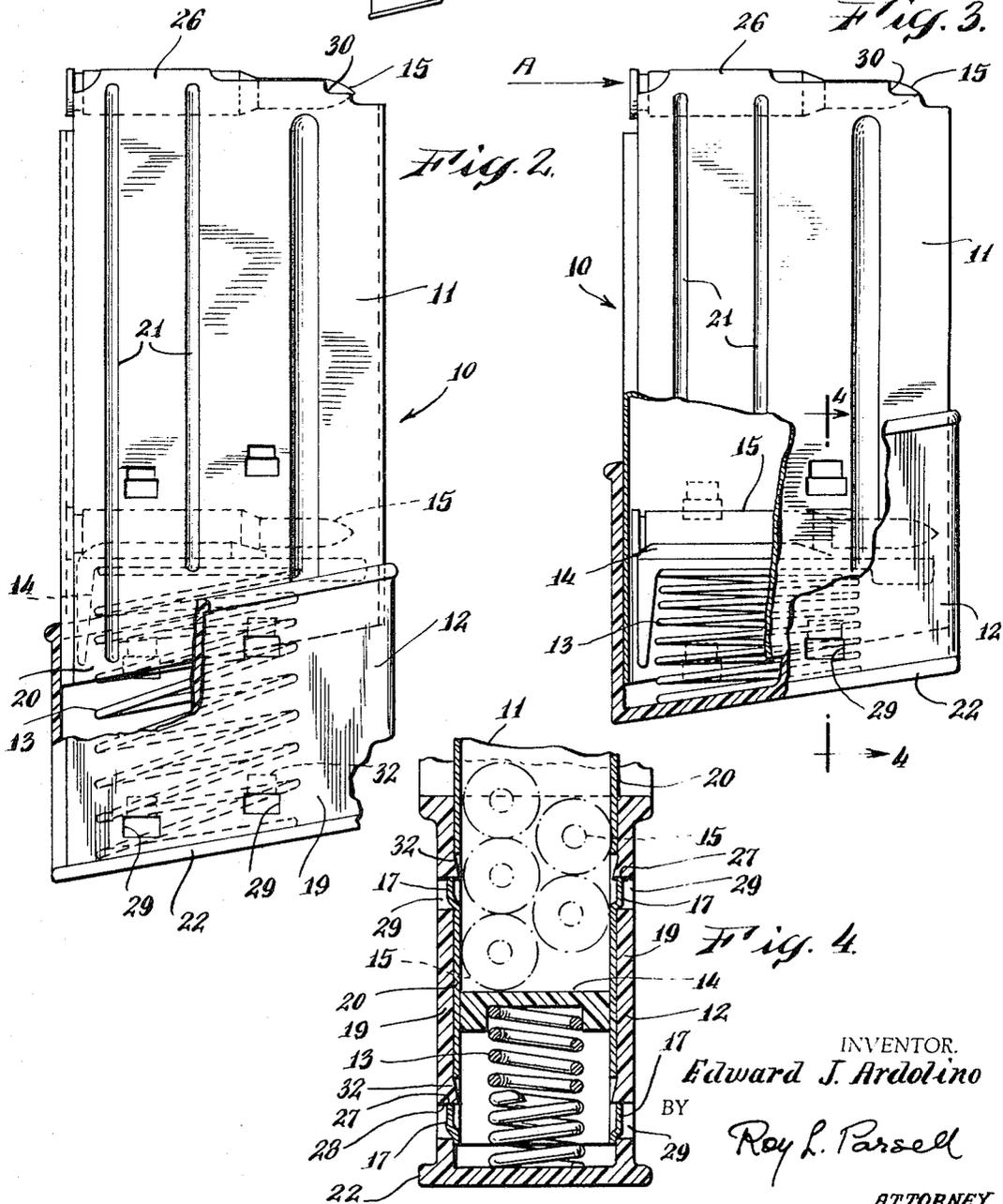
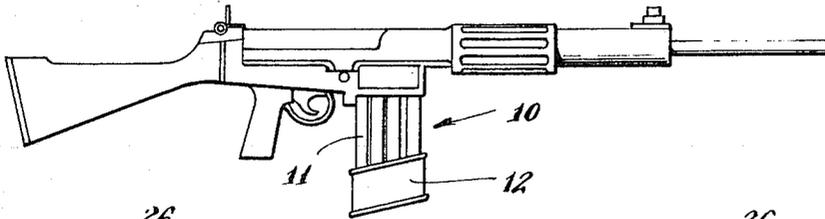


