

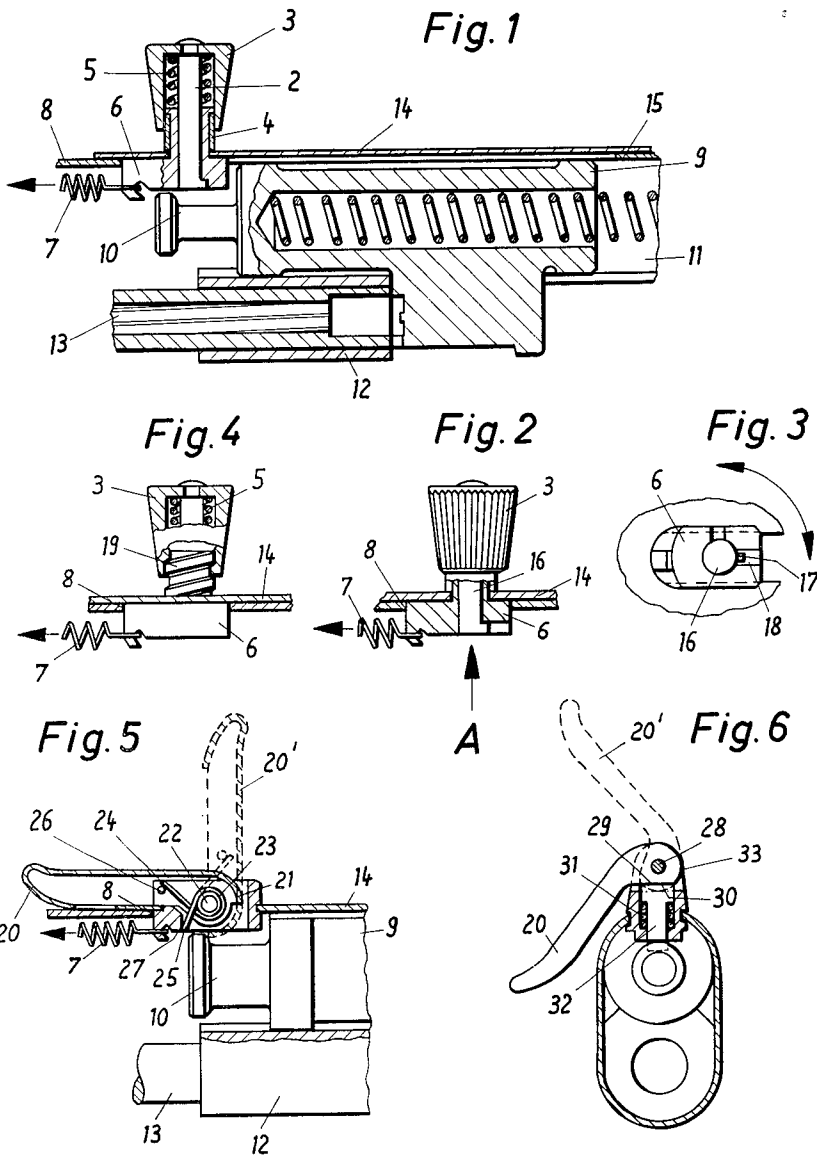
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BREECH TENSIONING AND DISPLACING DEVICE FOR FIREARMS

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BREECH TENSIONING AND DISPLACING DEVICE FOR FIREARMS

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1 Claim. (Cl. 89—1)

The present invention relates to automatic and semi-automatic firearms and more particularly to a breech tensioning device for such weapons where a manipulating device is used by means of which the breech member can also be moved back and forth by engagement therewith.

Accordingly, it is an object of the present invention to provide manipulating means which are positively engageable with the breech member of a firearm thereby allowing back and forth movement of the breech member for the purpose of removing foreign matter contained in the breech block or to free the firearm in case of jamming.

It is another object of this invention to provide several embodiments of the manipulating means for positive engagement with the breech member of a firearm.

Still another object of this invention is to provide manipulating means which do not move upon shooting, thereby avoiding shocks and the danger of injury to the user of the firearm.

The invention consists in the novel combination and arrangement of a spring-biased manipulating means with the breech member of an automatic or semi-automatic firearm which allows to bring a guide pin connected to said manipulating means into engagement with a molded end portion of said breech member so as to make possible the positive back and forth movement of said breech member upon manually actuating said manipulating means. Other objects and advantages of the invention will be apparent from the following description in conjunction with the accompanying drawings, in which like reference numerals refer to like parts throughout the several figures, and wherein:

FIGURE 1 is a cross-section in the longitudinal direction of a firearm with a breech member and a manipulating means for engaging and actuating said breech member;

FIGURE 2 is a partial cross-section through a portion of the arrangement illustrated in FIGURE 1, showing a different embodiment of the manipulating means;

FIGURE 3 is a bottom view of FIGURE 2 seen in the direction of the arrow A;

FIGURE 4 is a cross-section similar to the one illustrated in FIGURE 2, showing another embodiment of the manipulating means;

FIGURE 5 is a cross-section similar to the one illustrated in FIGURE 1, showing a fourth embodiment of the manipulating means;

FIGURE 6 is a cross-section through the breech block of a gun with a reversible tensioning lever in the cross direction, constituting a fifth embodiment of the manipulating means.

