known manner by the key 40 actuating the locking bolts. Besides the projections actuating such locking bolts the key is also provided with a projection 17 (Fig. 3) which

at the turning of the key works the safety bar 18 and positively pushes the same into its safety position. The safety lever 19, the head portion 20 of which is connected to the safety bar 18, is made in the form of a two armed lever the forked arm 32 of which secures the triggers 30 and 31 in a known manner. The safety lever 19 is also provided with a wedge shaped prolongation 21 subject to the action of a spring actuated wedge shaped pin 23. This mechanism will move the whole of the safety device as soon as the adjustment of the same is initiated by hand through working the button 41, into one of its end positions (safety or release position) in such a manner that a stoppage at some intermediate position is fully excluded.

The safety bar 18 has a fork shaped forward end the two branches 24 (Fig. 4) of which govern the hooks 26 and 27 subject to the action of the common spring 25 in such a manner that the said hooks are interconnected in the safety position of the gun with the hooks 28 and 29 of the hammers 3 the latter being thereby secured in their safety position. The signal pins 33 and 34 are actuated by the springs 35 in a well known manner and are governed by the oblique surfaces 36 and 37 of the hammers 3.

Having described my invention I claim:

1. A trigger and safety mechanism comprising a cocking member provided with an extension for releasing the automatic cartridge ejector the release member for the cartridge ejector being connected to the cocking member by a screw thread in such a manner that the length of the release member and of the cocking member should be adjustable.

2. A trigger and safety mechanism according to claim 1 in which the cocking member and the firing spring are acting upon the hammer on the two sides of its pivot, the said cocking member being maintained in positive contact with the hammer in the direction of cocking.

3. A trigger and safety mechanism according to claim 1 in which the hammers are provided with hooks cooperating with counter-hooks movable in a direction at right angles to the longitudinal axis of the gun by the safety bar so that in the safety position the hammers are also secured.

4. A trigger and safety mechanism in which the safety lever is provided with a wedge shaped prolongation subject to the action of a spring actuated wedge shaped pin whereby the hand initiated movement of the safety button is continued until one of the end positions, i. e. the safety or release position of the safety mechanism is attained.

5. A trigger and safety mechanism for sporting guns comprising a hammer, a firing spring and a cocking rod, means for limiting the stroke of the firing spring in such a manner that it may not influence the hammer in

its firing position there being a small idle space between the hammer and the said means in order that the hammer may be pushed backwards by the spring actuating the cocking rod and thereby operate as a backthrow hammer.

6. A trigger and safety mechanism according to claim 1 in which the hammers are provided with hooks cooperating with counterhooks movable in a direction at right angles to the longitudinal axis of the gun by the safety bar, the counterhooks being governed by the safety bar by means of oblique surfaces thereof.

7. A trigger and safety mechanism according to claim 1 in which the hammers are provided with hooks cooperating with counterhooks movable in a direction at right angles to the longitudinal axis of the gun by the safety bar, the counterhooks and the spring actuating the same being arranged in the same aperture in which the signal pins actuated by the hammer are provided.

In testimony whereof I have affixed my signature.

RUDOLF v. FROMMER.