April 16, 1935. R. VON FROMMER 1,997,954

HAIR TRIGGER MECHANISM FOR SMALLARMS

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Fig. 1.

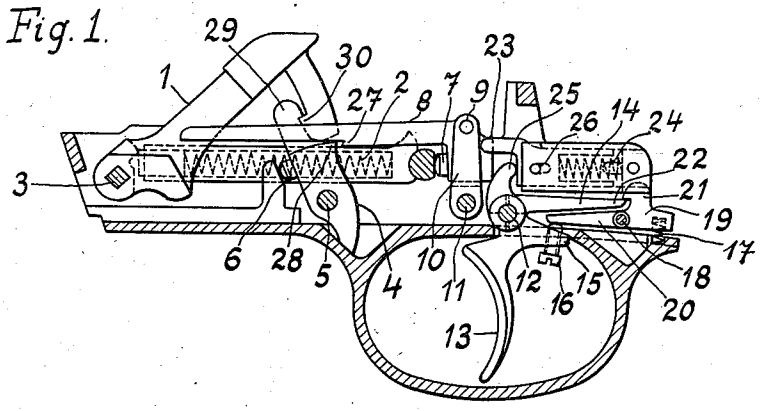

Fig. 2.

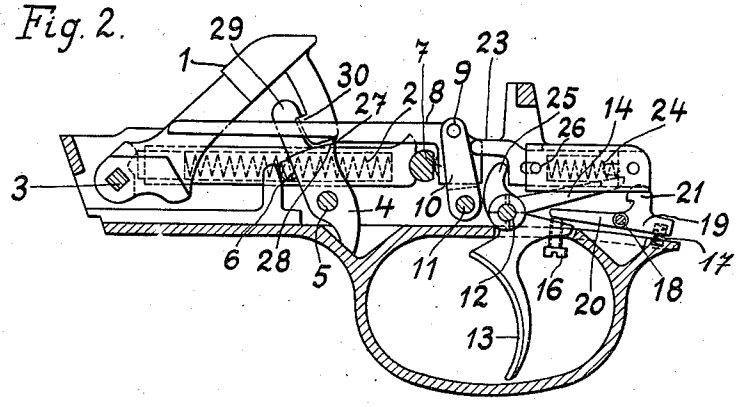

Fig. 3.

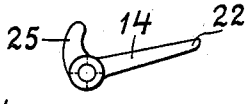

Fig. 4.

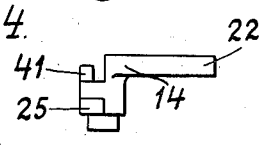

Fig. 5.

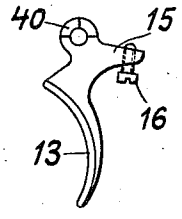

Fig. 6.

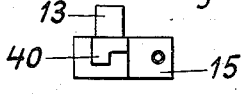

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Fig. 7.

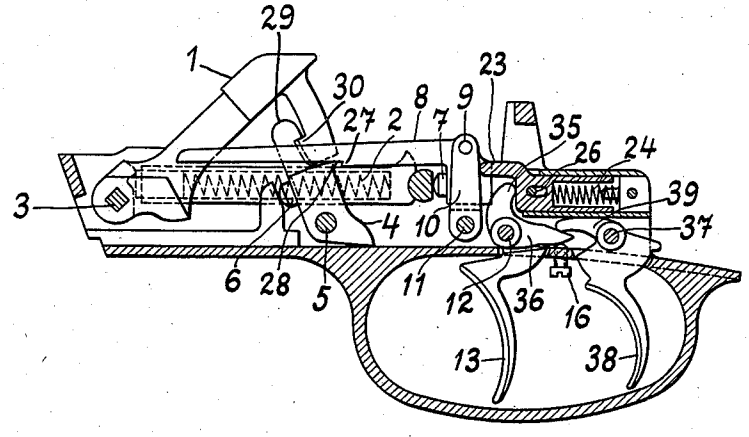
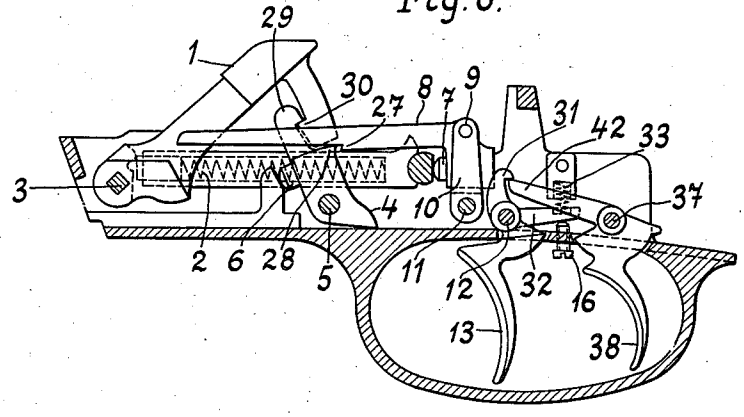


Fig. 8.



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UNITED STATES PATENT OFFICE

1,997,954

HAIR-TRIGGER MECHANISM FOR SMALLARMS

Rudolf von Frommer, Budapest, Hungary

Application September 30, 1933, Serial No. 691,699
In Hungary October 4, 1932

1 Claim. (Cl. 42—69)

The invention relates to improvements in hair-trigger mechanisms for smallarms, at which the sear of the trigger mechanism is held disengaged from the member adapted to release the striker member or the hammer, if the trigger-mechanism is cocked and the hair-trigger mechanism uncocked, whereby the smallarm cannot be discharged while the hair-trigger mechanism is uncocked, even in cocked position of the trigger mechanism, that is to say the smallarm is at full safety.