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CARTRIDGE MAGAZINE WITH A SPRING WHOSE FORCE
AGAINST THE CARTRIDGE MAY BE
SELECTIVELY INCREASED
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Fig. 1



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ABSTRACT OF THE DISCLOSURE

An article dispensing container having a spring as a discharge assistant wherein the biasing force of the spring may be set at a predetermined magnitude during the storage of the articles within the container, the biasing force of the spring being selectively increased to a higher magnitude to assist the discharge of articles from the container during the dispensing thereof.

As a means of illustrating my invention, I describe a firearm magazine of the so-called box type in which the cartridges or ammunition rounds are contained in a rectangular chamber having a top opening connected to the firearm through which the rounds are fed into the firing mechanism of the firearm.

Pressure for feeding the rounds is furnished by a coiled or leaf spring having one end portion abutting the bottom of the magazine chamber and the opposite end portion bearing on the lowest adjacent round stored in the magazine or in some cases the end of the spring acting through a follower to distribute the forces.

In the past the common method of charging a magazine with rounds has been to first insert the spring from the top or bottom opening and then insert the desired number rounds pressing them against the compression of the spring which shortens as the magazine is filled. When a thus charged magazine is stored for a length of time it has been found that the spring will take a set or lose its power to feed out the rounds properly which affects the operation of the firing of the firearm. Such failure is a hazard to the life of the shooter. Even if not all of the springs take a set or become weak the risk to life and limb is too great a one to assume. Hence magazines cannot be charged until immediately prior to use necessitating transporting rounds and empty magazines separately to the depot or theatre of fighting.

It is therefore one of the objects of my invention to provide a container such as a firearm whose contents such as ammunition rounds can be introduced without substantially compressing the feed spring until it is desired to eject the contents or as in this specific example to operate the firearm.

Another object of my invention is to save on transportation space by eliminating separate shipments of containers and contents by permitting the containers to receive their contents prior to shipping and at the same time not loading the spring to the extent required to feed the contents properly as in this particular example, namely the magazine charged with ammunition rounds.

Still another object of my invention is to provide a magazine which can be charged when so desired regardless of place or time of use.

And still another object of my invention is to provide

a firearm magazine which avoids erratic feeding and even no feeding at all.

Another object of my invention is to provide a container whose contents are evacuated by spring pressure which container will have indefinite shelf life after charging by not activating the feed spring.

Another object is to provide a container which is of simple structural details to enable mass production at low cost.

Other objects and a fuller understanding of the invention may be had by referring to the following description taken in conjunction with the accompanying drawings in which:

FIGURE 1 shows a firearm to which is attached a magazine incorporating my invention;

FIGURE 2 is a side elevation of a magazine showing my invention in a charged condition but not activated;

FIGURE 3 is a side elevation of the magazine shown in FIGURE 2 but having the spring activated; and

FIGURE 4 is a partial end elevation taken on line 4—4 of FIGURE 3.

Referring now to the drawings, numeral 10 denotes the composite assembly of a firearm magazine comprising the activator cap 12 and the magazine chamber 11 charged with rounds 15 of ammunition to be propelled to exit opening 30 by propelling spring 13 and closed at the bottom by activator cap 12 after the charge of rounds has been inserted through the open lower end of the magazine chamber 11. As shown in FIGURE 2 the magazine 10 is in a nonactivated position and in an activated position as shown in FIGURES 3 and 4.

