June 27, 1950 J. E. BROCK 2,512,998

FIREARM

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Fig. 11.

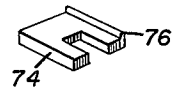


Fig. 1.

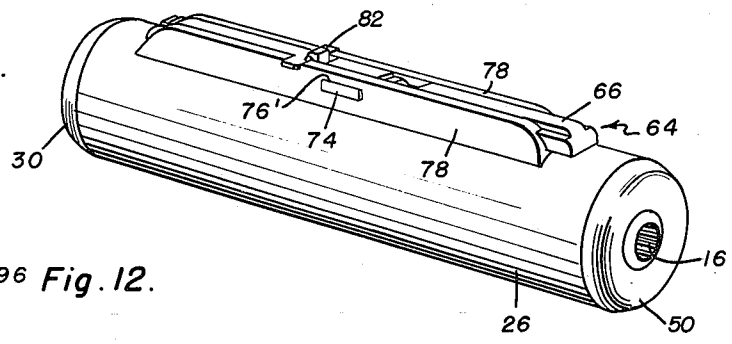


Fig. 12.

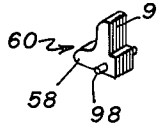


Fig. 2.

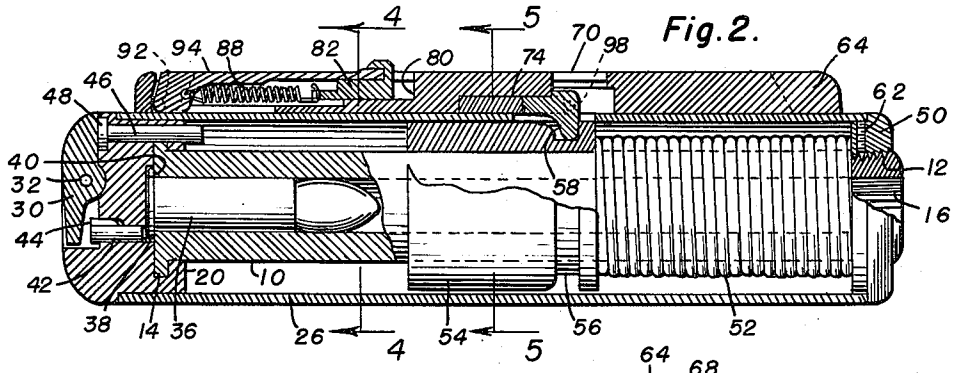


Fig. 4.

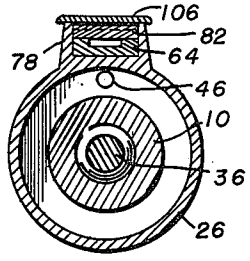


Fig. 5.

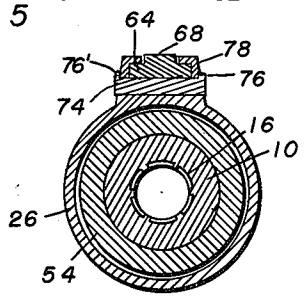
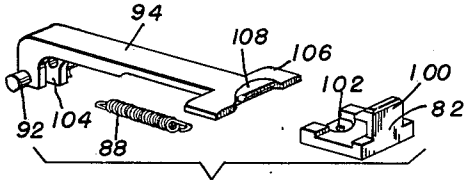


Fig. 10.



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FIREARM

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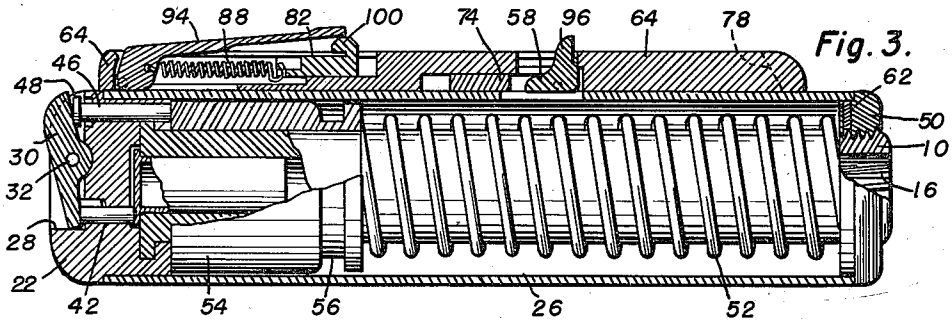


Fig. 3.

