

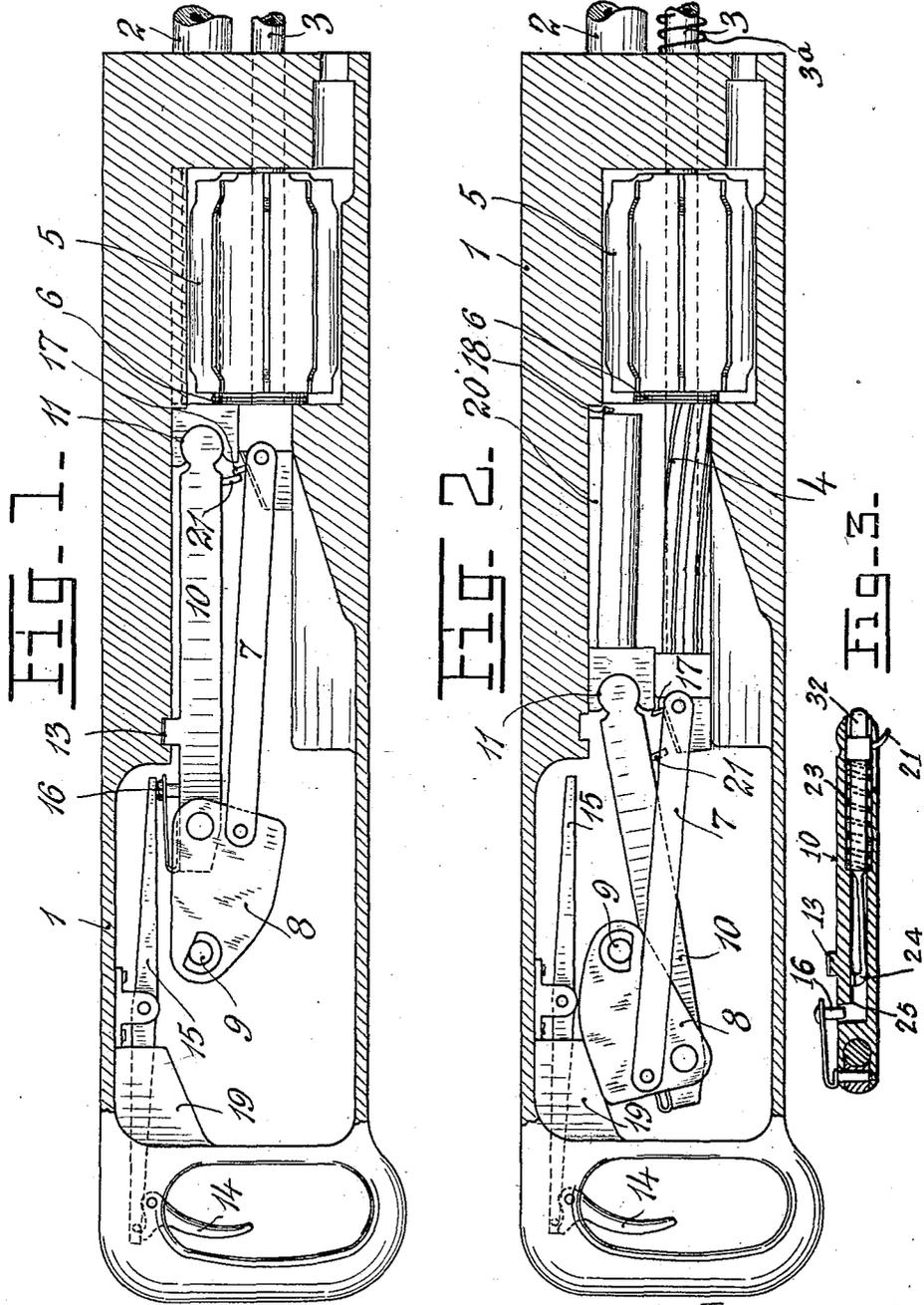
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J. ERIKSEN

MACHINE GUN

Filed Jan. 14, 1924



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# UNITED STATES PATENT OFFICE.

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MACHINE GUN.

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*To all whom it may concern:*

Be it known that I, JOHAN ERIKSEN, a subject of the King of Norway, residing at Christiania, Norway, have invented certain new and useful Improvements in Machine Guns; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to machine guns of the kind in which the loading and firing mechanism is actuated by aid of a reciprocating piston, whose backward stroke is caused by the action of the powder gases. The object of my invention is to provide an improved simple and strong breech mechanism for arms of this kind.

