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MAGAZINE AND CARTRIDGE CONTAINER ASSEMBLY

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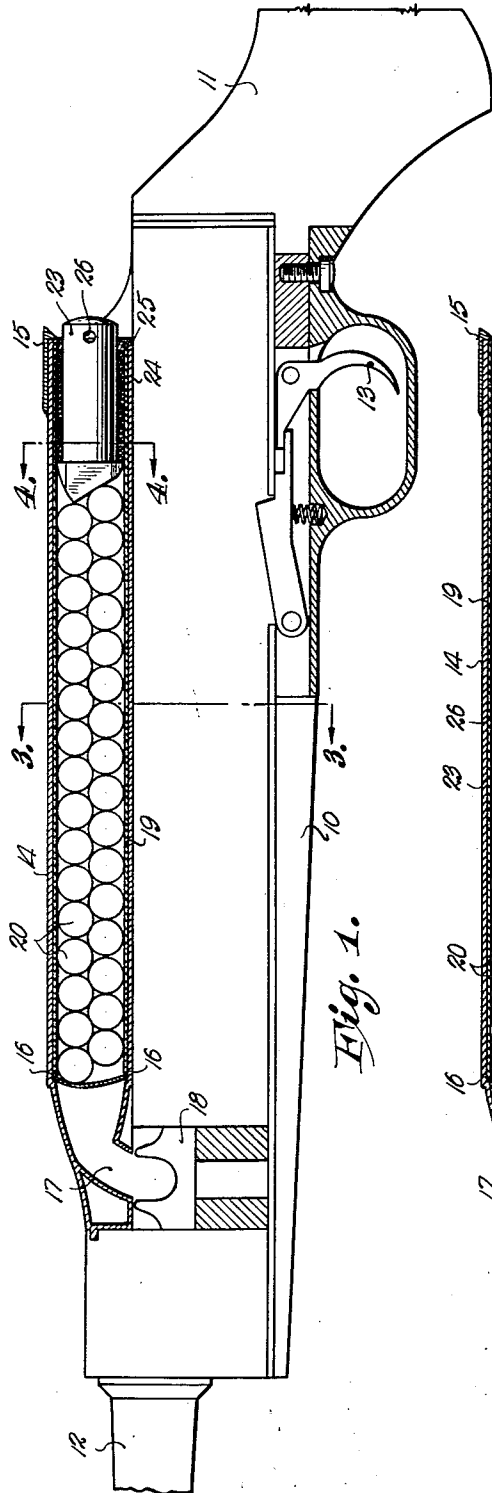


Fig. 1.

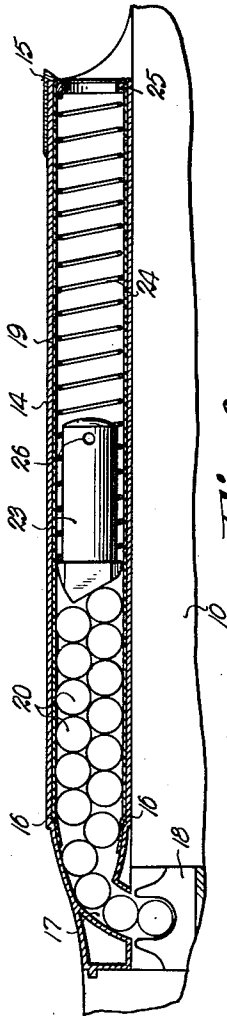


Fig. 2.

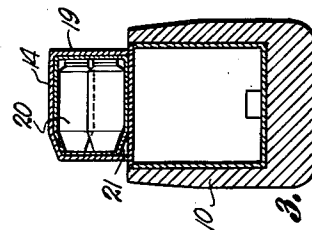


Fig. 3.

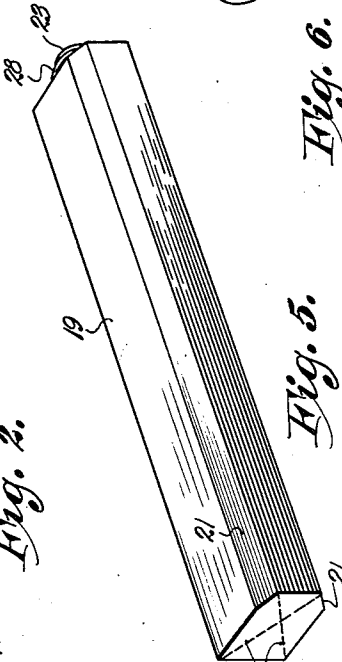


Fig. 5.



