Feb. 6, 1962 A. G. MANTHOS 3,019,542

CARTRIDGE MAGAZINE CONVERSION

Filed June 13, 1958 2 Sheets-Sheet 1

Fig. 1.

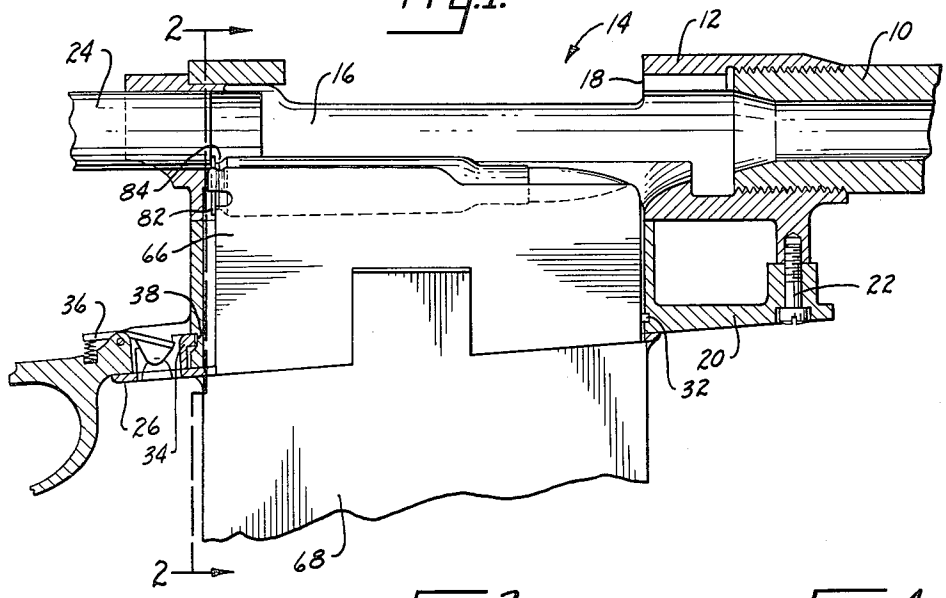

Fig. 3.

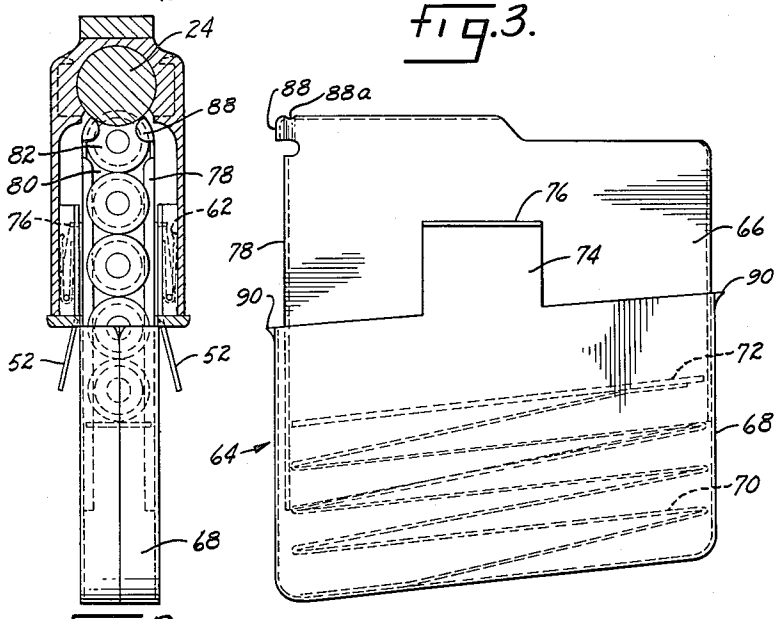

Fig. 4.

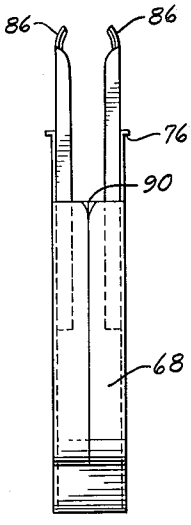

Fig. 2.

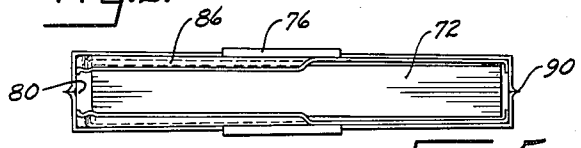

Fig. 5.

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fig. 8.

