An infantry weapon comprises a carrier block with a plurality of firing chambers and barrels carried by the block in extension of the chambers. A clip with a plurality of cartridges equal to the number of barrels is fed from a stack in the weapon and a breech block carrier pushes the cartridges from the clip into the firing chambers. After percussion of the cartridges, the breech block carrier and carrier block retract to enable insertion of a new clip into the weapon and expulsion of the old clip after the spent cartridges have been reintroduced therein.

2 Claims, 8 Drawing Figures
INVENTORY WEAPON ADAPTED TO FIRE A PLURALITY OF CARTRIDGES SIMULTANEOUSLY

BRIEF SUMMARY OF THE INVENTION

The invention relates to a semi-automatic or fully automatic adjustable-spread volley-firing infantry weapon.

Such weapon can be an automatic piston, rifle, or machine gun. Contemporary weapons of this type can be adjusted for single shot or burst firing. If it is required to increase the probability of hits over a limited period of action, it is advisable to fire small bursts (of three shots, for example) or to use cartridges each containing several projectiles e.g. multiple bullets. In the case of burst firing, however high the firing rate, the spread of the hits obtained is not adaptable to the gunner. The same holds true in the use of cartridges with several projectiles. It can be proved mathematically and experimentally that the hit probability becomes maximum for an n-shot burst e.g. \( n = 3 \), when the cone of dispersion for said n shots has a particular value dependent on the gunner's skill and the characteristics of the target. Thus, for a given target, the cone of dispersion of the n shots does not have to be the same for a marksman as for a novice.

An object of the invention is to provide a weapon which is adapted to simultaneously fire n shots and wherein the cone of dispersion of the n shots can be adjustable. The particular value \( n = 3 \) has been chosen for reasons of space, weight and cartridge consumption.

To achieve this object, the weapon according to the present invention has three simultaneously fed barrels with percussion of three cartridges all at the same time so that the bearing of the weapon has no effect on the dispersion. The relative bearing of the three barrels can be adjusted to obtain a particular, optimal dispersion for the individual gunner.

The weapon according to this invention comprises a block in which three barrels are fitted, and a triple-head breech block carrier. The cartridges are packed in threes in clips stacked in a loader. A feeding device enables the three cartridges of a clip to be inserted into the three chambers of the three barrels. After simultaneous percussion, the three cartridge cases are introduced into their clip which is subsequently ejected. A simple mechanical device can be placed at the end of the three barrels, cause their relative angle to be adjusted by slight flexion, so as to obtain the required angle of dispersion.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view partly in section of a weapon according to the invention;
FIG. 2 is an exploded view of a portion of the weapon;
FIG. 3 is a front elevational view of a modified form of clip used in the weapon; and
FIGS. 4-8 are sectional views through a portion of the weapon showing different stages of operation thereof.

DETAILED DESCRIPTION

As seen in FIGS. 1 and 2, the weapon essentially comprises a breech casing 1 in which is slidably mounted a gun-tube carrier block 2 with three barrels 3 fitted thereon. For purposes of lightness in weight, the barrels 3 terminate at the location where the grooves are effective, the firing chambers 4 being machined in the gun-tube carrier block 1. Breech block carrier 5 also slides in the breech block carrier casing 1. The breech carries three heads 6, each with an extractor 7 and a firing pin 8, and two trace hooks 9 pivotal around a pin 10 fixed to the breech and constantly pulled upward by a spring 11. The hooks 9 allow the breech block carrier 5 to be coupled to the gun-tube carrier block 2. A roller 12 projects laterally on each coupler hook 9 and rolls in a guide groove 13 in the breech casing 1. The gun-tube carrier block is urged forward by a spring 14 while the breech is urged forward by two springs 15. The springs 14 and 15 abut against the rear edge 16 of breech casing 1. The breech casing 1 carries the remaining conventional mechanisms which include a button stock 17, a percussion mechanism 18 with a trigger 19, a buffer device 20 for the gun-tube carrier block 2, and a sighting system 21. A rectangular loader 22 contains a plurality of cartridge clips 23 pushed upward by a spring 24. Each clip, of rectangular shape holds three cartridge 25. At one side of the weapon is a clip ejection port 26, while an ejection lever (not shown) is housed on the other side.

