July 26, 1927. 1,637,235

G. NORMAN

AUTOMATIC FIREARM

Filed Nov. 17, 1926 2 Sheets-Sheet 1

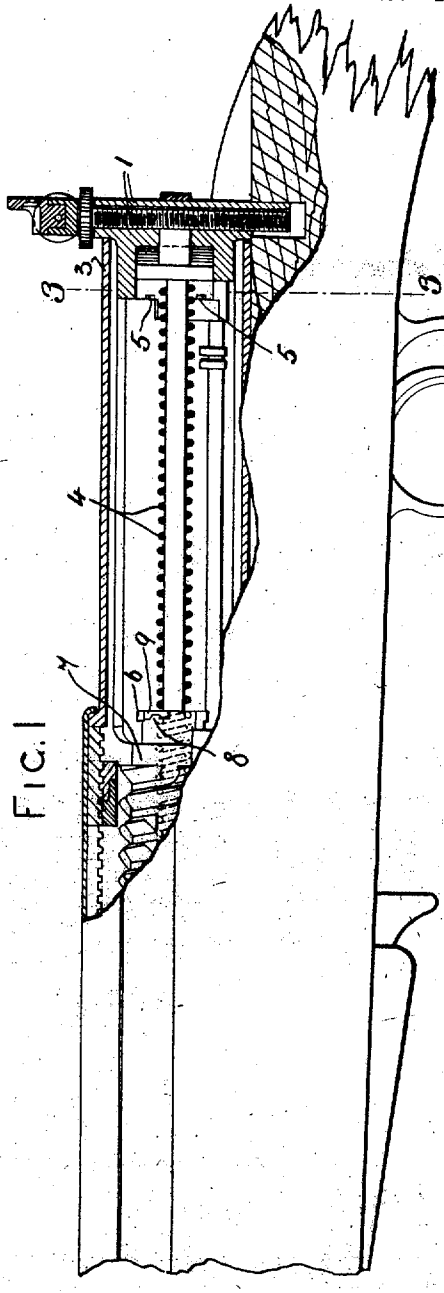


FIG. 1.

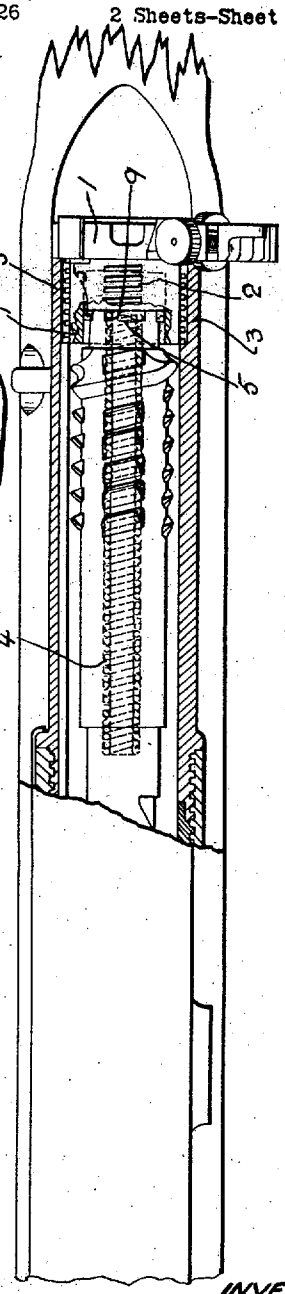


FIG. 2.

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FIG. 3.

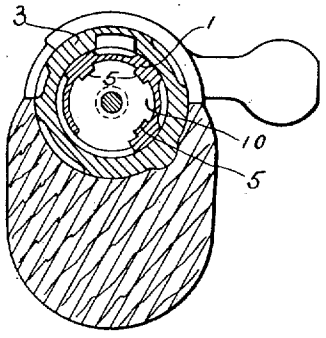


FIG. 4.

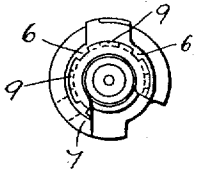


FIG. 4a.

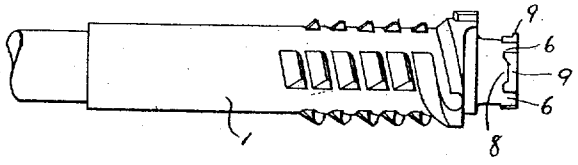


FIG. 5.

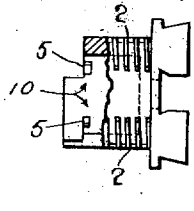
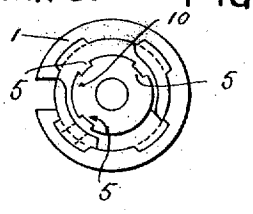


FIG. 5a.



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Patented July 26, 1927. 1,637,235

UNITED STATES PATENT OFFICE.

GEORGE NORMAN, OF SMALL HEATH, BIRMINGHAM, ENGLAND, ASSIGNOR TO THE BIRMINGHAM SMALL ARMS COMPANY LIMITED, OF BIRMINGHAM, ENGLAND.