In the following my invention shall be explained with reference to the accompanying drawings, in which—

Fig. 1 is a partly diagrammatic side view of the breech part of a gun in accordance with my invention, in section through the breech casing, and with the respective parts in firing position.

Fig. 2 is a corresponding side view, showing the parts in their extreme retracted positions.

Fig. 3 is a part sectional view showing the firing mechanism.

In the drawings 1 is the breech casing, 2 the barrel of the gun (partly broken away) and 3 the recoil piston (likewise partly broken away). This piston is thrown back by the powder gases in well known manner, thereby cocking the recoil spring 3<sup>a</sup>, placed as shown inside or outside the same, also in well known manner.

This piston is in known manner provided with means for actuating the cartridge feed mechanism. This mechanism may be of any known or suitable arrangement and does not form part of this invention, but by way of illustration, is shown a cartridge feed, actuated by a cam 4 on the piston, said cam engaging a spring controlled wheel or disc 6, fastened to the rear end of a cartridge drum 5, the cam 4 turning the disc 6 and compressing its spring (not shown) during the backward stroke of the piston 3, thereby enabling said spring to turn at the right moment the cartridge drum 5 in position to

allow a fresh cartridge to be driven into the chamber of the gun barrel.

Now according to my invention the rear end of the said recoil piston has turnably attached to it a connecting rod 7, whose other end is turnably connected to a disc-shaped eccentric or crank 8, turning about pivots 9 journalled in the side walls of the casing 1. On the other hand this eccentric 8 is turnably connected to the rear end of a rod 10, carrying the firing mechanism, and the front end of which is turnably connected at 11 to the breech block 20.

The firing mechanism, as shown in Fig. 3, comprises, a plunger 22, actuated by a compression spring 23, and terminating in a hook 24 for catching on an angle 25 of rod 10, from which angle it is released, at the proper time, by pin 16.

From Fig. 1, illustrating the mechanism ready for firing it will be seen, that in this position the rod 10 is situated substantially in the zero position of the eccentric or crank disc 8, said rod being also locked to the casing 1 by aid of one or more cams or projections 13 engaging corresponding grooves in the casing.

The mechanism operates in the following manner:

On pressing the trigger 14 the trigger arm 15 will depress the spring actuated pin 16 against the action of its spring, thereby actuating the firing mechanism enclosed in the rod 10 and causing the firing pin of the breech block to be released, whereby the shot is fired.

On the firing of the shot the recoil piston 3 is thrown backwards by the action of the powder gases, thereby moving the connecting rod 7 and the eccentric 8 to the positions illustrated in Fig. 2, and simultaneously cocking the firing spring and extracting the empty shell by the ejector tooth 18 in the breech block, and simultaneously arming the firing mechanism enclosed in the rod 10 by aid of a tooth 17 on the rear end of the piston 3 striking against a nose 21 of the firing mechanism.

As shown in Fig. 2 the backward throw of the eccentric disc 8 is limited by an abutment 19, arranged at the rear end of the casing 1. This abutment may suitably be arranged resilient. Immediately after having struck against the abutment the mechanism is by the action of the recoil spring thrown forwards to the position shown in Fig. 1, the

breech block 20 hereby driving a fresh cartridge from the drum 5 into the chamber of the barrel, the drum 5 having meantime been rotated one step by the disc 6.

5 It will be understood that as long as the trigger is kept pressed so as to depress the trigger arm 15, the firing will be continued, a shot being fired each time the pin 16 on the trigger rod 10 strikes against the trigger arm 15.

As will be understood my novel breech action may be used in connection with all types of machine guns and with all types of cartridge feed arrangements.

15 Claims:

1. In machine guns having a gas actuated recoil piston, a recoil spring, and a breech block, in combination, an eccentric, a rod connecting the eccentric to the piston, and

a second rod connecting the eccentric to the breech block, the second rod carrying a sear and a firing mechanism controlled by the sear.

2. In machine guns having a gas actuated recoil piston, a recoil spring, and a breech block, in combination, an eccentric, a rod connecting the eccentric to the piston, and a second rod connecting the eccentric to the breech block, the second rod carrying a firing mechanism, and effecting opening and closing movements of the breech block.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JOHAN ERIKSEN.

Witnesses:

MAGNUS BREGGE,  
OLGA MÜLLER.