A. V. P. M. BERTHIER.

MACHINE GUN.

APPLICATION FILED JULY 10, 1912.

1,144,994. Patented July 6, 1915.

Fig. 1.

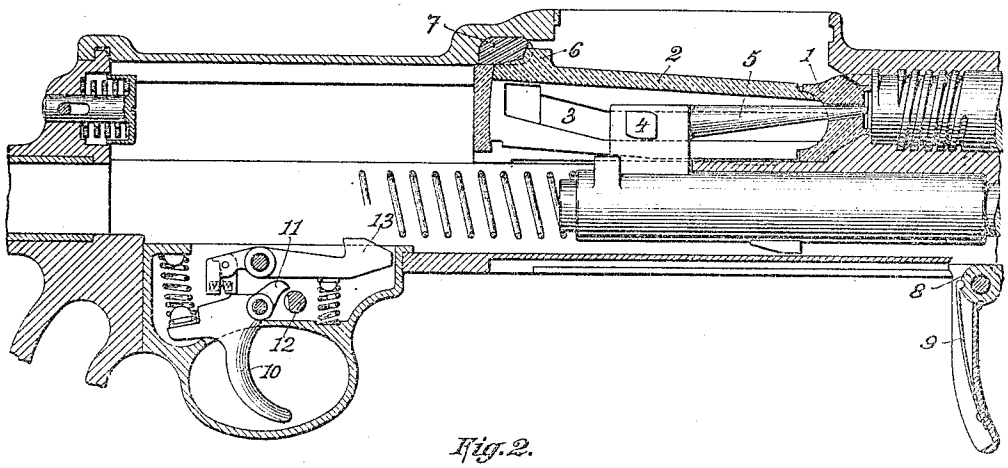


Fig. 2.

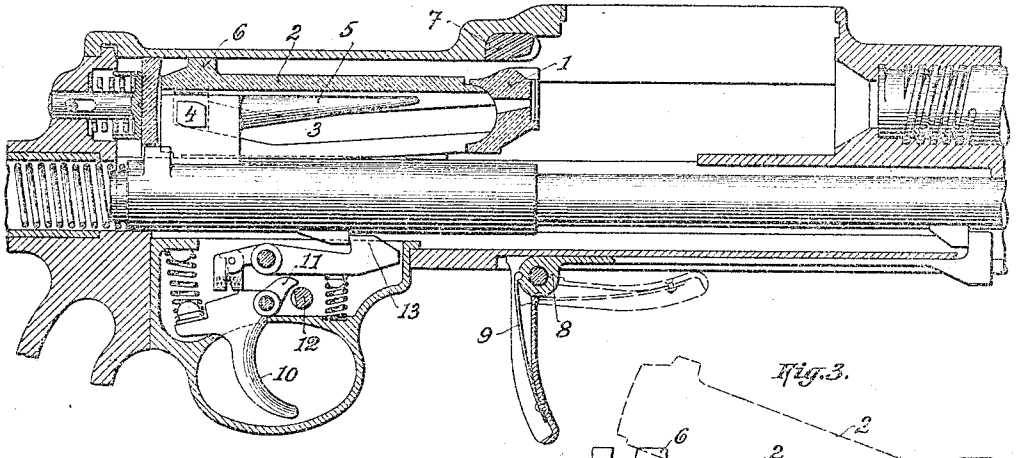


Fig. 3.

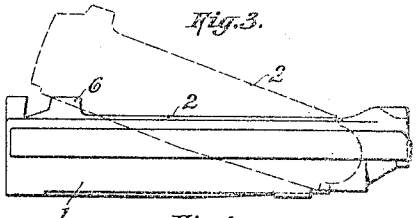


Fig. 4.

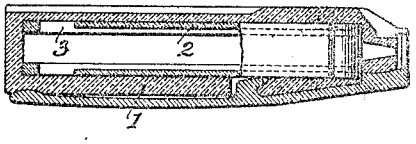


Fig. 5.

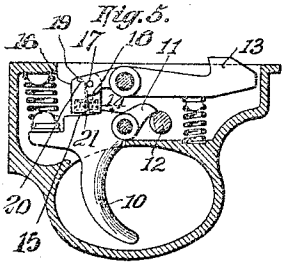
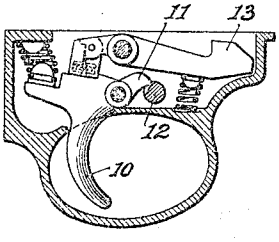


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MACHINE-GUN.

1,144,994. Specification of Letters Patent. Patented July 6, 1915.

Application filed July 10, 1912. Serial No. 708,572.

To all whom it may concern:

Be it known that I, ANDRÉ VIRGILE PAUL MARIE BERTHIER, a citizen of the Republic of France, residing at 90 Rue de Grenelle, Paris, in the French Republic, have invented certain new and useful Improvements in and Relating to Machine-Guns; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a gas pressure loading machine gun in which the locking and unlocking are produced by the oscillation of a locking member.

The invention resides broadly in the fact that the locking member is rockably mounted directly on the breech block itself, its rear end being raised or lowered when the breech block advances and retreats respectively.

