Oct. 20, 1953 J. F. SALAS 2,655,753

MAGAZINE UNLOADING DEVICE FOR BOLT ACTION FIREARMS

Filed April 26, 1950

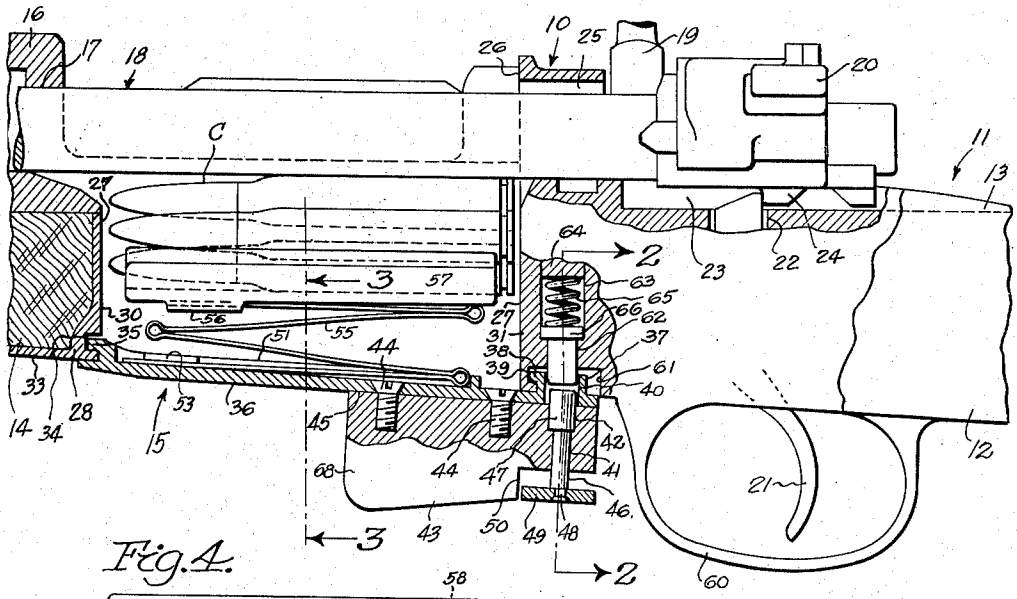


Fig. 4.



Fig. 1.

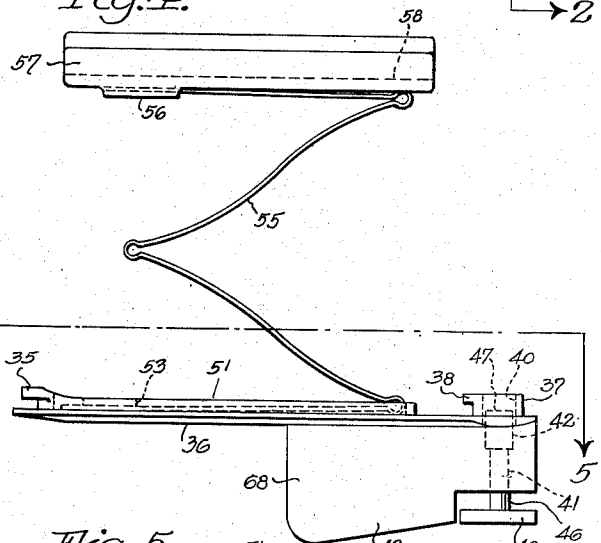


Fig. 5.

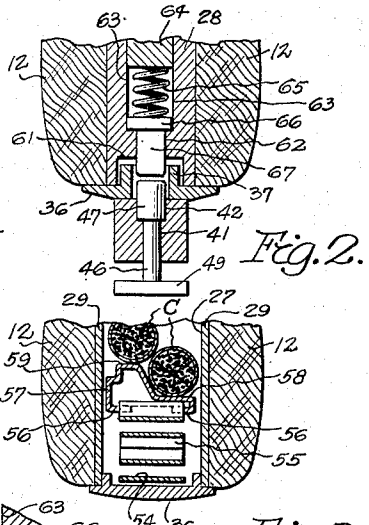


Fig. 2.

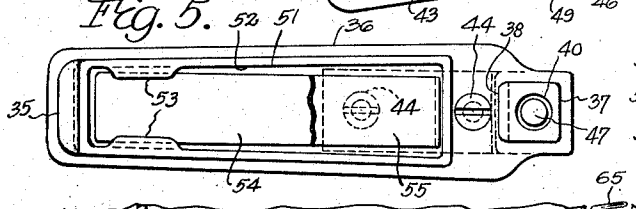


Fig. 3.