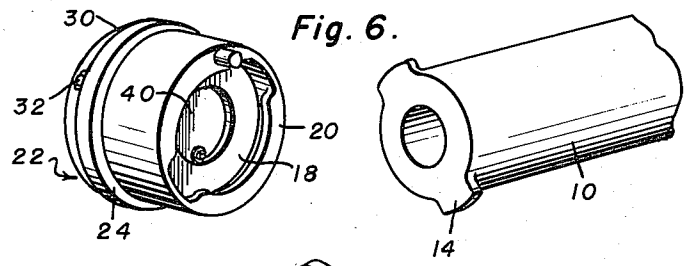


Fig. 6.

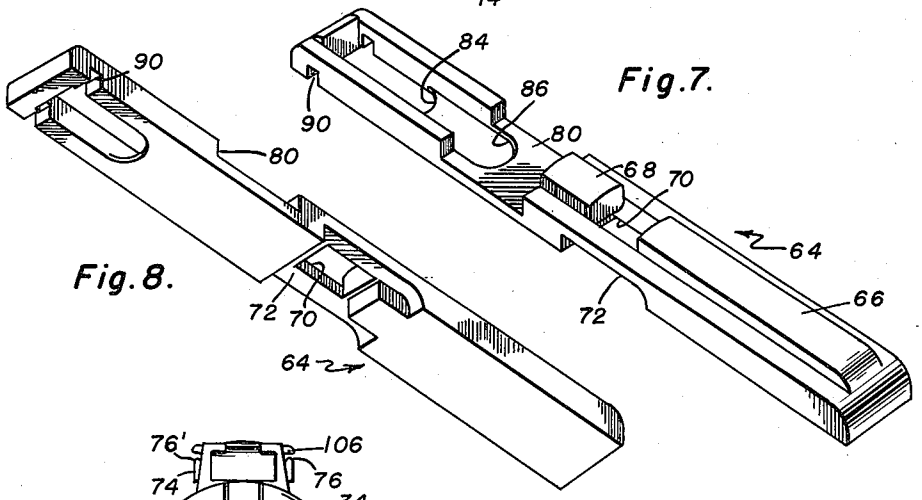


Fig. 8.

Fig. 7.

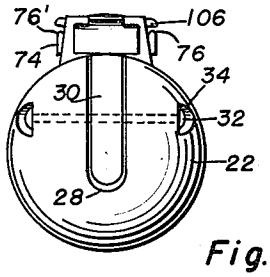


Fig. 9.

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FIREARM

James Everding Brock, Longview, Wash.

Application June 27, 1947, Serial No. 757,583

3 Claims. (Cl. 42—1)

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This invention relates generally to firearms, and more particularly to a small pistol comprising a barrel, a breech block removably secured to one end of this barrel and carrying firing mechanism thereon, a cocking spring operatively associated with the firing mechanism and a casing enclosing the barrel and cocking spring and having trigger mechanism mounted thereon.

A primary object of this invention is to provide a firearm of exceptionally small bulk and weight, which may be safely used with cartridge ammunition in the order of .22 calibre.

Another object of this invention is to provide a firearm of this character in which a relatively strong cocking spring and simple firing mechanism assure the reliable operation of the weapon.

Another object of this invention is to provide a pistol of this character in which the breeching thereof is comparatively simple and very limited structure is required to provide for the breeching and reloading of the pistol.

Still another object of this invention is to provide a pistol in which the trigger mechanism is provided with a safety catch of novel character and designed to allow the pistol to be safely carried in the pocket, handbag, glove compartment of an automobile, or the like.

Still another object of this invention is to provide firing and trigger mechanism which may be operated without the use of lubricating oil.

And a last object to be specifically mentioned is to provide a device of this character which is relatively inexpensive and practicable to manufacture, extremely simple and convenient to use and to disassemble for cleaning or repair, and which will give generally efficient and durable service.

With these objects definitely in view this invention resides in certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly pointed out in the appended claims, reference being had to the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a perspective view of the assembled pistol;

Figure 2 is a longitudinal vertical sectional view of the pistol, the parts being shown in the positions occupied when the pistol is loaded and cocked;

Figure 3 is a similar view of the pistol, with the parts shown in the positions occupied when the pistol has been fired;

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Figures 4 and 5 are vertical sectional views, taken on the lines 4—4 and 5—5, respectively;

Figure 6 is a grouped view of the breech block and the breech end portion of the barrel, the parts being shown in perspective and arranged in a manner proposed and suggestive of how these parts are associated in opposite positions;

Figure 7 is a perspective view of the trigger lock;

Figure 8 is another perspective view of this trigger lock;

Figure 9 is an end view of the pistol, the view being taken from the breech end;

Figure 10 is a grouped view of the safety catch, the safety catch locking lever and the safety catch locking lever spring;

Figure 11 is a perspective view of a trigger guide insert; and

Figure 12 is a perspective view of the trigger.

