Aug. 4, 1925.

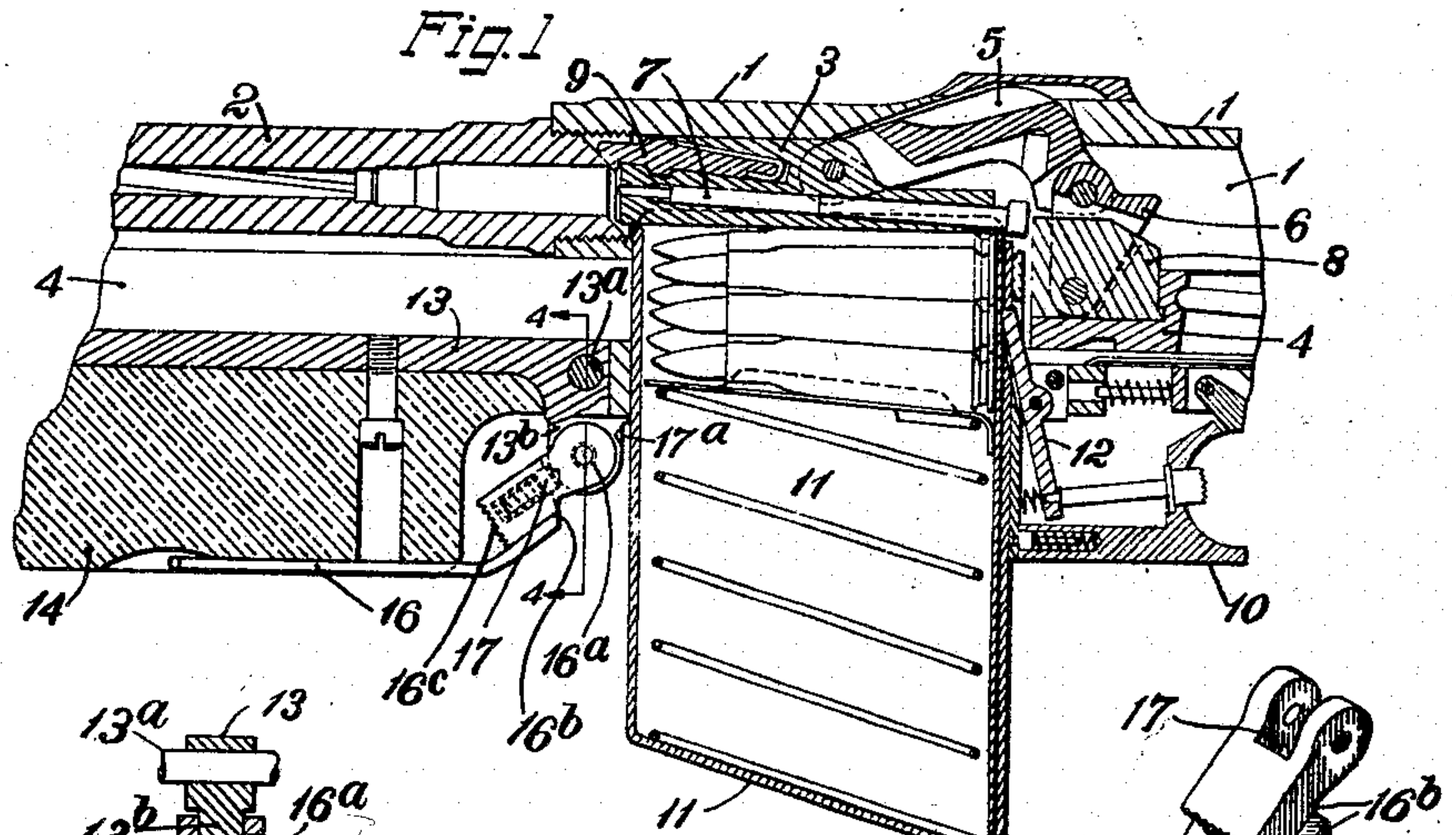
1,548,709

J. M. BROWNING

MAGAZINE FIREARM

Filed March 13, 1924

Fig. 1



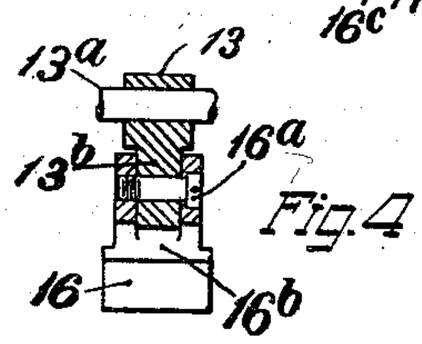


