

Delayed blowback bolt of an assault rifle

This invention is about delayed blowback bolts, which are assault rifle parts and are used when an assault rifle barrel is permanently attached to the receiver.

There is an already known delayed blowback bolt which consists of front and rear parts and an accelerator lever cooperating with them. The lever-accelerator is articulated and it has long and short lever legs. It's short leg interacts with the front part of the bolt and long leg with rear one [1].

The drawback of this known bolt is the complexity of it's design. Particularly, it has a accelerator articulation hinge joint (pivot pin), which makes the design complex and also makes bolt disassembly and reassembly harder.

Aim of this invention is simplification of bolt design.

The essence of invention is that the lever-accelerator is free floating and is located in a cavity made by opposite surfaces of bolt's front and rear parts (in the rear side of bolt's combat hole) and it has a hook to grab the receiver trunnion.

The invention is explained in drawings. In *Image 1* it is shown the longitudinal cutaway of bolt when the breech is close and in *Image 2* the same cutaway is shown, but when the breech is closed.

The bolt consists of front (1) and rear (2) parts and articulated accelerator (3). The accelerator is free floating and is located in a cavity made by opposite surfaces of bolt's front (1) and rear (2) parts (in the rear side of bolt's combat hole) and it has a hook to grab the receiver trunnion (4), which is connected to barrel (5). Bolt's front (1) and rear (2) parts are connected to each other by detachable charging handle (6). The firing pin (7) is located in a hole of bolt's front portion. Bolt also contains the ejector (8). The recoil spring (9) is located in a housing in rear portion of the bolt. The bolt is located in the receiver (10) of rifle.

The bolt works as follows: under pressure of hot powder gases the fired cartridge case recoils (blows back) approximately 1 millimeter and gives rearward motion to the accelerator (3), which rotates 90 degrees and unlocks (disconnects) the bolt from receiver trunnion (4). The long leg of lever-accelerator pushes back the rear part of bolt(2), which is being accelerated and pulls back the front part of bolt (1) ejecting the fired case by the ejector (8) under 45 degree angle. Then bolt comes back to it's front position by force of an expanding recoil spring (9), chambers a new round and closes the breech.

Sources:

[1] "Mechanisms of small arms" by Blagonravov , Moscow 1945, pages 44-45

Claim definition

Delayed blowback bolt of an assault rifle, which has two (front and rear) parts, an accelerator (operating with those parts) and a combat hole. Differs from others, because the lever-accelerator is free floating and is located in a cavity made by opposite surfaces of bolt's front and rear parts (in the rear side of bolt's combat hole) and it has a hook to grab the receiver trunnion.