Fig. 4.

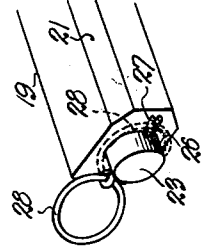


Fig. 6.

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MAGAZINE AND CARTRIDGE CONTAINER ASSEMBLY

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7 Claims. (Cl. 42—50)

This invention relates to improvements in cartridge containers and magazine assemblies for use in automatic, semi-automatic and manually-operated guns, and refers more particularly to such an assembly employing a disposable package-type cartridge container which has a self-contained feeding mechanism.

This application is a continuation-in-part of my application Serial No. 311,356 filed September 25, 1952, which in turn is a division of my application Serial No. 125,549, filed November 4, 1949, and issued as Patent No. 2,624,241 on January 6, 1953.

Many single-shot, semi-automatic and automatic guns have magazines which are spring-loaded to move cartridges into the gun action. Such magazines are positioned generally at right angles to the longitudinal axis of the gun whereby the cartridge can be readily moved directly into the breech for firing. This invention, however, relates to a cartridge container and magazine assembly designed to be employed with a weapon having a gun action similar to that disclosed in my Patent No. 2,624,241. Such an action receives a cartridge from the magazine in a position at right angles to the barrel of the gun and reorients it in the proper direction in the course of charging the cartridge into the breech. Thus, the cartridges in the magazine need not be directed along the longitudinal axis of the gun and the magazine itself may lie along the receiver of the gun parallel to the barrel on the side, top or bottom of the gun. The provision of such a gun action, cartridge container and magazine makes for a very compact weapon, as well as offering much space for ammunition. The positioning of the magazine along the receiver parallel to the longitudinal axis of the gun makes it possible to provide a better balanced weapon and, additionally, makes it possible to operate the gun in close proximity to the ground or any shielding obstacle at the side of the operator which operation is very important when the user is under fire and requires maximum shelter.

In conventional automatic and semi-automatic weapons the cartridges are packaged at the arsenal or point of manufacture and when received at the firing point each cartridge must be singly inserted into a conventional metallic magazine or clip. This insertion is against the progressively increasing resistance of the fixed follower spring as full capacity is attained. Such loading is very difficult with warm fingers and impossible with cold fingers. Therefore in cold climates and winter weather relatively expensive metal magazines are thrown away when empty rather than attempt the tedious process of re-loading them.

If it were possible to provide a sealed cartridge container having a self-contained follower mechanism and provision for disrupting the container for charging the gun action, the magazine construction could be greatly simplified and loading and firing speeded. If such a container were disposable, again fire power would be increased. It would also be desirable to provide means whereby misinsertion of the container in the magazine

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would be made impossible. Such a cartridge container should also have provision for restraining the follower mechanism during shipment or transportation to protect the container against rupture before use due to rough handling in shipping cases.

Therefore, an object of the present invention is to provide a cartridge container for manually-operated, semi-automatic and automatic guns which is disposable and made of relatively cheap, readily obtainable material.

A further object of the invention is to provide a magazine and cartridge container assembly which permits packaging of the cartridges at the source of manufacture for direct use in a suitable gun action without the necessity of opening the package as received from the arsenal or manufacturer and singly inserting each cartridge into conventional metal magazines against the progressively increasing resistance of a fixed follower spring as full capacity of the magazine is attained.

A further object of the invention is to provide a magazine and cartridge container assembly with a cartridge container having a self-contained follower mechanism, thereby obviating the necessity of discarding relatively expensive metal magazines when empty.

A further object is to provide a magazine and cartridge container assembly with a cartridge container having a self-contained follower mechanism for charging cartridges into the operating mechanism of a manually-operated, semi-automatic or automatic gun, thereby permitting a greatly simplified magazine construction.

A further object of this invention is to provide a disposable cheap cartridge container for use in guns having magazines which are parallel to the gun barrel.

A further object is to provide a magazine and cartridge container assembly which are mutually constructed to coact in loading so the container may not be inserted in the gun magazine except in the proper loading position.

Still another object of the invention is to provide a sealed cartridge container which is easily ruptured by actuation of its self-contained follower mechanism to permit charging of the cartridges into the gun mechanism.

Other and further objects will appear in the course of the following description.

The accompanying drawings which form a part of the instant specification are to be read in conjunction therewith, and in the various views like numerals indicate like parts.