Fig. 4

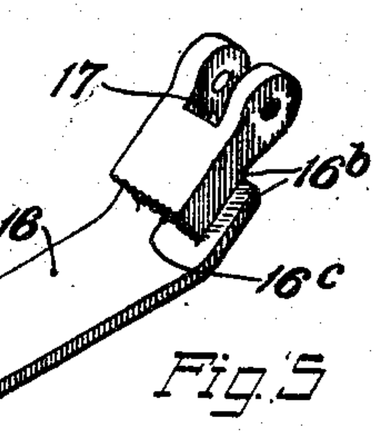


Fig. 5

Fig. 2

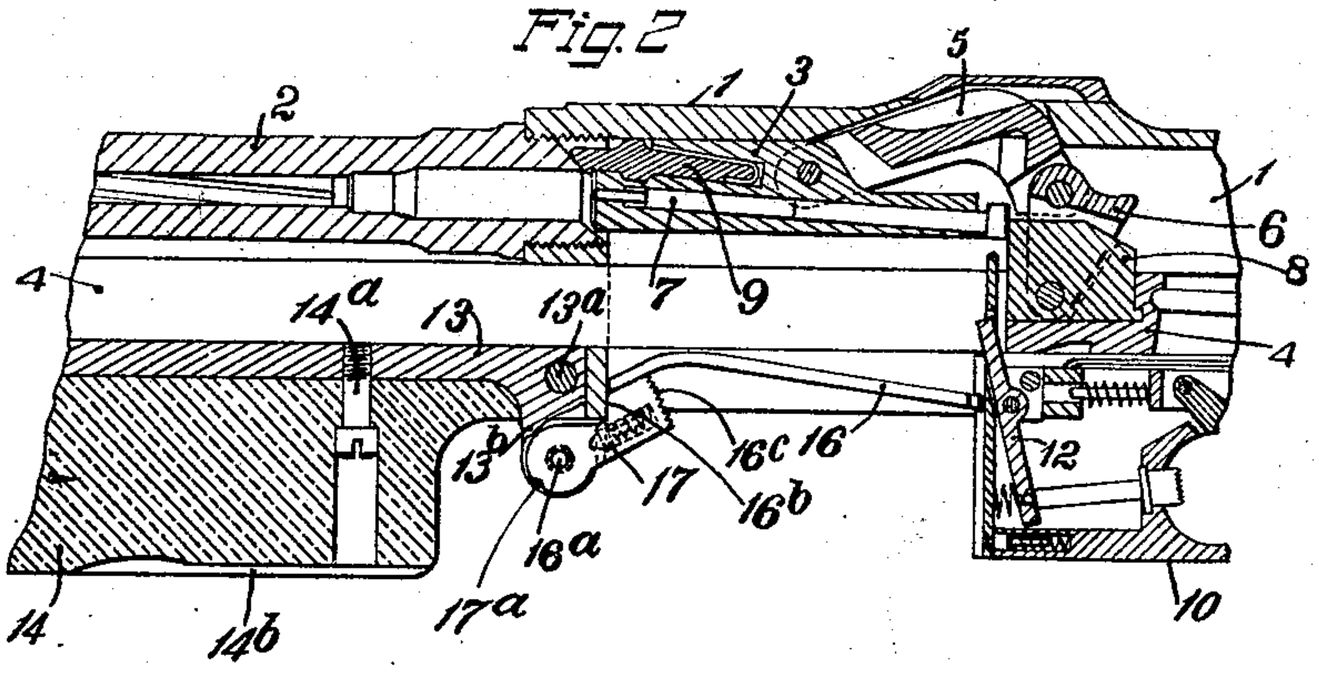
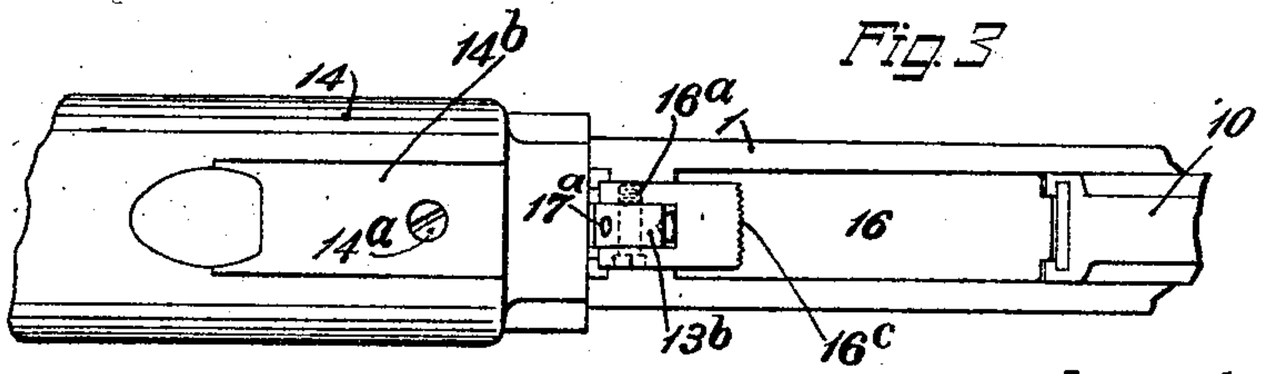