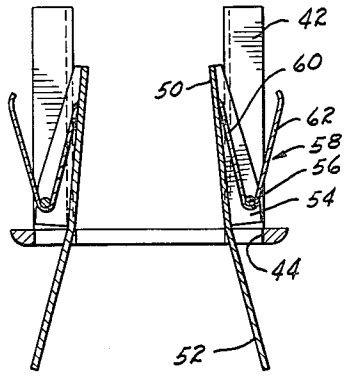

fig. 6.

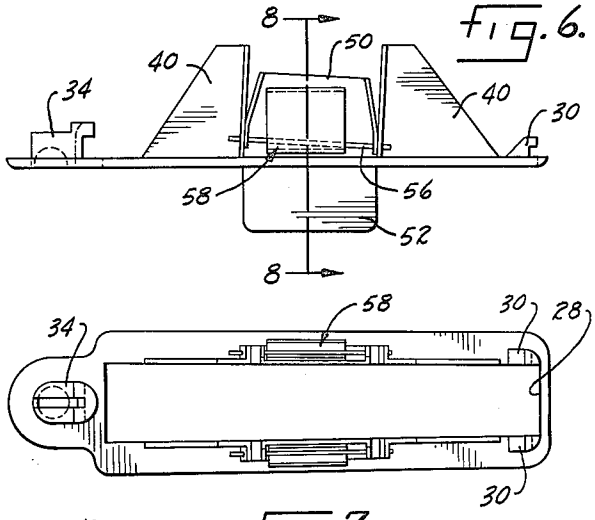

fig. 7.

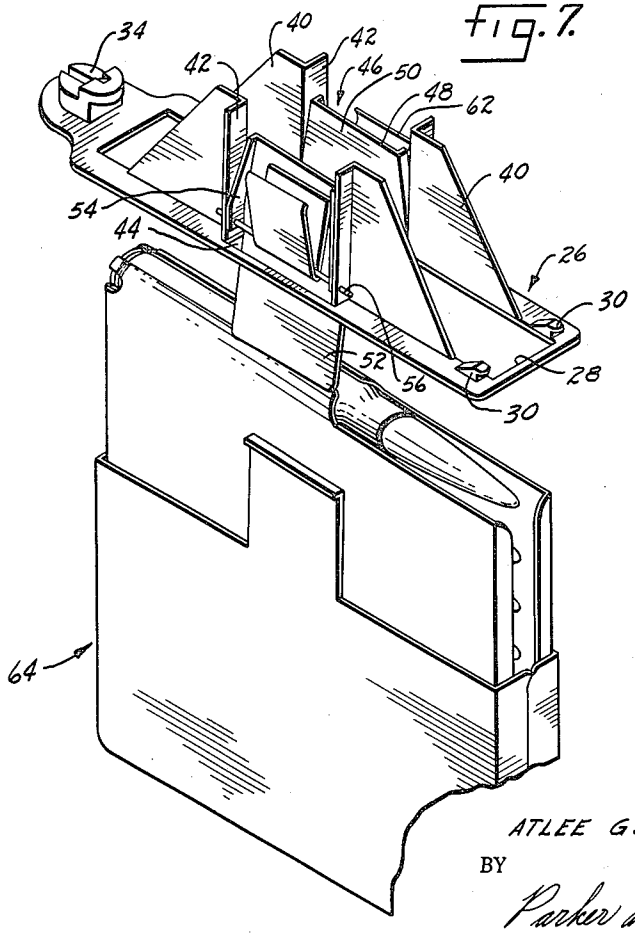

fig. 9.

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CARTRIDGE MAGAZINE CONVERSION

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4 Claims. (Cl. 42—18)

This invention is in the field of firearms and is concerned with what I shall refer to as a cartridge magazine conversion for rifles, although many of the inventive aspects and novel features are not necessarily restricted thereto but have other advantageous applications.

A primary object of my invention is a cartridge magazine conversion which may be used with a minimum of alteration on a large number of popular rifles.

Another object is a replaceable magazine constructed primarily for the so-called "Mauser action type" high powered rifles.

Another object is a kit which may be used to convert a high powered rifle from a top loading fixed magazine to a bottom loading clip magazine by simple replacement of the floor plate and the use of a conversion kit.

Another object is a firearm of the above type with an open floor plate and side aligning guide plates for a replaceable magazine.

Another object is a combination floor plate and cartridge magazine with a new and improved manually operable latch mechanism.

Another object is to provide, in a Mauser type firearm, vertically aligned cartridges and the resultant elimination of frequent jamming of cartridges caused by prior arrangements.

Another object is to provide a cartridge clip with guide ribs to utilize the ejection ring, or shoulder of cartridges for alignment thereof.