Fig. 1 is a cross-sectional view of a portion of a rifle shown schematically having a magazine and cartridge container assembly embodying the invention;

Fig. 2 is a similar view to Fig. 1 showing the cartridges in the container partially expended;

Fig. 3 is a view taken along the lines 3—3 of Fig. 1 in the direction of the arrows;

Fig. 4 is a view taken along the lines 4—4 of Fig. 1 in the direction of the arrows;

Fig. 5 is a three-quarter elevational view of the loaded cartridge container;

Fig. 6 is a three-quarter elevational view of the end of the load cartridge container which is obscured in Fig. 5.

Referring to the drawings, the numeral 10 designates a rifle which is shown schematically in the various views. Rifle 10 has a stock 11, barrel 12, trigger assembly 13, and may be a manually-operated, semi-automatic or automatic weapon or combination of these types. The operating mechanism is not shown in detail as a number of alternative constructions might be employed, the criterion being the provision of a device for reorienting cartridges from a position at right angles to the gun barrel through ninety degrees to a position parallel to the barrel. Preferably contemplated, however, is a mechanism of the type shown in my Patent No. 2,624,241 mentioned above which employs a transfer disc for this purpose. Posi-

tioned preferably along the top of the gun is magazine 14 which runs parallel to the gun barrel and is designed to receive cartridge containers of the type constituting the present invention. Thus, the height of the magazine is approximately the thickness of the container, its width slightly greater than the cartridge length and its length the length of the container. One side of the magazine has tapered walls to match beveled edges on one side of the container, thus preventing misinsertion. Positioned on top of magazine 14's open end is latch 15 which holds the cartridge container in place. At the other end are abutting shoulders 16 to limit the insertion of the container. Feeding channel 17 serves to deliver a single cartridge at a time to transfer disc 18. Disc 18 accepts one cartridge from the magazine in a position at right angles to the gun and in cooperation with the movement of the gun's action rotates ninety degrees to permit feeding the cartridge into the breech (not shown) where the cartridge is fired, extracted and replaced by another in a regular series of operations.

The cartridge container 19 constitutes a sealed tube of disposable, easily obtainable, packaging material such as cardboard, extruded plastic or plasticized paper. It is designed to hold rows of cartridges 20 placed side by side extending at right angles to the axis of the container 19. Two rows of cartridges are shown in the figures, but it is contemplated that one or more than two may also be employed. The length and thickness of the container 19 depends on the number of cartridges designed to be contained therein, the number of rows of cartridges, and the available space on the receiver of the gun, while its width is determined by the length of the cartridge employed. The edges of one side are beveled to functionally approximate the profile of the bullet ogive, or, as the case may be, the profile of the entire cartridge used. Beveled edges 21 match the taper of the one side of the magazine so that the container may be inserted only with the cartridges pointing in the proper direction. One end of the container has perforations 22 to facilitate rupturing when the container has been placed in the magazine. At the other end of the container is follower 23 which is loaded with spring 24. The follower plug end is drilled transversely 26 for insertion of cotter pin 27 and pull ring to restrain the energy of spring 24 from the front perforated diaphragm during shipment or transportation of ammunition. This insures against rupture before use due to rough handling in shipping cases. In a cardboard or plasticized paper container with relatively weak wall structure, spring base 25 may be provided. In an unruptured container as in Figs. 1 and 5, the end of the follower 23 protrudes from the container. As the cartridges are consumed in the gun, the follower travels behind the remaining cartridges propelled by spring 24 maintaining a steady feeding pressure.

In operation, the container 19 is inserted in magazine 14 and thrust forward until its forward end abuts shoulders 16 and its rearward end is engaged by latch 15. In this position follower 23 protrudes from the end of the magazine. The beveled edges 21 on the container and the matching tapered sides of the magazine prevent reverse insertion of the container. Cotter pin 27 and pull ring 28 may have been removed before insertion of the container in the magazine but, if not, the pin is pulled, thus freeing the follower and spring to bear upon the cartridges. The spring energy, alone, is not sufficient to rupture the front perforations 22 without additional pressure applied to the end of the follower plug 23. To charge the gun, thumb, finger or hand pressure is exerted on the follower, which pressure is transmitted to the front end of the container which ruptures along the perforations 22. Cartridges 20 then pass into feeding channel 17 and transfer disc 18 under the action of spring 24. When the gun is fired manually or automatically, the cartridges progress into the breech, fire and the empty cases are ejected. The

follower thus runs to the limit of the feeding channel as the cartridges are expended. When the container is empty, latch 15 is lifted and the used container assembly removed and discarded, while a new unruptured package 5 is inserted. In this manner an extremely high rate of fire is made possible with minimum time being required for reloading the gun.