Fig. 3



Inventor

John M. Browning

Patented Aug. 4, 1925. 1,548,709

UNITED STATES PATENT OFFICE.

JOHN M. BROWNING, OF OGDEN, UTAH.

MAGAZINE FIREARM.

Application filed March 13, 1924. Serial No. 698,935.

To all whom it may concern:

Be it known that I, JOHN M. BROWNING, a citizen of the United States, residing in Ogden, in the county of Weber and State of Utah, have invented certain new and useful Improvements in Magazine Firearms, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The invention relates to firearms of the class having a detachable cartridge-magazine arranged in an opening in the wall of the breech casing, and more particularly to automatic firearms of this class, such as are shown, for example, in my prior Patent No. 1,293,022, dated February 4, 1919, for automatic machine rifle.

Firearms of this class have sometimes to be carried without the magazine, in which case the opening in the wall of the breech casing is left uncovered, and dust, dirt, snow, or other extraneous matter may enter the breech casing through said opening. The presence of such foreign matter within the casing is liable to interfere with the smooth functioning of the firearm if the same should be required for service, and may even render the arm entirely unfit for service until it has been fully disassembled and cleaned.

It is an object of the invention to overcome these difficulties by providing a novel, improved means for closing said opening in the breech casing while the magazine has been removed. This object is attained by providing on the arm a closure for said opening, which is arranged to be moved readily, at will, from its inoperative position, in which it does not interfere with the use of the arm, to its operative position in which it closes said opening, or vice versa.

Other and further advantages will appear from the following disclosure.

A preferred embodiment of the invention is shown in the accompanying drawings, in which—

Fig. 1 is a central vertical longitudinal section through a portion of a firearm similar to that disclosed in the prior patent hereinbefore referred to, showing the invention applied thereto; the magazine is shown seated in the opening through the wall of the breech casing and the closing means for said opening is shown in its inoperative position.

Fig. 2 is a view similar to that shown in Fig. 1, but with no magazine, and with the closing means in its operative position closing said opening.

Fig. 3 is a bottom plan of a portion of the arm with the closing means in the operative position as shown in Fig. 2.

Fig. 4 is a detail view, being a vertical transverse section in line 4—4 of Fig. 1.

Fig. 5 is a detail view showing the closing member in perspective.

The automatic firearm to which the invention is shown applied comprises the following main parts; the breech casing 1 having near its forward end a downward opening to receive the upper end of the cartridge magazine, the barrel 2 secured to the forward end of said casing, the breech block 3 and the action slide 4 both mounted for longitudinal reciprocating movement in said casing, the locking brace 5 pivoted to the breech block, the link 6 connecting said brace and the action slide, the firing pin 7 carried by the breech block, the hammer 8 carried by said action slide, the extractor 9, the trigger plate 10 closing the bottom of the breech casing in rear of the downward opening which receives the upper end of the magazine, the detachable cartridge magazine 11 and the magazine latch 12.

All of these parts are constructed and arranged substantially as shown and described in my prior patent hereinbefore referred to, and further description thereof, except as they co-operate with the novel improved construction now to be described, is unnecessary.

To close the downward opening in the breech casing, when the magazine has been removed therefrom, a closing member 16 is provided, said member being preferably pivotally supported by a transverse pivot bolt 16^a in a downwardly projecting lug 13^b at the end of the breech casing in front of the magazine opening therein. This lug 13^b, as clearly shown in Fig. 4, is of somewhat less width than the rear end of the gas cylinder extension 13, and is preferably integral with said extension to permit mounting or dismounting of the gas cylinder and the closing member as a unit. At its rear end extension 13 enters into a vertical slot in the breech casing, in which it is secured in the usual manner by a transverse pin 13^a, see Figs. 1, 2 and 4.

When the closing member 16 is in its operative position shown in Figs. 2 and 3, it effectually prevents foreign matter, such as

mud or snow, from entering the magazine opening, the thin plate of said member having a substantially rectangular shape to fit the corresponding magazine opening. The rear wall of said opening has a wide vertical central groove which normally receives a corresponding rib on the magazine 11. To close said groove, the end of the closing plate has a short extension of a width to fit into said groove, see Fig. 3.