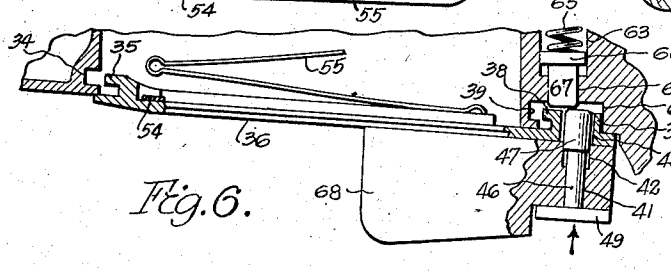


Fig. 6.

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Patented Oct. 20, 1953

2,655,753

# UNITED STATES PATENT OFFICE

2,655,753

## MAGAZINE UNLOADING DEVICE FOR BOLT ACTION FIREARMS

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Application April 26, 1950, Serial No. 158,295

5 Claims. (Cl. 42—50)

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This invention relates to bolt action firearms, such as military rifles and many sporting rifles and, in particular, to magazine unloading devices for such firearms.

One object of this invention is to provide a quick-acting magazine unloading device for bolt action firearms which can be attached to many types of bolt action firearms without requiring permanent alterations in the firearm itself, other than the substitution of a new magazine floor plate and follow-up spring, or the alteration of the existing floor plate.

Another object is to provide a quick-acting magazine unloading device for bolt action firearms which can be operated by the fingers, even when covered with gloves, without requiring the use of a cartridge or any other tool.

Another object is to provide a quick-acting magazine unloading device of the foregoing character which will completely unload the magazine without the need for operating the bolt, other than to remove any cartridge which may be already in the chamber of the barrel.

In the drawings:

Figure 1 is a side elevation, partly in central vertical section, of the breech and receiver portion of a bolt action firearm equipped with a magazine unloading device according to one form of the present invention;

Figure 2 is a fragmentary vertical section through the floor plate latching mechanism taken along the line 2—2 in Figure 1;

Figure 3 is a fragmentary vertical section through the floor plate and follow-up spring taken along the line 3—3 in Figure 1;

Figure 4 is a side elevation of the magazine floor plate follow-up spring and unloading device removed from the firearm shown in Figure 1:

Figure 5 is a horizontal section taken along the line 5—5 in Figure 4; and

Figure 6 is a fragmentary vertical section similar to the lower central portion of Figure 1, but showing the magazine unloading device in operation with the magazine floor plate and follow-up spring partially removed from the firearm.

Many States of the United States have laws requiring the removal of all cartridges from a firearm, such as a magazine or repeating rifle, before entering an automobile. Hitherto with most bolt action firearms, it has been necessary to operate the bolt as many times as there are cartridges in the chamber and magazine of the firearm in order to accomplish this, and such a procedure not only is tedious but also is liable to damage the noses of the bullets while they are

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being removed from the magazine or as they hit the ground, or even to accidently fire the cartridges. Certain bolt action rifles, such as military rifles of the Mauser, Springfield or Enfield types, are provided with removable magazine floor plates, but the removal of such floor plates requires the use of a special tool, or the removal of the bolt in order to use the firing pin as such a tool, or the use of a cartridge bullet for that purpose. When the user of the rifle is out in the open, such as hunting under winter conditions, it is difficult to carry special tools or to remove the bolt for that purpose. Furthermore, although certain military cartridges have pointed nose bullets of cupro-nickel alloy or other fairly hard metal, sporting cartridges often have soft-nosed or blunt-nosed bullets which either cannot be used to operate the floor plate latching mechanism or will be mutilated thereby if so used. Moreover, the use of the bolt to remove the cartridges from the magazine in the ordinary manner results in the mutilation of the bullets as they strike the chamber entrance or particularly with soft nose hunting cartridges. Finally, the magazine floor plates of conventional rifles are snugly fitted to exclude foreign matter and have no handles on them, as they are intended to be removed only at infrequent intervals in order to clean the rifle. Such floor plates stick and hence are not easily removable in the field.