An embodiment of the invention is illustrated in the accompanying drawing, in which:

Figure 1 is a partial longitudinal section through the gun in the closed condition. Fig. 2 is a corresponding view in the open condition. Fig. 3 shows the breech closure in elevation. Fig. 4 is a horizontal longitudinal section thereof, and Figs. 5 and 6 illustrate the firing mechanism of the gun in two different positions.

Generally speaking the arrangement of this machine gun is known. The means for locking and unlocking the breech block are however, novel. In the machine gun described in my prior specification Ser. No. 518013 the breech block is advanced and retracted by the engagement of a nipple mounted on the gas pressure piston and owing to the sliding of the nipple in oblique grooves in the breech block its rear end is raised and lowered at the proper time and thereby locked and unlocked.

In accordance with the present invention the breech block 1 is of frame-like formation and in it a special locking member 2 is arranged, the front rounded portion of which is inserted so as to constitute a joint in a corresponding recess in the breech block and is provided with the known inclined groove 3 in which the nipple 4 of the gas pressure piston engages. The striker 5 is rigidly connected with the nipple. The operation of the gun generally speaking, follows the known operation but with the difference that the breech block itself effects a rectilinear movement. In its forward movement the nipple 4 slides in the groove 3 in the locking member 2 and in the forward position of the breech closure lifts the rear end of this member to such a height that the projection 6 engages behind the shoulder 7 of the casing. When the breech block effects its return movement the operation is reversed. For the purpose of cocking the gun by hand the known cocking device 8 adapted to be actuated from the exterior is provided (Fig. 2) its lever-like handle being in the present case adapted to be folded for the purpose of facilitating the arrangement of the gun in a case and it is automatically retained in each end position by the engagement of a spring 9 in a corresponding notch.

In order to permit of single and continuous firing a projection 11 is provided on the trigger 10 of this gun and in the path of this projection a bolt pin 12 is rotatably mounted and can be actuated from the exterior by means of a pressure member. This pin is provided with a flat or recess in the path of the projection 11. If the pin 12 is rotated in such a manner that its solid portion is opposite the projection 11 (Figs. 1 and 2) the gun is set for single firing, that is to say the trigger can only be pulled so far that the rear end of the rod 13 is released (Fig. 5) so that its front projection is again able to oscillate into the position for retaining the gas pressure piston. If, however, the pin 12 is rotated into the position shown in Fig. 6 the trigger can be pulled to such an extent that its rear end bears against the rear end of the rod 13, presses the latter upward and thus holds its front engaging projection out of engagement so that firing can take place uninterruptedly. To enable this to be accomplished the trigger 10 is formed with stepped surfaces 14, 15 and the left-hand end of the trigger rod 13 is formed with a depending nose 16 made integral therewith. The trigger rod has pivoted thereto at 17 a pawl 18 formed with a small projection 19 which is pressed against a shoulder 20 of the trigger rod by a spring 21 which is interposed between the nose 16 and the pawl 18 as clearly shown in Figs. 5 and 6. By this arrangement the pawl 18 can yield in one direction so that the trigger 10 is capable of returning from the position shown in Fig. 5 into that shown in Figs. 1 or

2, after the trigger is released. It will thus be understood that when the pin 12 is set for individual firing the step 14 releases the trigger rod 13 and upon engagement with the step 15 the trigger rod can oscillate into the engaging position, whereas during continuous firing the step 15 by virtue of its engagement with the nose 16 holds the trigger rod in the disengaged position (see Figs. 5 and 6). The whole of the trigger mechanism is arranged in the trigger guard and is closed to the exterior by means of a detachable side plate.

What I claim as my invention and desire to secure by patent is:

1. In a breech-loading machine gun of the kind described, the combination of a pin formed with a cut-away portion and capable of rotatable adjustment, a trigger rod formed with a nose and provided with a spring-pressed pawl, and a trigger having a projection adapted to coöperate with said pin and also having a plurality of stepped surfaces adapted to coöperate with said nose and pawl.

2. In a breech-loading machine gun of the kind described, the combination of a pin formed with a cut-away portion, means for rotatably adjusting said pin, a trigger rod formed with a depending nose at its rear end, a pawl pivoted to said trigger in close proximity to said nose, a spring interposed between said nose and pawl, a pressure piston, a trigger formed with two stepped-surfaces and having a projection adapted to coöperate with said pin in such a manner that when the trigger projection engages with the cut-away portion of the pin for continuous firing, one of the stepped surfaces engages and lifts the nose of the trigger rod so that the trigger rod is held in its disengaged position, while when the trigger projection engages with the other portion of the pin, the stepped surfaces by their combined engagement with the spring-pressed pawl, enable the rear end of the trigger rod to be released and the front end of the trigger rod to reoccupy its engaged position relative to said pressure piston.

3. In a breech-loading machine gun of the kind described, the combination of a pin, a trigger formed with two-stepped surfaces and also with a projection adapted to coöperate with said pin, a trigger rod and a yielding pawl pivoted to said trigger rod and adapted to coöperate with said stepped surfaces.

In testimony whereof, I have affixed my signature, in presence of two witnesses.

ANDRÉ VIRGILE PAUL MARIE BERTHIER.

Witnesses:
H. C. Coxe,
L. Mummenger.