In FIGURE 1 a guide pin 2 is axially guided by an upwardly extending sleeve 4. The guide pin 2 is fixedly interconnected with a manipulating means (handle) 3 allowing the depression of the guide pin 2. The inside of the handle 3 slides on the outside of the sleeve 4. While a compression spring 5 maintains the guide pin 2 as well as the handle 3 in their upper disengaged position, the guide pin 2 slides along a bore in a cocking slide 6 when the handle 3 is pressed down. Under the action of a tension spring 7 the cocking slide 6 is then drawn to a stop member 8 against which it comes to rest.

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The front portion of the breech member 9 in a firearm is constructed as a molded end portion 10, with which the guide pin 2 engages each time the handle 3 is actuated. A guide casing 11 serves for guiding the breech member 9 in the longitudinal direction. The rear bearing is designated by reference numeral 12 and the barrel of the gun by numeral 13. A cover plate 14 covers the breech block.

If foreign matter (dirt, combustion residue) gets into the breech block, handle 3 which is basically used for tensioning the breech member 9 is then moved downwardly by exerting thereon a slight pressure in the axial direction. The guide pin 2 is simultaneously carried along and enters into the path of movement of the molded end portion 10. Thereby the breech member 9 is engaged and can be displaced up to a rear stop member 15 and back to the front stop member 8. This back and forth movement can be repeated until the foreign matter is removed from the breech block and proper firing conditions are secured again.

FIGURES 2 and 3 are similar to FIGURE 1. However, different provisions are made for arresting a guide pin 17 in its engaged position by rotating instead of depressing a breech tightening handle 16, thereby rotating simultaneously the guide pin 17. For this purpose the lower portion of the guide pin 17 is provided with a nose 18 which engages with the corresponding recess 19 of the cocking slide 20, thus establishing the engagement with the breech member 9. The decoupling is performed by a short downward pressure and a simultaneous rotation in the opposite direction of the arrow as shown in FIGURE 3, thereby disengaging the nose 18 from the recess 19 of the cocking slide 20, and by a simultaneous backward movement of the guide pin 17 from the molded end portion 10 into its initial position, whereby the cocking slide 20 is automatically returned to the stop member 8 by means of a tension spring.

In the embodiment as illustrated in FIGURE 4 the engagement is performed by rotating the handle 22 via steeply arranged threads 23 for the same purpose of attaining the engagement with the molded end portion of the breech member 9. However, it is necessary here to return the handle 22 for disengagement, in order to rest upon firing in the front position against the stop member 8 in the decoupled position, which is also automatically performed under the action of the retractable spring 7.

Another embodiment is illustrated in FIGURE 5, in which a cocking lever 24 which is reversible in the longitudinal direction, is arranged as a coupling member with the breech member 9. Said cocking lever is provided with a curved portion 25 which moves after the reversal of the cocking lever in the dashed position 26 into the path of the molded end portion 10 thus establishing the engagement. The cocking lever 24 is supported on a bolt 27 on which an omega spring 28 is arranged, the legs 29 and 30 of which rest behind the stop members 31 and 32 and which spring automatically returns the cocking lever 24 under its action from the position 26 into the decoupled idle position.

Finally, an embodiment is shown in FIGURE 6 which is similar to that illustrated in FIGURE 5. In FIGURE 6, however, the cocking lever 33 is arranged by means of a bolt 34 in the cross direction of the gun. In the decoupled position the curved portion 35 of the cocking lever 33 is positioned on the surface 36 of a guide pin 38 being under the action of a compression spring 37, which guide pin is moved by the curved portion 40, after the rocking of the cocking lever 33 into the dashed position 39 and into the path of the molded end portion 10 for effecting the coupling. The curved portion 40 can, for instance, be constructed in a way that the cocking lever

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33 can automatically rock back into its idle position in order to disengage the connection.

It is obvious that the present invention allows a back and fourth movement of the breech member, whereas known constructions allow only a backward movement (tensioning) of the breech member. The desirable novel result is attained by allowing the guide pin 2 to be engaged with a molded end portion of the breech member thereby making possible the movement of said member in two opposite directions. Only by such an arrangement is it possible to use the breech tensioning handle for two different functions, i.e. (1) tensioning the breech member and (2) displacing the breech member back and forth so as to remove foreign matter contained in the breech block or to free the firearm in case of jamming.

It will be understood that this invention is susceptible to further modification and, accordingly, it is desired to comprehend such modifications within this invention as may fall within the scope of the appended claim.

What is claimed is:

Breech tensioning and shaking device for automatic and semi-automatic firearms comprising, a breech block, a breech member mounted in said breech block for forward and backward movement, said breech member having a recessed portion, said recessed portion being formed by an integral reduced cylindrical neck portion extending from the forward end of said breech member, and the forward end of said cylindrical neck portion carrying an integral radially extending peripheral rib forming a

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peripheral shoulder, tensioning means directly contacting said breech member, a locking member slidably carried on said breech block and selectively positioned in said recessed portion of said breech member, said locking member comprising a cocking slide positioned in a longitudinal slot in a cover plate, a guide pin slidably received in said cocking slide and normally held in disengaged position by a spring means, handle means slidably mounted on said cocking slide and secured to said pin to position said pin in said recessed portion, spring means secured to said cocking slide for maintaining said cocking slide in its forward position to thereby selectively longitudinally reciprocate and shake said locking member and said breech member to knock the latter loose when jammed.

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