Aug. 12, 1952 C. A. PERRY 2,606,384

EXTRACTOR FOR GUNS WITH PIVOTED BREECH BLOCK

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Fig. 1.

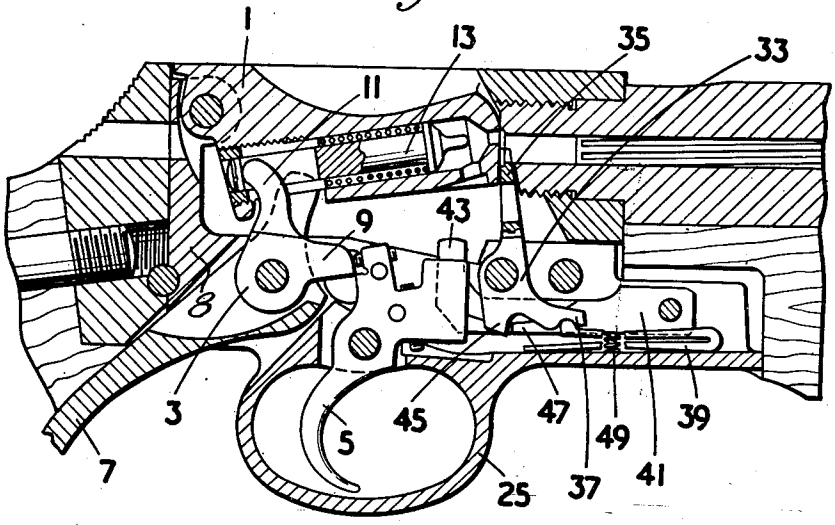
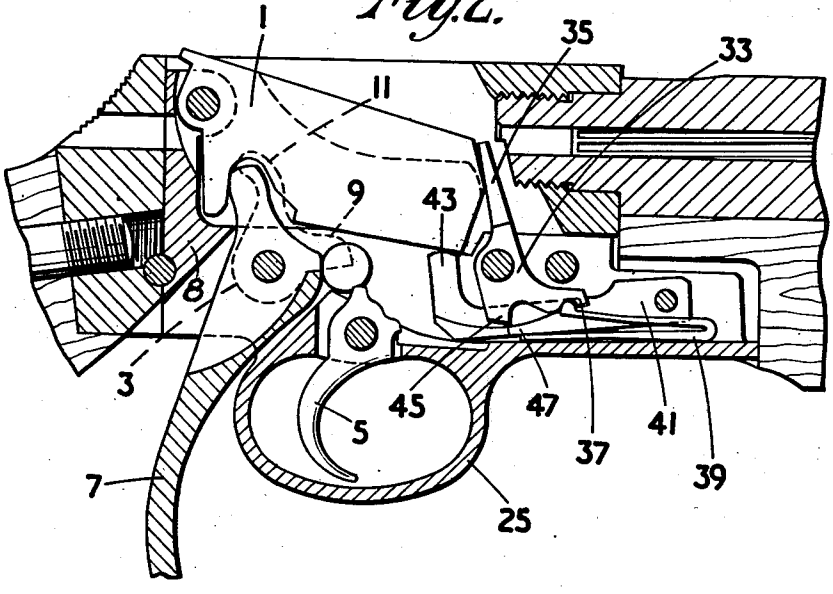


Fig. 2.



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EXTRACTOR FOR GUNS WITH PIVOTED BREECHBLOCKS

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4 Claims. (Cl. 42—28)

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This invention relates to firearms having an action of the Martini type, that is to say, an action having a pivoted breech-block, in which the firing pin is mounted, the breech-block being operated by a cocking lever and the firing pin by a tumbler (under the control of the trigger on firing and by movement of the cocking lever on cocking) preferably mounted upon the pivot of the cocking lever, a combined extractor and ejector of bell-crank formation being provided and operated by engagement with and movement of the breech-block.

In the usual construction of firearms having this type of action, ejection of the cartridge case is obtained solely by the force applied to one of the arms of the ejector by the downward movement of the breech-block obtained by operation of the cocking lever. To cause the cartridge case to be ejected clear of the weapon the cocking lever has to be moved somewhat sharply, particularly during the latter part of its outward movement. If this is not done it frequently happens that the cartridge case is not properly ejected from the weapon and it may even not have been moved clear of the chamber.

It is an object of this invention to improve the ejection of cartridge cases from firearms of the type in question by minimising the possibility of the cartridge case not being thrown clear of the weapon.