The magazine unloading device of the present invention provides a latch-operating mechanism and also a handle for the magazine floor plate which does not required special tools, can be operated by the fingers even when covered with gloves and numb with cold, and does not mutilate the bullets either by their hitting the ground or by using them as tools to unlatch the floor plate latching mechanism.

Referring to the drawings in detail, Figure 1 shows the breech and receiver portion, generally designated 10, of a bolt action firearm 11, a military rifle being shown for purposes of illustration, although the invention is not limited to use with such rifles. The rifle 11 has the usual stock 12 with a grip 13 and a foregrip 14 respectively behind and in front of the magazine, generally designated 15. The firearm 11 is equipped with the usual barrel 16 having a chamber 16 accommodating the forward end of a bolt 18. The bolt 18 is conventional and includes the usual handle 19 equipped with a knob (not shown) at the end thereof, the handle being broken away to conserve space. The bolt 18 also has the usual safety device 20 whereby it may be prevented from be-

ing fired by accidental operation of the trigger 21 which extends upward through a passageway 22 into a recess 23 immediately forward of the grip 13, where it engages the portion 24 of the bolt 18. The latter is rotatable and also reciprocable by the use of the handle 19 so as to be moved into and out of the chamber 17 and also relatively to the breech portion 25, the bolt 11 being reciprocated through approximately a quarter turn before being moved rearwardly by means of the handle 19.

Between the portions 16 and 25 is located the usual opening 26 through which the cartridges C are inserted or removed from the firearm 11 in the ordinary manner. The cartridges C are pushed downward into the magazine opening or cavity 27 in a magazine casing 28 having side walls 29 (Figure 3) and forward and rearward walls 30 and 31 respectively. The forward wall 30 terminates in a flange or lip 33 by which the casing 28 is secured to the foregrip 14. Between the portions 30 and 33 is located a recess 34 which serves to receive a correspondingly shaped forward lug or projection 35 on the floor plate 36 of the magazine 15. The floor plate 36 is an elongated metal plate shaped to close the lower end of the magazine opening or cavity 31 and at its rearward end is provided with an upwardly extending tubular boss 37 with a forwardly extending rearward lug or projection 38 which fits into a correspondingly-shaped recess 39 in the stock 12 immediately behind the magazine opening 31. The boss 37 is provided with a bore 40 (Figure 1) which communicates with a bore 41 and counterbore 42 in a finger block or handle 43 which is secured as by the screws 44 to the lower surface 45 of the magazine floor plate 36. The bore 41 receives a reciprocable pin or plunger 46 having an enlarged head 47 which fits the counterbore 42. On its outer end the pin 46 has a reduced diameter portion 48 carrying a thumb or finger disc or button 49. The button 49 fits into a notch 50 formed in the rearward end of the block 43.

The forward lug or projection 35 is mounted on the forward end of an open-centered frame or plate 51 (Figure 5) having an elongated opening 52 in the center thereof. The frame 51 is provided with a pair of inwardly extending lugs 53 which serve as retainers for the lower portion 54 of an accordion spring or follow-up spring 55 of zigzag shape, the upper portion of which is secured as by the lugs 56 (Figures 3 and 4) to a follow-up block 57. The latter has an elongated concave recess 58 extending longitudinally along the upper surface 59 thereof for fitting the lowermost cartridge seat.

Immediately forward of the trigger guard 60, the lower surface of the stock 12 is provided with an upwardly-extending cavity 61 into which the boss 37 loosely fits (Figures 1, 2 and 6) with room enough to enable the floor plate 36 to be slid rearwardly far enough for the projections 35 and 38 to clear the recesses 34 and 39 respectively (Figure 6). Opening downwardly into the cavity 61 is a bore 62 formed in the magazine casing 28 and having its upper end communicating with a counterbore 63 closed by a plug or other closure 64. Located in the counterbore 63 is a helical compression spring 65, the upper end of which abuts the closure 64 and the lower end an enlargement or head 66 on a latch or locking pin 67 reciprocable in the bore 62. The spring 65 normally urges the pin 67 downward into the bore 40 in the boss 37, thereby normally preventing the lugs or projections 35 and 38 from moving rearwardly out of their respective recesses 34 and 39.

In the operation of the invention, let it be assumed that the firearm 11 has been loaded in the usual way, either by pressing individual cartridges C one by one downward through the opening 26 into the magazine opening 27 or, as is more frequent in military rifles such as the so-called United States Government Springfield rifle model 1903, by inserting an entire clip of cartridges into the opening 26 and pushing them downward into the magazine opening 27 with the bolt 18, of course, retracted. When the cartridges are pushed downward in this manner, an elongated metal clip fitting the rearward ends of the cartridges is detached from the cartridges by the bending of a tab on the clip. The clip is then removed, leaving the cartridges in the magazine chamber 27.