The closing member 16 is prevented from swinging inward too far by a shoulder 16[b] striking the lower portion of the forward wall of the magazine opening.

In its operative position the thin closing plate of the member 16 is protected from injury or deformation, as by blows, because it is enclosed within the breech casing.

Even in its inoperative position, it is, of course, desirable that it be out of the way so as not to interfere with the use of the arm, and at the same time be protected. By the improved construction, these desirable features are attained by having the closing plate so bent some distance from the pivot 16[a] as to cause the greater portion of its length, when it is brought to its inoperative position as shown in Fig. 1, to extend parallel to the bottom of the lower surface of the forearm 14 which is secured, as by screws 14[a] only one of which is shown, to the extension 13 of the gas cylinder; the forearm 14 is provided in said lower surface of its rear end with a central longitudinal recess 14[b] to receive said parallel portion of the closing plate when the member 16 is in its inoperative position, whereby said portion lies within the external contour of the forearm and is thus out of the way and protected against injury.

The closing member 16 is yieldingly kept either in its operative position, see Figs. 2 and 3, or in its inoperative position, see Fig. 1, by a device comprising a spring-actuated plunger 17 seated in the hub of said member and fitted to enter a shallow recess 17[a] in the lug 13[b] corresponding to either of its two positions.

That portion of said closing member 16 adjacent its pivot 16[a] in which the plunger 17 and its spring are mounted is of considerable height but of less width than the thin closing plate, see Figs. 3, 4 and 5, and forms a shoulder 16[c], which is preferably knurled or otherwise roughened, to provide a means whereby the operator may readily swing the closing member 16 out of the opening in the casing when moving it from its operative position to its inoperative position.

To facilitate the starting of the closing member 16 from its inoperative position shown in Fig. 1, the forward end of the recess 14[b] in the forearm extends beyond the end of said member and is cut somewhat deeper than the rest of said recess, thereby permitting the operator to place the tip of his finger under the end of member 16 to swing the same out of the recess.

What I claim and desire to secure by Letters Patent is:

1. In a firearm, a breech casing having an opening through its wall, cartridge holding means removably seated in said opening, and a hinged member for closing said opening when said cartridge holding means is removed, said member being constructed and arranged, on being brought to its operative position closing said opening, to swing inwardly between the side walls of said opening whereby it is protected against injury and having means for limiting said inward movement to positively prevent the entrance of solid foreign matter into the breech casing through said opening.

2. In a firearm, a breech casing having an opening through its wall, a detachable cartridge magazine normally seated in said opening, and a hinged member for closing said opening when the magazine has been removed, said member comprising a thin plate arranged to swing between the side walls of said opening when the member is moved to its operative position and to lie flat against a portion of the firearm when swung out to its inoperative position, whereby it is at all times protected against injury, and means for limiting the inward movement of said member to positively prevent the entrance of solid foreign matter into the breech casing through said opening.

3. In a firearm, a breech casing having an opening through its wall, a longitudinally extending element removably supported at its rear end by said casing, and a closure for said opening carried by said element, whereby said element and closure may be mounted or dismounted as a unit.

4. In a firearm, a breech casing having an opening through its wall, a longitudinally extending member removably supported at its rear end in said casing, a forearm carried by said member, and a closure for said opening also carried by said member whereby said member, forearm and closure may be mounted or dismounted as a unit.

5. In a magazine firearm, a breech casing having an opening through its wall, a detachable cartridge magazine normally seated in said opening, a member for closing said opening when the magazine is detached, said member being pivotally supported by said casing forward of the magazine opening, and an element of said firearm forward of said casing and provided with a recess therein adapted to receive a portion of said member when the same is moved to its inoperative position.

6. In a magazine firearm, a breech casing having an opening through its wall, a cartridge magazine normally detachably seated

in said opening, a member supported by said casing for movement to close said opening when the magazine has been removed, and to open said opening for insertion of the magazine, a forearm supported forward of said casing, and a recess in said forearm to receive a portion of said member when the same is moved to its inoperative position, whereby the said portion is out of the way and protected against injury.

7. In an automatic firearm, a breech casing having a magazine opening to receive a detachable cartridge magazine, a gas cylinder supported at its rear end in said casing, and a member pivotally carried by said cylinder for closing said opening when the magazine is detached.

This specification signed and witnessed this 11th day of March, A. D. 1924.

JOHN M. BROWNING.

In presence of—
C. J. EHBETS,
J. CALVIN BRIGHT.