Similar characters of reference designate similar or identical parts and portions throughout the specification and throughout the several views of the drawings.

Referring now to the drawings in detail, it will be noted that this pistol includes a barrel 10 which is substantially co-extensive in length with the entire weapon and is exteriorly threaded at 12, at the muzzle end thereof. The breech end of the barrel is provided with diametrically disposed wing flange members 14, and the bore of the barrel will preferably be rifled, as indicated at 16, throughout the major portion of the length thereof.

The wing flange portions 14 of the barrel are adapted to be removably inserted between the inner face 18 and the segmental flanges 20 of the breech block, which for convenience is generally indicated by the numeral 22. This breech block is generally cylindrical in form, the exterior surface being stepped, as indicated at 24, to facilitate the securement thereof within the end of the cylindrical casing 26. The outer end face of the breech block is channeled, as indicated at 28, to receive the rocker 30 which is secured in place by pin 32, the terminal portions of which are preferably disposed within recesses 34 cut in the rounded or bevelled outer end face of the breech block.

The environment wherewith this invention is to be used will, of course, include a cartridge 36 which will be percussion fired from the head portion thereof 38, which head portion seats between the end of the barrel and the recessed portion 40 in the face 18 of the breech block, as best illustrated in Figures 2 and 3.

The firing pin 42 is generally cylindrical with a key portion 44, and the breech block is formed with a cylindrical bore with a terminal slot to receive this firing pin and key, as well illustrated in Figure 2. A rocker actuating pin 46 is slidably mounted within a bore formed in the breech block, the bore having an enlarged portion at the outer end thereof to receive the head 48 of the rocker actuating pin. The bore of the rocker actuating pin will preferably be formed in a portion of the breech block having one of the segmental flange portions 20 in order that maximum suport may be given to the inner end of this rocker actuating pin, and the outer end face of the head 48 will, of course, be substantially flush with the surface at the root of the channel 28 in the breech block. It will be understood that the head 48 and the key 44 are provided to prevent the rocker actuating pin and the firing pin from sliding out of the breech block when the same is removed from the casing 26, as when the pistol is breeched for reloading, adjustment or repair.

The muzzle end of the barrel is, as already described, exteriorly threaded as at 12 and the cocking spring retainer nut 50 is screwed on to the end of the barrel, to retain the helical cocking spring 52 compressed between this nut 50 and the trigger sleeve 54 which is of an internal diameter very slightly greater than the external diameter of the barrel 10 and which has an external diameter very slightly less than the internal diameter of the casing 26. This trigger sleeve 54 is adapted to slide freely between the barrel and the casing and is provided with a groove 56 adjacent the muzzle end thereof, the side of the groove adjacent the breech end of the pistol being bevelled to provide for clearance of the catch portion 58 of the trigger, which is generally indicated by the numeral 60. It should be noted here that the cocking spring retaining nut 50 is not removed during the reloading of this pistol, and this nut is retained in position on the end of the barrel 10 by means of a set screw 62.

The trigger lock will now be described in sufficient detail to clearly show the features thereof. This trigger lock, generally indicated by the numeral 64 and illustrated in Figures 7 and 8, is an elongated rectangular member with upstanding rib portions 66 and 68 on the top surface thereof with a recess 70 therebetween and extending into a further recessed portion 72 on the opposite side of the trigger lock, which latter recess receives the trigger guide insert 74 represented in Figure 11 and having a retaining flange 76 to coact with a similar flange 76' of solder or the like applied after assembly to retain this insert 74 in sliding relationship within the parallel trigger lock guides 78 which are formed integral with the casing 26. Another recess 80 is provided on the upper side of the trigger lock to receive the safety catch 82, with a communicating recess 84 extending through the lock, and another portion 86 of the recess is provided to receive one end of the safety catch spring 88. A transverse open channel 90 is provided on the underside of the trigger lock at one end thereof, to receive the hinge pins 92 of the safety catch locking lever 94.