When fully charged as shown in FIGURE 2 and non-activated there is a slight force of compression on the spring 13 merely to hold the rounds 15 and activator cap 12 in place which is normally less than 20% of full spring load required to activate a fully charged magazine.

The spring 13 is preferably formed of wire or strip material but is not limited thereto. A follower or platform 14 is preferably used at the upper end of the spring to engage the lowermost round 15 to properly distribute the force of the spring 13 to the round as it feeds but here again I do not limit my invention to such an element as for example the spring could engage the lowermost round directly.

Guideways 21 are preferably formed in the side walls 20 of the magazine portion 11 to engage the rounds 15 as they move through the magazine portion 11.

Since the contents of the magazine chamber are under pressure from the spring 13 when the latter is activated, it is necessary to provide valve like means at the exit opening to retain the rounds until it is desired to use them. For this purpose retaining fingers 26 are formed to receive the topmost round as shown in FIGURES 2 and 3. When a round is needed pressure is applied on the head of the round as shown by arrow A (FIGURE 3) from the mechanism of the firearm to slide the round from under the fingers 26.

In a similar manner other types of dispensers may have different valve means for discharging the contents of the chamber for either a single unit discharge or a mass of contents.

Activator cap 12, including an end wall 22 and side walls 19, closes the lower end of magazine 11 and telescopes for a limited distance along the outer surface of magazine walls 20 toward exit opening 30 to apply the biasing force necessary to load the spring for urging the

contents through the magazine chamber 11 as will be further described hereinafter. Recesses 29 are provided in the side walls 19 of cap 12 to receive lugs 17 displaced from the side walls 20 of magazine chamber 11 as will also be described hereinafter.

The side walls 19 of the activator cap 12 are provided with a series of apertures or recesses 29 arranged in two zones on opposite walls one adjacent the bottom of the cap and the other adjacent the top. These recesses receive companion lugs 17 displaced from the walls of the magazine chamber 11.

The magazine chamber 11 is provided with an upper and lower zone of lugs 17 as most clearly shown in FIGURE 2.

When the cap is in its lower position so that it will not bias the feeding spring 13 sufficiently to move the contents of the magazine chamber the upper zone of recesses only receive the lower zone of lugs 17 while the lower zone of recesses is idle (see FIGURE 2).

When the cap 12 is advanced upward to activate the spring 13 both zones of recesses and lugs become engaged as shown in FIGURES 3 and 4. It will be noted that the lugs 17 are sloped upwards and terminate in a locking ledge 27 which engages an abutment edge 28 on the upper edge of recess 29. Due to the locking action of the lugs 17, the cap 12 is retained in this upper position to thus activate the spring 13.

It will also be noted here that there is sufficient resilience in the material to permit the respective lug 17 to move out of one zone of recesses and move into place in the other zones of recesses.

While I have shown the lugs 17 in the magazine chamber 11, and the recesses in the cap 12 as a preferred embodiment, the structure will operate with the lugs on the cap 12 and the recesses in the magazine chamber 11. Also while I have shown the lugs and recesses arranged in a plurality of parallel zones I do not wish to limit my invention to such specific configuration as other locations of the companion lugs and recesses may also be used.

The walls of the cap and magazine chamber may be non yieldable in which case the desired result may be obtained by making the lugs yieldable.

The side walls 19 and 20 of cap 12 and magazine chamber 11 respectively may be either or both composed of sufficiently flexible material to permit slight separation of the contacting surfaces for sliding the cap 12 along the magazine chamber 11 to activate the magazine.

I may also bevel the edge of recesses 29 as shown at 32 (FIGURE 4) to facilitate the moving of cap 12 to the position for activating the spring 13.