The invention is illustrated, by way of example, in the accompanying drawings, wherein:

Figure 1 is a fragmentary longitudinal sectional view showing the breech mechanism of a Martini rifle provided with a spring loaded ejector in accordance with the invention, the various parts of the mechanism being shown in the closed or cocked position;

Figure 2 is a similar section showing the breech mechanism in the open or uncocked position;

In carrying the invention into effect as applied to a construction of combined extractor and ejector for rifles having an action of the Martini type, as illustrated in Figures 1 and 2, the breech mechanism consists as usual of a breech-block 1, a tumbler 3, a trigger 5 and a cocking lever 7 all pivotally mounted in the frame or receiver 8. The tumbler 3 comprises a two-armed lever, one arm 9 engaging with a notch in the trigger 5 while the other arm 11 engages with a spring loaded firing pin 13 housed in the breech-block 1.

Pivotally mounted in the frame or receiver 8 at a position forward of the trigger 5 is an ejector 33 comprising a bell-crank lever having an arm 35 also constituting the extractor and a second arm 37 which extends in a direction roughly normal to the arm 35. Near the end of the arm 37 is formed a recess for the engagement of one end of a leaf spring 39 of the bifurcated type, said spring being mounted horizontally along the inner part of the forward extension of the trigger guard 25, the free ends facing the butt-end of the weapon with the lower limb engaging the trigger guard extension. Pivotally mounted near the forward end of the trigger guard extension and disposed adjacent to the ejector 33 is a lever 41 mounted horizontally along the inner part of the trigger guard extension, said lever having a projecting nose portion 43 which is adapted to contact with the downwardly moving breech-block 1 when the weapon is uncocked by depression of the cocking lever 7, as seen in Figure 2. In the arm 37 of the ejector 33 is a further recess forming a heel portion 45 which is engaged (in the cocked position of the mechanism as shown in Figure 1) by a projecting part 47 formed on the lever 41, which maintains the ejector 33 in its inoperative position under the influence of a coil compression spring 49 located between the underside of the lever 41 and the trigger guard extension.

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The operation of the ejector mechanism is as follows:

Assume the weapon to be cocked and ready for firing, as shown in Figure 1. In this position the spring 39 is stressed and accordingly is applying a load to the ejector 33 tending to turn it in an anti-clockwise direction around its pivot, such turning however being resisted by the engagement of the heel portion 45 with the lever 41 through the projecting part 47. After firing, the weapon is uncocked by depression of the cocking lever 7, whereby the parts assume the position shown in Figure 2. This causes the forward end of the breech-block 1 to be swung downwardly about its pivot, but the ejector 33 is not freed since in the initial movement of the breech-block the lever 41 is not contacted, and therefore the ejector continues to be positively held by the lever 41 although the front end of the block has cleared the breech chamber. On continued movement of the breech-block, the nose portion 43 of the lever 41 is struck by the bottom face of the block whereby the lever is turned about its pivot against the thrust of the spring 49 until the part 47 disengages from the heel portion 45 of the ejector, as seen in Figure 2, thereby permitting the spring 39 under its released energy to impart a rapid movement to the ejector 33 and effectively remove the unobstructed empty cartridge case. On re-cocking the weapon, the breech-block 1 is raised thereby

forcing back the arm **35** of the ejector **33** about its pivot in a clockwise direction, whereby the arm **37** compresses the spring **39** and under the influence of the spring **49** the lever **41** is raised bringing the part **47** thereon into re-engagement with the heel portion **45** of the ejector, which is thereby locked and pre-loaded during the cocking of the breech mechanism.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a firearm of the kind specified, the combination with a pivoted operating lever and a pivoted breech-block, of a combined extractor and ejector in the form of a pivoted bell-crank lever having a main arm, an auxiliary arm extending substantially normal to the main arm, and a heel portion, a pivoted holding lever formed with a projecting portion to engage the heel portion of the bell-crank lever, a nose portion on said holding lever positioned to be contacted by the breech-block and to be actuated thereby to release the bell-crank lever, and a spring engaged with the auxiliary arm of the bell-crank lever for actuating it.

2. A firearm as defined in claim 1, including a trigger guard extension, and wherein said spring is a bifurcated leaf spring having upper and

lower limbs, and the auxiliary arm of said bell-crank lever is recessed to receive the end of the upper limb of said leaf spring, and the lower limb of said leaf spring engages the trigger guard extension.

3. A firearm as defined in claim 1, including a trigger guard extension, and wherein said holding lever is mounted on said trigger guard extension.

4. A firearm as defined in claim 1, including a trigger guard extension, and wherein said holding lever has a nose portion formed thereon and positioned to be contacted by the breech-block during downward opening movement thereof, and a compression spring located between the underside of said holding lever and the trigger guard extension and constraining said holding lever to maintain contact with the heel portion of said bell-crank lever.

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The following references are of record in the file of this patent:

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