Other objects will appear from time to time in the ensuing specification and drawings in which:

FIGURE 1 is a longitudinal section of a Mauser action type repeating rifle with my invention;

FIGURE 2 is a section along line 2—2 of FIGURE 1;

FIGURE 3 is a side view of the magazine;

FIGURE 4 is an end view of FIGURE 3;

FIGURE 5 is a top view of FIGURE 3;

FIGURE 6 is a side view of the floor plate;

FIGURE 7 is a top view of FIGURE 6;

FIGURE 8 is a section along line 8—8 of FIGURE 6; and

FIGURE 9 is a perspective of the magazine and floor plate.

In FIGURE 1, a section of the breech area of a rifle has been shown in which a barrel 10 may be suitably connected to a receiver 12 which defines a breech housing 14 having a cartridge chamber 16 which is normally loaded through a top opening 18. A hinge plate 20 is suitably connected to the receiver by bolts 22 or otherwise to define the lower portion of the cartridge chamber, and a bolt 24 reciprocates in the normal manner in the chamber to carry cartridges into the barrel and, after firing, to withdraw and eject the empty cartridge casing through the opening 18.

A floor plate 26 or the like is provided with what is shown as a generally rectangular central opening 28. The plate may be connected to the hinge plate by suitable lugs 30 at the forward end which fit in notches 32, in FIGURE 1, in the hinge plate. An upstanding catch 34 on the rear of the floor plate cooperates with a spring-biased latch 36 to force and hold the catch in a suitable notch 38 in the hinge plate. The mounting of the base plate 26 has not been shown or described in detail since it may be conventional.

Adjacent the opening 28 in the base plate 26, I position four upstanding guides 40 which have side flanges

42 opposite intermediate slots or notches or passages 44 that join the central opening 28 in the base plate.

A releasable lock, designated generally 46, is positioned to pivot in each of the side notches or passages 44, one such lock on each side of the central opening 28. Each such lock may include a pivot plate 48 having an upper portion 50 that extends well above the floor plate 26 and a lower portion or tab 52 which projects down through the opening 44 well below the floor plate 26. Each lock has outwardly disposed ears 54 which pivot on a suitable rod 56 or the like, the rod being carried by the flanges 42 of the guides. Each of the locks are biased inwardly by a V-shaped spring member 58 which has an inner leg 60 that engages the upper portion of the lock and an outer leg 62 which engages the inside of the housing, as shown in FIGURE 2. Each such spring is disposed around the pivot 56.

It will thus be noted that the releasable locks are disposed on each side of the opening 28 and the lower portion 52 of the locks are bent or formed outward slightly so that the magazine 64 may be inserted. The diverging lower portions 52 thus aid in guiding the magazine into the plate opening 28.

In FIGURES 3 through 5 the magazine includes an upper section 66 that telescopes into a lower section 68. The lower section is cup-shaped and closed on all four sides and its bottom. A suitable spring member 70 or the like biases a plate 72 of any suitable type upwardly to raise the cartridges up through the upper section 66. Lugs 74 with outstanding flanges or edges 76 rise above the lower section 68 to engage the locks 46, as shown in FIGURE 2.

The upper section 66 is composed of a pair of plates that has inwardly disposed guide ribs 78 along the rear edge thereof defining a rear opening 80 for the rear wall. Thus the ejection flange 82 on the rear end of each cartridge will fit on the outside of these ribs and the notch 84, just forward of the flange 82, will slide along between the flanges 78. The upper edge of the two plates or sheets that make up the upper section 66 are turned inwardly as at 86 to prevent the spring 70 from ejecting the cartridges out the top. Retaining tabs 88 are provided on the rear upper edge of the plates or sheets 66 and each such tab is offset rearwardly of the ribs 78 so that the flange 82 on the cartridge, while lying behind the ribs 78, will be forward of the tabs 88. Thus the uppermost cartridge, as shown in FIGURE 1, will be retained in position at all times. A crimp is provided on top of the magazine just forward of the retaining tabs 88 to hold the top cartridge from moving forward unless moved by the rifle bolt on the loading movement.

The lower section 68 of the magazine has outwardly turned tabs 90 which are spaced a predetermined distance from the flanges or edges 76 of the lugs. Thus, the stops or portions 90 will strike or engage the bottom of the base plate 26, such as shown in FIGURE 1, to determine the amount or extent of insertion of the upper section. At the same time, when the lugs or stops engage the plate, the flanges 76 will be above the lock 46, and the spring 58 will force the latch or pivot plate 48 below the lugs 76.

The use, operation and function of my invention are as follows:

I provide a conversion kit which may be applied to any standard Mauser type rifle. The Springfield, Enfield, Mannlichers and many others are examples of this rifle. Such a rifle has a floor plate which closes a lower opening in the breech chamber.