In the preceding paragraph reference has been made to the various elements which are operatively associated with the trigger lock 64, and these parts will now be described in some greater detail. The trigger 60 has a portion 96, disposed at right angles with the catch portion 58 and adapted to be held by the muzzle end portion of the trigger lock when the pistol is in cocked position, that is, when the trigger is in the position illustrated in Figure 2 with the catch portion 58 inserted in the groove 56 of the trigger sleeve 54 and when the axis pins 98 are resting on the upper surface of the casing 26. The form of the safety catch 82 will be clearly understood if reference be had to Figure 2 and to Figure 10, this unit comprising a plate portion which is slidably mounted within the recess 80 of the trigger lock, an upstanding lipped flange or hook 100 which engages the end of the safety catch locking lever 94, and an aperture 102 to facilitate the attachment thereto of one end of the safety catch spring 88. The safety catch locking lever 94 is pivotally secured to the trigger lock by means of the axis pins 92 and a small apertured flange 104 is provided on the underside of the lever for the securement thereto of the other end of the safety catch spring 88. The forward end of this lever is provided with finger grips 106, and the drawings illustrate an integral built up portion 108 on the forward end of this lever at the point where the hook portion 100 of the safety catch contacts the same, although this built up portion may be deleted, if desired. Finally, the trigger guide insert is a flat U-shaped member which is slid into the recess 72 in the trigger lock and functions to facilitate the insertion of the trigger 60 into proper operative position, and this insert 74 cannot be deleted without disturbing the proper functioning of the pistol.

The operation of this invention will be clearly understood from the foregoing description of the mechanical details thereof, taken in connection with the recited objects sought to be achieved by this invention, but it may be added, in recapitulation, that the extraction of an empty shell and the reloading of the pistol is accomplished by breeching the pistol, as in Figure 6, wherein it is clearly illustrated how the wing flanges 14 may be turned to disengage the barrel 10 from the segmental flanges 20 of the breech block 22. It will be understood that in reloading the pistol the trigger sleeve 54 must be moved so as to be again locked in the position shown in Figure 2, by means of the catch 58 of the trigger, this requiring movement of the barrel 10, as to the right in this figure, and reinsertion of the trigger, trigger lock, and trigger guide insert in proper positional relationship. Ordinarily the safety catch mechanism will be replaced in proper position at the same time. To fire the pistol the safety catch 82 is pressed forwardly to release the safety catch locking lever 94 and allow the safety catch to be pulled toward the breech end of the pistol by the safety catch spring 88. This releasing of the safety catch will allow the movement of the trigger lock 64 toward the breech end of the pistol upon pressure of a finger on the end of the trigger lock adjacent the muzzle end of the pistol. When the trigger lock has been thus moved sufficiently to allow the portion 96 of the trigger to rise into the recess 70 of the trigger lock, the catch portion 58 of the trigger will release the trigger sleeve 54. Immediately upon such release the cocking spring 52 drives the trigger sleeve 54 forcefully toward the breech end of the pistol and strikes the rocker actuating pin 46. The rocker 30, in turn, drives the firing pin 42 against the head of the percussion fired type cartridge 36 and the projectile of this cartridge is ejected through the rifled bore of the barrel, leaving the empty cartridge case in the pistol which must, of course, be removed before the pistol can be reloaded.

Obviously many minor variations may be made in this invention without departure from the spirit and scope thereof and though there has been shown a particular embodiment of this invention, this application is not limited to this particular embodiment, but it is desired to include in the scope of this invention the construction, combination and arrangement of parts and portions substantially as set forth in the appended claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A pistol comprising a barrel, a breech block removably secured to one end of the barrel, cartridge firing mechanism mounted on said breech block, a cocking spring operatively associated with said firing mechanism, a casing enclosing said cocking spring and barrel, and trigger mechanism mounted on said casing, said cartridge firing mechanism including a firing pin slidably mounted in said breech block, a rocker associated with said firing pin and means to transmit impact force of said cocking spring to said rocker.

2. A pistol comprising a barrel, a breech block removably secured to one end of the barrel, cartridge firing mechanism mounted on said breech block, a cocking spring operatively associated with said firing mechanism, a casing enclosing said cocking spring and barrel, and trigger mechanism mounted on said casing, said cocking spring being helical and surrounding said barrel, and a trigger sleeve slidably associated with said barrel and arranged to compress the cocking spring when in one position and to actuate said firing mechanism when released by said trigger mechanism.

3. A pistol comprising a barrel, a breech block removably secured to one end of the barrel, cartridge firing mechanism mounted on said breech

block, a cocking spring operatively associated with said firing mechanism, a casing enclosing said cocking spring and barrel, and trigger mechanism mounted on said casing, said cocking spring being helical and surrounding said barrel, and a trigger sleeve slidably associated with said barrel and arranged to compress the cocking spring when in one position and to actuate said firing mechanism when released by said trigger mechanism, said trigger mechanism including a trigger pivoted on the casing for engaging said trigger sleeve in said one position, an elongated trigger lock, elongated trigger lock guides whereby the trigger lock is longitudinally slidably mounted on the casing, a safety catch locking lever carried by said trigger lock and engageable in one position with said trigger lock guides, and a safety catch for releasably holding the lever in said position with the safety catch preventing longitudinal movement of the trigger lock and the trigger lock retaining the trigger in position to hold the trigger sleeve against movement.

JAMES EVERDING BROCK.

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