AUTOMATIC FIREARM.

Application filed November 17, 1926, Serial No. 148,955, and in Great Britain July 9, 1925.

This invention relates to improvements in automatic fire-arms of the type wherein a recoiling breech bolt compresses a spring in which energy is stored or conserved and then utilized to effect the closing of the breech mechanism, and wherein the said return spring is mounted in the breech body of the gun and supported at its outer end by means of a detachable end cap or abutment piece having interrupted threads arranged to engage with correspondingly interrupted internal screw threads formed in the end of the breech body.

The invention has for its object to provide means whereby the return spring can be held or locked when compressed in the breech bolt, in order to facilitate the assembling and stripping of the parts of the gun.

According to the invention internal lugs are provided on the end cap and are adapted to engage with lugs formed on the outer end of the breech bolt when the said bolt has been drawn to its outward position and the end cap has been turned to its disengaged position with the interrupted threads in the breech body.

In order that the invention may be clearly understood and readily carried into effect, the same will now be described with reference to the accompanying drawings, in which;—

Figure 1 is a view, partly in section and partly in elevation of the breech end of an automatic fire-arm constructed in accordance with and embodying the features of this invention.

Figure 2 is a view, partly in plan and partly in section, showing the breech bolt drawn to its outward position.

Figure 3 is a transverse section taken on line 3—3, Figure 1.

Figure 4 is an end view of the breech bolt.

Fig. 4ª is a side elevation of the breech bolt.

Figure 5 is a side elevation of the detachable end cap.

Fig. 5ª is an end view of the detachable cap.

The end cap 1 is provided with interrupted screw threads 2 adapted to engage in known manner with correspondingly interrupted screw threads formed in the interior of the end of the breech body 3, and is adapted to constitute an abutment or support for the bolt return spring 4. The end cap 1 is further provided with circumferentially disposed internal lugs 5 which are adapted, when the end cap 1 is mounted on the end of the breech body 3, to align with correspondingly shaped gaps 6 formed in a flanged part on the outer or rear end of the breech bolt 7, and, when the gap 1 is turned to a position in which its interrupted screw threads 2 are disengaged from the screw threads in the breech body 3, the said lugs 5 are moved into alignment with and adapted to engage recesses 8 formed in the inner face of lugs 9 produced by the gapped flange on the outer end of the bolt 7, whereby the latter can be locked to the end cap 1, with the return spring 4 compressed within the hollow bolt 7, and thus facilitate the easy assembling or dis-assembling of the said parts in the breech body 3.

The sides of the recesses 8 in the lugs 9 on the end of the breech bolt 7, are rounded or chamfered to facilitate disengagement therewith of the lugs 5 and permit of partial rotation of the end cap 1 to bring the interrupted threads 2 of the end cap into engagement with the screw threads in the breech body 3, and also bring the gaps 10 between the locking lugs 5 on the end cap 1 into alignment with the lugs 9 on the end of the slidable but non-rotatable breech bolt 7, thereby releasing the latter from engagement with the end cap 1.

It will be readily understood that, when it is desired to strip the gun, the breech bolt 7, is pulled to and held in its outward or rearward position and the end cap 1 is then turned to the position shown in Figure 2 to release same from engagement with its threads in the breech body 3, which movement brings the locking lugs 5 on the end of the breech cap 1 into alignment with the recesses 8 in the lugs 9 on the end of the breech bolt 7, and upon releasing the rearward pull on the breech bolt the said recesses 8 will engage with the lugs 5 on the end cap whereby the latter and the breech bolt are locked together and the return spring 4 is held compressed within the hollow breech bolt, thus permitting of the ready removal of the said parts.

Having fully described my invention, what I desire to claim and secure by Letters Patent is:—

1. In an automatic fire-arm of the type herein referred to, comprising a breech body

having an open rear end and interrupted threads in said end, a hollow breech bolt longitudinally slidable in said body, an end cap for the open end of the breech body having interrupted threads engageable with the interrupted threads in the body, and a return spring in the hollow breech bolt and having one end bearing against a portion of the bolt and its other end bearing against the cap, means whereby the return spring can be held or locked in compression within the hollow breech bolt, in order to facilitate the assembling and stripping of the parts of the gun, said means comprising internal lugs on the end cap and lugs formed on the outer end of the breech bolt, said latter lugs being adapted to engage with the former lugs, when the said bolt is drawn to its rearward position and the end cap is turned to cause its interrupted threads to disengage from the interrupted threads in the breech body.

2. An automatic fire-arm according to claim 1, wherein the lugs on the breech bolt have recesses formed in their inner faces to receive the lugs on the end cap.

3. An automatic fire-arm according to claim 1, wherein the lugs on the breech bolt have recesses formed in their inner faces and wherein said lugs are chamfered to facilitate disengagement therewith of the lugs on the end cap in the part turning movement of the latter.

In testimony whereof I have hereunto set my hand.

GEORGE NORMAN.