The operation of the weapon is as follows:

As seen in FIG. 4, at the instant when percussion is about to take place, breech block carrier 5 is coupled to gun-tube carrier block 2 and the three breech heads 6 completely traverse the chambers of clips 23 to expel the three cartridges into the chambers 4 and to act as a support for the base of the cartridges. Then the cartridges are fired by pulling trigger 19. The recoil impulse due to the simultaneous firing of the three cartridges has the effect in a first phase as shown in FIG. 5 of pushing breech block carrier 5 and gun-tube carrier block 2 back for a length equal to that of the clip 23. At the end of this first movement, the two rollers 12 are compelled to move upward, by a rise of the guide grooves 13 in which they roll, causing unlocking of breech block carrier 5 from block 2 at the instant when the gun-tube carrier block 2 and clip 23 strike against a stop 27 integral with the breech casing 1.

Referring next to FIG. 6, the gun-tube carrier block 2 under the action of its draw-back spring 14 starts moving forward, while the breech block carrier 5 through inertia continues its rearward motion, the clip 23 remaining against the stop 27. The three cartridge cases 28 are gradually reintroduced into their original clip by the engagement of extractors 7 of breech heads 6 with the cartridge.

FIG. 7 shows the next phase of operation wherein breech block carrier 5 continues its rearward travel until the base of the three cartridge cases likewise abuts against stop 27. Another clip is then introduced into the gun-tube carrier block with its three cartridges 25.

FIG. 8 shows the breech block carrier 5 at the end of its backward stroke. The extractors disengage leaving the three cartridge cases against stop 27, and the breech block carrier acts on the ejection rod (not shown) which expels the clip 23 and the three cartridge cases through the slot 26 in the breech casing 1.
Breech block carrier 5 under the thrust of its springs 15 advances forwardly and inserts the three new cartridges 25 into the chambers of the gun-tube carrier block and the cycle starts again.

For adjustment of the spread of dispersion of the cartridges, an adjustment device can be employed to adjust the bearing or angular positions of the barrels by slight bending thereof.

To limit space and weight, the clips 23 are made of plastic, and their shape is advantageously as shown in FIG. 3.

The construction of the weapon as just described is given solely by way of example and conventional features of internal construction can of course be devised, to allow the simultaneous firing of the three cartridges and the adjustment of their dispersion or spread.

What is claimed is:

1. An infantry weapon comprising a plurality of gun barrels, means for simultaneously feeding a cartridge towards each barrel, means for producing simultaneous percussion of the cartridges and discharge from the barrels, a loading device containing a plurality of stacked clips each having as many cartridges as there are barrels, means for feeding successive clips towards the barrels for percussion of the cartridges therein, means for expelling each clip after percussion of the cartridges therein, means for removing the cartridges from each clip in preparation for percussion, means for reinserting the cartridges after percussion into their original clip before the clip is expelled whereby the clip and spent cartridges are ejected together, a displaceable carrier block with firing chambers therein in a number equal to the number of barrels, said means for removing the cartridges from each clip comprising a displaceable breech block carrier releasably coupled to said carrier block and including breech heads positioned to engage the cartridges in a clip to push the cartridges into the firing chambers, said means for reinserting the cartridges into their original clip comprising stop means to engage the carrier block after rearward movement thereof under the effect of exhaust gases produced by percussion of the cartridges, said stop means being positioned to limit the movement of the carrier block while permitting continued rearward travel of the breech block carrier under the pressure of said exhaust gases so that the breech heads are withdrawn from the clip.

2. A weapon as claimed in claim 1 comprising an extractor on each breech head for engaging a cartridge to withdraw the same from the firing chamber of the carrier block.