My invention may be best utilized by replacing the standard floor plate with the floor plate 26, shown in FIGURE 9, having the upstanding guides and the releasable clips. Thereafter, the magazine may be inserted through the opening 28 and forced upwardly into the

breech chamber until the outwardly disposed flanges 76 rise above the latches 50. The springs 58 force the latches under the flanges on the lugs, as shown in FIGURE 2, and the magazine will be held rigidly in place.

Forward movement of the bolt 24 will pick up the rear upper end of the uppermost cartridge, as shown in FIGURE 1, and will drive it forward into the barrel. It is important to note that both the front and rear of the upper section of the magazine are open so that free sliding movement of the cartridge may be obtained.

When the bolt is withdrawn, the spring 70 in the bottom of the magazine will force the next cartridge to the position shown in FIGURE 1.

When the magazine is empty, the levers or tabs 52, as shown in FIGURE 2, may be compressed inwardly, thereby releasing the latches and allowing the empty magazine to fall out. The position of the hand in compressing the lever is such that the magazine, when it falls or is released, will be directly in the palm of the hand.

The invention replaces a fixed magazine with a replaceable one or an insert. The invention is in the nature of a clip. The invention also has the additional advantage that the maximum length of the breech chamber may be utilized since the insert itself does not in any way block or crowd the ends. Thus, full length cartridges or loads may be used. The length of existing magazines will not allow two thicknesses of metal, front and rear, in addition to the over-all length of the cartridges. Otherwise, free movement of the cartridges will be blocked.

While the magazine extends up into the breech chamber, it is stabilized, guided and held in position by the upstanding guides on the floor plate so that the uppermost cartridge is presented in a precise and accurate location for forward movement of the bolt. This arrangement is best shown in FIGURE 2. The magazine positions the cartridge above the shoulder of the forward end of the rifle magazine box to prevent damage to the cartridges.

While I have shown both ends of the magazine open, I might use a magazine with only one end open, either front or rear. Additionally, a magazine with both ends closed might be used for minimum length cartridges. But I prefer that both ends be open so that full length cartridges may be employed.

The invention replaces a fixed magazine with a replaceable one. It has the distinct advantage that it positions the cartridges above the shoulder of the forward end of the rifle magazine box to prevent damage to cartridges and jamming during loading, particularly to soft nose cartridges.

While I have shown and described the preferred form and suggested several variations of my invention, it should be understood that suitable additional modifications, changes, alterations and variations may be made without departing from the invention's fundamental theme. I, therefore, wish that the invention be unrestricted, except as by the appended claims.

I claim:

1. In a firearm, a barrel, a breech housing therefor having a cartridge chamber, a removable floor plate for said breech housing having a bottom opening for the admission of cartridges to the chamber, a magazine adapted to be inserted from the bottom and through the floor plate opening to fit and be releasably held in the floor plate opening for supplying cartridges to the chamber, an upper section of said magazine being positioned above the floor plate and a lower section positioned below the floor plate, said floor plate having upstanding longitudinal guide members on both sides of said opening and parallel to the barrel for guiding the magazine above said plate, and means for releasably attaching the magazine to the breech housing, said means including at least one pivotally mounted element having a latching portion positioned above said floor plate and a guiding portion positioned below said floor plate.

2. A conversion kit for firearms comprising a floor plate, an aperture in said floor plate, a magazine adapted to be inserted in said aperture to fit and be releasably held therein, an upper portion of said magazine being positioned above the floor plate and a lower portion being positioned below the floor plate, said floor plate having upstanding longitudinal guide members on both sides of said aperture and parallel to the longitudinal sides of said aperture for guiding the magazine above said floor plate, and means for releasably attaching the magazine to the floor plate, said means including a pair of pivotally mounted elements each having a latching portion positioned above said floor plate and a guiding portion positioned below said floor plate.

3. In a firearm, a barrel, a breech housing therefor having a cartridge chamber, a removable floor plate for said breech housing having a bottom opening for the admission of cartridges to the chamber, a magazine adapted to be inserted from the bottom and through the floor plate opening to fit and be releasably held in the floor plate opening for supplying cartridges to the chamber, an upper section of said magazine being positioned above the floor plate and a lower section positioned below the floor plate, said floor plate having upstanding longitudinal guide members on both sides of said opening and parallel to the barrel for guiding the magazine, and means for releasably attaching the magazine to the breech housing, said floor plate guide members defining intermediate slots on both sides of said opening, said means for releasably attaching the magazine to the breech housing including manually operable elements extending below the floor plate and into the intermediate slots defined by the upstanding guide members, said manually operable elements being positioned on each side of the magazine and requiring simultaneous actuation to release the magazine.

4. The structure of claim 3 further characterized by upwardly extending locking lugs on the lower section of the magazine extending into the intermediate slots and positioned to engage the manually operable elements.

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