[0024] In the present invention, what is meant by the moving parts is all of the parts set in motion by the weapon reload cycle. This is, for example, an assembly comprising a slide in which a bolt moves, the slide being able to be attached to a gas recoil piston. It may also more simply relate to a breech in the case of a non-locked breech.

[0025] According to a preferred embodiment of the invention, the stop takes the form of an elongate lever pivoting on a central axis which, when the rear of said lever is in the raised position, prevents the forward movement of the moving parts by bearing against an immobilizing catch of the moving parts or on an anti-runaway catch situated under the moving parts.

[0026] Advantageously, the release lever is a lever that is essentially vertical positioned on a pivot pin at the front of the stop, the upper part of which is held forward by a release-lever spring and which in its lower part comprises a release-lever pawl bearing against a release-lever lug situated on the rocker.

[0027] As a preference, the rocker is positioned on a pivot pin common to the trigger and to the rocker and in its forward part comprises a release-lever lug against which the release-lever pawl can bear when the release lever is coupled to the rocker.

[0028] Advantageously, the rocker in its upper part comprises a rocker control lug bearing under the front part of the stop and controlling the pivoting of the stop.

[0029] Advantageously, rotational coupling between the rocker and the trigger blade is provided by the disconnector in the form of a lever arranged on a pivot pin fixed to the rocker, said lever bearing via a disconnector lug fixed to the trigger blade. The pressure of the disconnector on the disconnector lug is provided for example by a disconnector spring, but could be provided by other means known to those skilled in the art, such as the mechanical force of a disconnector fixed on its pin and operating like a leaf spring.

[0030] Advantageously, the disconnection between the trigger blade and the rocker is obtained by a buffer in the device, which buffer is positioned in the path of the disconnector

[0031] Alternatively and as a preference, the disconnector is arranged in such a way that the forward movement of the moving parts disconnects the mechanical connection between the rocker and the trigger blade

[0032] As a preference, the moving parts comprise a cam on their lower surface which is arranged in such a way as to disconnect the mechanical coupling between the rocker and the trigger blade during the forward movement of the moving parts.

[0033] Advantageously, the trigger device of the invention comprises a disconnector sear able to occupy a rest position or a disconnection position, said disconnector sear comprising a disconnection lever arranged, when in the disconnection position, between the rocker and the disconnector and a disconnection cam controlled by the movement of the moving parts, the disconnector disconnecting the mechanical connection between the rocker and the trigger blade when a cam under the moving parts moves the disconnection cam.

[0034] As a preference, the disconnector comprises:

- a surface on which a trigger lug can slide;
- an elastic return that tends to bring the disconnector back into contact with said trigger lug;
- a buffer situated on said disconnector surface and beyond which the trigger lug can no longer slide, thus pushing the disconnector and the rocker into rotation;
- a pivot connection between the disconnector and the rocker, allowing the buffer of the disconnector to uncouple from the lug;
- a bearing surface with which the disconnector sear is intended to come into contact, so as to allow the disconnector lug to slide beyond said buffer.

[0035] As a preference, the preferred alternative of the invention comprises a fire selector enabling selection between a semiautomatic-fire function and an automatic-fire function.

[0036] Advantageously, the selection of the semiautomatic-fire or automatic-fire mode is performed by altering the point at which the disconnector bears against the trigger blade or the rocker so that the disconnector cannot disconnect the trigger blade from the rocker when the automatic-fire mode is selected.

[0037] As a preference, the selection of the semiautomatic-fire or automatic-fire mode is performed by moving the disconnector sear out of the path of the moving parts and out of the path of the disconnector so that the disconnector cannot disconnect the trigger blade from the rocker when the automatic-fire mode is selected.

[0038] Advantageously, the device of the invention comprises a safety function allowing the rearming function when the safety is engaged, said safety function being performed by a safety element comprising an immobilizing surface allowing the stop to be immobilized in the position in which it halts the moving parts, said safety element bearing against a fixed part of the weapon and being able to be moved aside by the moving parts when these pass from a forward position to a rearward position. In this

[0075] Finally, in order to make it possible to achieve a combination between a system incorporating the semiautomatic function and the safety system that allows the weapon to be re-cocked in a small amount of space, it may be beneficial for the firing-selector pin also to act as the pivot pin for the stop.

Example

[0076] Figure 1 shows an exploded view of one example of a firing device according to the invention.

[0077] This device comprises a stop 5 that allows the moving parts 2 to be halted in a rearward position by bearing against notches formed in the bottom of the moving parts 2.

[0078] This stop 5 comprises in its front part a pin 16 supporting a release lever 10. This release lever at its base comprises a pawl 15. The assembly made up of stop and release lever is fixed to the devices via a pin 29. This release lever 10 allows the stop 5 to be held out of the path of the moving parts 2 as they move forward, even when the trigger blade 13 is released. Positioning the release lever 10 at the end of the stop allows the weapon to be made safe and reloaded whatever the condition of the weapon.

[0079] A rocker 12 is positioned between the trigger blade 13 and the stop 5. This rocker 12 allows the trigger blade 13 to be disconnected from the stop 5 and this, as will be seen later on, will allow semiautomatic-fire to be selected.