To remove the cartridges C and unload the magazine 15, the user grasps the forward edge 68 of the finger block 43 with his forefinger and pulls it rearwardly, at the same time pushing upward with his thumb upon the button 49. This, in turn, causes the head 47 of the pin 46 to move upward, pushing the lower portion of the pin 67 upward out of the bore 40 of the boss 37 and overcoming the downward urge of the spring 65. When the lower end of the pin 67 clears the upper end of the bore 40, the rearward pressure of the fingers of the forward end 68 of the finger block 43 slides the magazine floor plate 36 rearwardly from the position of Figure 1 to the position of Figure 6. This action withdraws the forward and rearward lugs 35 and 38 from their respective recesses 34 and 39 (Figure 6) so that the floor plate 36 is pushed downward into the hand of the user by the spring 55, accompanied immediately afterward by the cartridges C. Thus, the cartridges C are received directly into the hand of the user rather than being ejected to the ground, and no action of the bolt 18 is necessary to unload the magazine. When the cartridges C have been placed in the user's pocket, cartridge belt or other receptacle, the user replaces the magazine plate by inserting the follow-up block 57 and spring 55 in the lower end of the magazine chamber 27, reversing the foregoing procedure.

What I claim is:

1. A quick-operating magazine unloading device for bolt action firearms having a detachable floor plate removably interlocked with a magazine opening by a reciprocable locking member mounted inside said firearm and releaseably engaging a portion of said floor plate, said device comprising a support including a handle secured to said floor plate and projecting therefrom, a movable unlocking member secured to and projecting outwardly from said support and movable into engagement with said locking member, and a finger-piece on said unlocking member adapted to be shifted by the operator, said support having an opening therein communicating with said locking member, and said unlocking member being selectively movable through said opening into unlocking engagement with said locking member.

2. A quick-operating magazine unloading device for bolt action firearms having a detachable floor plate removably interlocked with a magazine opening by a reciprocable locking member mounted inside said firearm and releasably engaging a portion of said floor plate, said device comprising a support secured to said floor plate and projecting therefrom, a movable unlocking member secured to and projecting outwardly from said support and movable into engagement

with said locking member, and a finger-piece on said unlocking member adapted to be shifted by the operator, said support comprising a body depending from said floor plate and having an opening therein communicating with said locking member, said body including a handle portion projecting from said support, and said unlocking member being selectively movable through said opening into unlocking engagement with said locking member.

3. A quick-operating magazine unloading device for bolt action firearms having a detachable floor plate removably interlocked with a magazine opening by a reciprocable locking member mounted inside said firearm and releasably engaging a portion of said floor plate, said device comprising a support including a handle secured to and depending from said floor plate, said support having a bore therein communicating with said locking member, a movable unlocking member secured to and projecting outwardly from said support, said unlocking member being movably mounted in said bore adjacent said handle and movable into unlocking engagement with said locking member, and a finger-piece on said unlocking member adapted to be shifted by the operator.

4. A quick-operating magazine unloading device for bolt action firearms having a detachable floor plate removably interlocked with a magazine opening by a reciprocable locking member mounted inside said firearm and releasably engaging a portion of said floor plate, said device comprising a support including a handle secured to and depending from said floor plate, said support having a bore therein communicating with said locking member, a movable unlocking member secured to and projecting outwardly from said support, said unlocking member being reciprocably mounted in said bore adjacent said handle and reciprocable into unlocking engagement with said locking member, and a fingerpiece on said unlocking member adapted to be shifted by the operator.



5. A quick-operating magazine unloading device for bolt action firearms having a detachable floor plate removably interlocked with a magazine opening by a reciprocable locking member mounted inside said firearm and releasably engaging a portion of said floor plate, said device comprising a block-like support secured to and depending from said floor plate and including a handle portion, said support having a bore therein communicating with said locking member, a movable unlocking member secured to and projecting outwardly from said support, said unlocking member being reciprocably mounted in said bore adjacent said handle portion and reciprocable into unlocking engagement with said locking member, and a fingerpiece on said unlocking member adapted to be shifted by the operator.

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