In the accompanying drawings two embodiments of the trigger mechanism according to the invention are shown by way of example.

Figs. 1 and 2 are longitudinal sectional views of one embodiment, wherein the cocking lever and the trigger form one unit.

Figs. 3 and 4 are side elevation and plan view respectively of a member forming part of this embodiment.

Figs. 5 and 6 are side elevation and plan view of another member.

Figs. 7 and 8 are longitudinal sectional views of the second embodiment, wherein the cocking lever and the trigger form separate members.

Referring to Figs. 1 to 6, the hammer 1 is subject to the action of coil spring 2 and is adapted to rock together with the pin 3 the extremities of which are mounted in suitable bearings. The anchor 4 is rotatable round the pivot 5 and is subject to the action of the spring pressed plunger 6. The anchor operating rod or sear 8 is pivotally mounted by means of pin 9 on the arm 10 which is subject to the action of the spring pressed plunger 7 and is rockable round the pivot 11. The trigger 13 is pivoted on pin 12 and is coupled by means of a dog clutch 40, 41 (Figs. 4 and 6) with the two armed lever 14. In the extension 15 of the trigger 13 is disposed an adjusting screw 16, whereby the hair-trigger-sear 19 may be adjusted in a manner hereinafter described. The sear 19 is rockable round the pivot 18 and is subject to the action of spring 17. The adjusting screw 16 acts upon the arm 20 of the sear 19 the other arm of which has a hook 21. The striker 23 is subject to the action of coil spring 24 and cooperates with the arm 25 of the two armed lever 14. The stroke of the striker is limited by a pin 26.

In operation, when the trigger is turned in a direction opposite to the pull applied when firing, i. e. clockwise, the cocking arm 25 of the two armed lever 14 is swung backwards due to the dog clutch 40, 41, the other arm 22 of the said two armed lever being simultaneously turned clockwise, so that the striker 23 is pushed back against the action of coil spring 24 and the arm 22 is caught under the hook 21, whereby the striker of the hair-trigger is cocked and the trigger action is ready for firing. At the same time the sear 8 is pushed back under the action of the spring pressed plunger 7, whereby the rest 27 of sear 8 is positioned behind the nose 28 of the anchor 4.

If now the trigger is pulled, however slightly, or even given the lightest touch, the arm 22 is released from the hook 21, the striker 23 hits the arm 10, the rest 27 knocks the anchor 4 out of the hook 30 of the hammer 1 and the latter is swung forward thereby discharging the cartridge. It will be seen that the discharge is actually effected by the spring 24 of the striker 23. In this arrangement the trigger 13 forms a unit with the lever cooperating with the hair-trigger. The extent of the engagement between the hook 21 and the arm 22 is controlled by the screw 16. The more the latter is screwed inwardly the smaller is the contact surface between the two members, so that a proportionately smaller, lighter and quicker movement of the trigger will suffice for the discharge of the gun.

The rest 27 of the sear 8 is so disposed that when the striker 23 is uncocked the compression spring 24 moves the sear 8 into such position that the rest 27 is unable to fall behind the nose 28 of the anchor 4, i. e. the sear 8 is unable to release the anchor. This condition, as illustrated in Fig. 2, is established after every firing, since the striker 23 then occupies its uncocked position due to the discharge. In this condition therefore the gun is at safety until the trigger mechanism is re-cocked.

Referring to Figs. 7 and 8, this embodiment is substantially the same as that described with reference to Figs. 1 to 6, but the trigger and the part for cocking the hair-trigger mechanism form separate members. The trigger 13, in this embodiment, is provided with a retaining hook 31 and a control arm 32 (Fig. 8). Adjacent the latter is mounted the cocking lever 35, 36 (Fig. 7) on the pivot 12 of the trigger in a snugly rotatable manner. The adjusting screw 16 acts upon the arm 32 which the spring 33 tends to depress. A trigger-like lever 38 is provided for cocking the striker 23, the said lever 38 having a cocking arm 39 and a sear arm 42, the latter engaging the retaining hook 31. By turning the screw 16 more or less inwardly the contact between the hook 31 and the arm 42 may be controlled in the same manner as in the first em-

bodiment. The cocking arm 39 acts upon the arm 36 of the previously mentioned cocking lever, while the arm 35 cooperates with the striker 23.

In operation, when a pull is exerted upon the trigger like lever 38 rearwardly, its cocking arm 39 effects the cocking of striker 23 against the action of spring 24 through the two armed lever 35, 36, the sear arm 42 at the same time falling under the hook 31 of trigger 13, whereby the striker 23 is retained in its cocked position due to the cooperation of retaining hook 31 and sear arm 42. Hereupon the lightest touch exerted upon the trigger 13 suffices for terminating the slight engagement between members 31 and 42, the action being similar to that explained with reference to members 21 and 22 of the embodiment according to Figs. 1 and 2, and thus the striker 23 which shoots forward under the action of spring 24 discharges the gun.

I claim:—

In a hair-trigger mechanism for smallarms, a striker member adapted to discharge the smallarm, means adapted to retain said striker member in its cocked position, a sear adapted to actuate said means in order to release the cocked striker member, another striker member adapted to actuate said sear, and a spring adapted to actuate said second striker member, said second striker member being adapted to hold the sear disengaged from said means in unstretched position of said spring.

RUDOLF v. FROMMER.