Thus it is seen a cartridge container has been provided for manually-operated, semi-automatic and automatic 10 guns which is disposable and made of relatively cheap, readily obtainable material.

A cartridge container and magazine assembly have been provided which permit packaging of the cartridges at the source of manufacture for direct use in a suitable 15 gun action without the necessity of opening the package as received from the arsenal or manufacturer and singly inserting each cartridge into the magazine.

A cartridge container and magazine assembly have also been provided which obviates singly loading each cartridge into a magazine against the progressively increasing 20 resistance of a fixed follower spring and thereby saving the necessity of discarding relatively expensive metal magazines under time or weather conditions which do not permit reloading.

A cartridge container with a self-contained follower mechanism has also been provided with provision to 25 restrain the energy of the follower from the front portion of the container during shipment or transportation thus insuring against rupture before use due to rough handling.

A cartridge container and magazine assembly have also been provided with a cartridge container having a self-contained follower mechanism for charging cartridges 30 into the operating mechanism of a manually-operated, semi-automatic or automatic gun, thereby permitting a greatly simplified magazine construction.

A disposable, relatively cheap cartridge container has further been provided for use in manually-operated, semi-automatic and automatic guns having magazines which 35 run parallel with the gun barrel.

A cartridge container and magazine assembly have also been provided which are mutually constructed to so coact that the container may not be inserted in the magazine 40 except in the proper loading position.

A cartridge container has also been provided which is sealed, yet easily ruptured by actuation of its self-contained follower mechanism to permit charging of the 45 cartridges into the gun mechanism.

From the foregoing, it will be seen that the invention is one well adapted to attain all of the ends and objects 50 hereinabove set forth together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and sub-combinations are of utility and may be employed without 55 reference to other features and subcombinations. This is contemplated by and is within the scope of the claims.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is 60 to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. In a cartridge container, an elongate tube, at least one row of cartridges disposed within said tube, a pressure 65 disruptable closure for one end of said tube normally preventing discharge of cartridges therefrom, a spring-loaded follower within said tube at the other end for urging said cartridges lengthwise of said tube toward said closure, said closure being of sufficient strength to resist the pressure normally imposed by said spring-loaded follower on the row of cartridges, said follower 70 having a portion thereof located outside said tube to provide means for manually imposing an additional force

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against said cartridges sufficient to rupture said closure and permit discharge of the cartridges under the influence of said follower.

2. In a cartridge container, an elongate tube, at least one row of cartridges disposed within said tube, the individual cartridges being oriented normal to the tube axis and arranged side by side along the length of the tube, a pressure disruptable closure for one end of said tube normally preventing discharge of cartridges therefrom, a spring-loaded follower within said tube at the other end for applying pressure to the row of cartridges and thus against said closure, said closure being of sufficient strength to resist the normal pressure imposed thereon by said cartridge row under the influence of said follower, and means whereby a temporary pressure in excess of said spring pressure can be applied to said cartridge row to rupture said closure and permit the discharge of cartridges from said tube.

3. A cartridge container as in claim 2 wherein said follower comprises a plug having one end thereof extending beyond the adjacent end of said tube to provide said last named means.

4. A cartridge container as in claim 2 wherein said closure comprises a sheet of tearable material weakened by perforations along lines traversing its area.

5. A cartridge container as in claim 3 wherein a removable keeper is provided in the protruding portion of said plug, said keeper normally engaging the adjacent end of said tube to prevent movement of said plug toward the opposite end.

6. In a magazine and disposable cartridge container assembly for automatic, semi-automatic and manually operated guns of the type having a receiver and gun action mechanism, the combination of an elongate maga-

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zine on said gun communicating at one end with the receiver and open at the other end, an elongate tube-like cartridge container containing a row of cartridges and adapted to be inserted longitudinally into said magazine, a pressure disruptable closure for that end of said container adjacent said receiver normally preventing discharge of the cartridges from the container, a spring-loaded follower within said tube at the other end urging said cartridges lengthwise of said tube toward said closure, said closure being of sufficient strength to resist the pressure normally imposed by said cartridge row under the influence of said follower, means for releasably locking said cartridge container in said magazine, means whereby a temporary pressure in excess of said spring pressure can be applied to said cartridge row to rupture said closure and permit discharge of cartridges from said container into said receiver.

7. The combination as in claim 6 wherein said magazine and container are provided with congruent irregular cross-sections preventing insertion of the container into the magazine unless the container is in the proper charging position.

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