My invention may be utilized as follows. The cap 12 is fitted over the lower end of magazine portion 11 so the lowest zone of lugs on the magazine 11 is received in the upper zone of recesses on the cap 12. The spring 13 and the follower 14 are then inserted in the magazine portion 11. The foregoing described assembly is thus charged with the necessary rounds of ammunition which compress spring 13 slightly. The rounds 15 are held in position by the lips 26 formed at the top of the side walls 20 of magazine chamber 11. The magazine chamber is now charged but not activated and can be stored indefinitely for shipment to the firing line.

When it is desired to use the charged magazine it is inserted in the firearm and the cap 12 pushed inwardly to firing position (FIGURE 3) so that the recesses engage the upper zones of lugs 17 and the feeding pressure is now operative on the rounds to feed them into the dispensing position for the firearm mechanism.

Since the magazine and cap may be formed of inexpensive material they can be discarded when the magazine is empty.

For purposes of conveniently describing my invention, I have taken a firearm magazine but I do not limit my invention to a firearm magazine type of dispenser.

My invention may be applied to similar structures where a spring element supplies the necessary operating power but need not be maintained in a loaded position until ready to be used.

I claim as my invention:

1. In a firearm magazine system having replaceable precharged magazines of the type using spring means for advancing the rounds through the magazine, the improvement comprising spring mounting means including an elongated container for receiving a column of rounds, said container having a pair of opposite lateral sides and a pair of edge walls forming a tube with an open first end portion and an open exit second end portion, a pair of oppositely disposed fingers formed on said second end portion and extending longitudinally from said lateral side walls for engaging the leading round of said column and retaining same in a dispensing position, a cap member closing said first end portion, said cap member including an end wall, edge and side walls slidably mounted on the first end portion of said container, spring means mounted in said cap member and having a portion extending into said container, one end of said spring means operatively connected to the lower portion of one of the walls of the cap member, the opposite end of said spring means engaging the trailing round of said column for maintaining the leading round of said column against said fingers, and detent means operatively connected to said container and cap member for releasably retaining said cap member in a first position on said container whereby a first biasing force is applied to said spring means for maintaining the leading round of said column in a stored position against said fingers, said cap member being movable from said first position to a second position and retained thereat by said detent means whereby a second biasing force of greater magnitude than said first biasing force is applied to said spring means to urge the column against said fingers as the respective rounds are dispensed.

2. In the device according to claim 1 wherein said detent means comprises a plurality of cooperating recesses and lugs constructed and arranged on the container walls and cap member walls whereby certain lugs are insertable within respective recesses to hold the cap member in said first position while the remaining lugs remain free from engagement with any of the recesses, said remaining lugs being insertable within respective recesses when said cap member is advanced from said first position to said second position, said lugs being so disposed as to permit said cap member to be advanced from the first to second positions, whereby the cap member is fixedly retained against unintended movement at said second position.

3. In a firearm magazine system having replaceable precharged magazines of the type using spring means for advancing the rounds through the magazine, the improvement comprising spring mounting means including an elongated container for receiving a column of rounds, said container having a pair of opposite lateral sides and a pair of edge walls forming a tube with an open first end portion and an open exit second end portion, a pair of oppositely disposed fingers formed on said second end portion and extending longitudinally from said lateral side walls for engaging the leading round of said column and retaining same in a dispensing position, a cap member closing said first end portion, said cap member including an end wall, edge and side walls slidably mounted on the first end portion of said container, spring means mounted in said cap member and having a portion extending into said container, one end of said spring means operatively connected to the lower portion of one of the walls of the cap member, follower means abutting the trailing round of said column, the opposite end of said spring means engaging the follower means for maintaining the leading round of said column against said oppositely disposed fingers, and detent means operatively connected to said container and cap member for releasably retaining

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said cap member in a first position on said container whereby a first biasing force is applied to said spring means for maintaining the leading round of said column in a stored position against said fingers, said cap member being movable from said first position to a second position and retained thereat by said detent means whereby a second biasing force of greater magnitude than said first biasing force is applied to said spring means to urge

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the column against said fingers as the respective rounds are dispensed.

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