[0080] The semiautomatic-fire function is essentially implemented through the presence of a disconnector 11 and of a disconnector sear 14, allowing the trigger blade 13 to be disconnected from the rocker 12.

[0081] The safety function is essentially implemented by the addition of a safety element 1 and the presence of an immobilizing lug 34 of the trigger blade 13.

[0082] The various modes of operation of the weapon, namely safe, single-shot firing or automatic firing, are selected by means of a slider 20 actuated by a meshing slider-control mechanism 26 arranged on a pin 29 and actuated by the fire selector 24.

Safety operation

[0083] Figures 2a to d depict various cross sections of a mechanism of the invention with the various components assembled, the moving parts being arranged in the rearward position and with the safety on.

Claims

1. An open-bolt firearm comprising moving parts (2) which, in use, move from a rearward position to a forward position when a round is fired and from a forward position to a rearward position during reload, said firearm comprising a trigger device comprising a stop (5) for halting the forward movement of moving parts (2), a release lever (10) for lifting the stop (5) during the recoil movement of the moving parts (2), a rocker (12) actuating the stop (5) and the release lever (10) at the start and end of firing, and a trigger blade (13) connected to the rocker (12) by a disconnector (11) able to pivot from a position of mechanical coupling between the trigger blade (13) and the rocker (12) to a position of mechanical uncoupling between the trigger blade (13) and the rocker (12), the rocker (12) pivoting from a firing position to a rest position when the disconnector (11) pivots from its coupling position to its uncoupling position, so as to prevent the next shot from being let off when the trigger blade (13) is kept in the firing position.

2. The firearm as claimed in claim 1, wherein the disconnection between the trigger blade (13) and the rocker (12) is obtained by a buffer (40) in the device, which buffer is positioned in the path of the disconnector (11).

3. The firearm as claimed in claim 1, wherein the disconnector (11) is arranged in such a way that the movement of the moving parts (2) disconnects the mechanical coupling between the rocker (12) and the trigger blade (13).

4. The firearm as claimed in claim 3, wherein the moving parts (2) comprise a cam on their lower surface which is arranged in such a way as to disconnect the mechanical coupling between the rocker (12) and the trigger blade (13) during the forward movement of the moving parts.

5. The firearm as claimed in claim 3, comprising a disconnector sear (14) able to occupy a rest position or a disconnection position, said disconnector sear (14) comprising a disconnection lever (35) arranged, when in the disconnection position, between the rocker (12) and the disconnector (11) and a disconnection cam (36) controlled by the movement of the moving parts (2), the disconnector (11) disconnecting the mechanical connection between the rocker (12) and the trigger blade (13) when a cam (4) under the moving parts moves the disconnection cam (36).

6. The firearm as claimed in claim 1, comprising a fire selector (24) enabling selection between a semiautomatic-fire function and an automatic-fire function.

7. The firearm as claimed in claim 6, wherein the selection of the semiautomatic-fire or automatic-fire mode is performed by altering the point (50, 30) at which the disconnector (11) bears against the trigger blade (13) or the rocker (12) so that the disconnector (11) cannot disconnect the trigger blade (13) from the rocker (12) when the automatic-fire mode is selected.

8. The firearm as claimed in claims 5 and 6, wherein the selection of the semiautomatic-fire or automatic-fire mode is performed by moving the disconnector sear (14) out of the path of the moving parts (2) and out of the path of the disconnector (11) so that the disconnector (11) cannot disconnect the trigger blade (13) from the rocker (12) when the automatic-fire mode is selected.

9. The firearm as claimed in claim 6, wherein a safety function allowing the re-cocking function when the safety is engaged, said safety function being performed by a safety element (1) comprising an immobilizing surface allowing the stop (5) to be immobilized in the position in which it halts the moving parts (2), said safety element (1) bearing against a fixed part of the weapon and being able to be moved aside by the moving parts (2) when these pass from a forward position to a rearward position.

10. The firearm as claimed in claim 9, wherein the function of selecting the semiautomatic-fire function and the function of selecting the safety function are performed by the same control.

11. The firearm as claimed in claim 10, wherein the control mechanism consists of a rotary lever (24) actuating a slider (20) operating in translation and allowing activation or deactivation of the functions associated with semiautomatic-fire, automatic-fire and safety, so that three positions of the lever correspond to a safety position, to a semiautomatic-fire position, and to an automatic-fire position.

12. The firearm as claimed in claim 11, wherein the slider (20) comprises a safety control slot (21) in which there moves a safety control lug (8) arranged on the safety element (1), the shape of said safety control slot (21) being determined so that when the selector lever (24) is in the safety position, the safety element (1) can move between a position of immobilizing the stop (5) and a position of not immobilizing the stop (5), and when the lever is in another position, the safety element is in the position of not immobilizing the stop (5).

13. The firearm as claimed in claims 8 and 11 or 12, wherein the slider (20) comprises a disconnector-sear control slot (23) in which there moves a disconnector sear control lug (32) arranged on the disconnector sear (14), the shape of said disconnector-sear control slot (23) being determined so that when the selector lever (24) is in the semiautomatic position, the disconnector sear (14) can move between its disconnection position and its rest position, and

when the lever is in an automatic position, the disconnector sear (14) is immobilized in the rest position, out of the path of the moving parts.