March 5, 1957 W. R. KUNZ 2,783,570

MAGAZINE CHARGER FOR FIREARMS

Filed April 29, 1954 2 Sheets-Sheet 1

Fig. 1

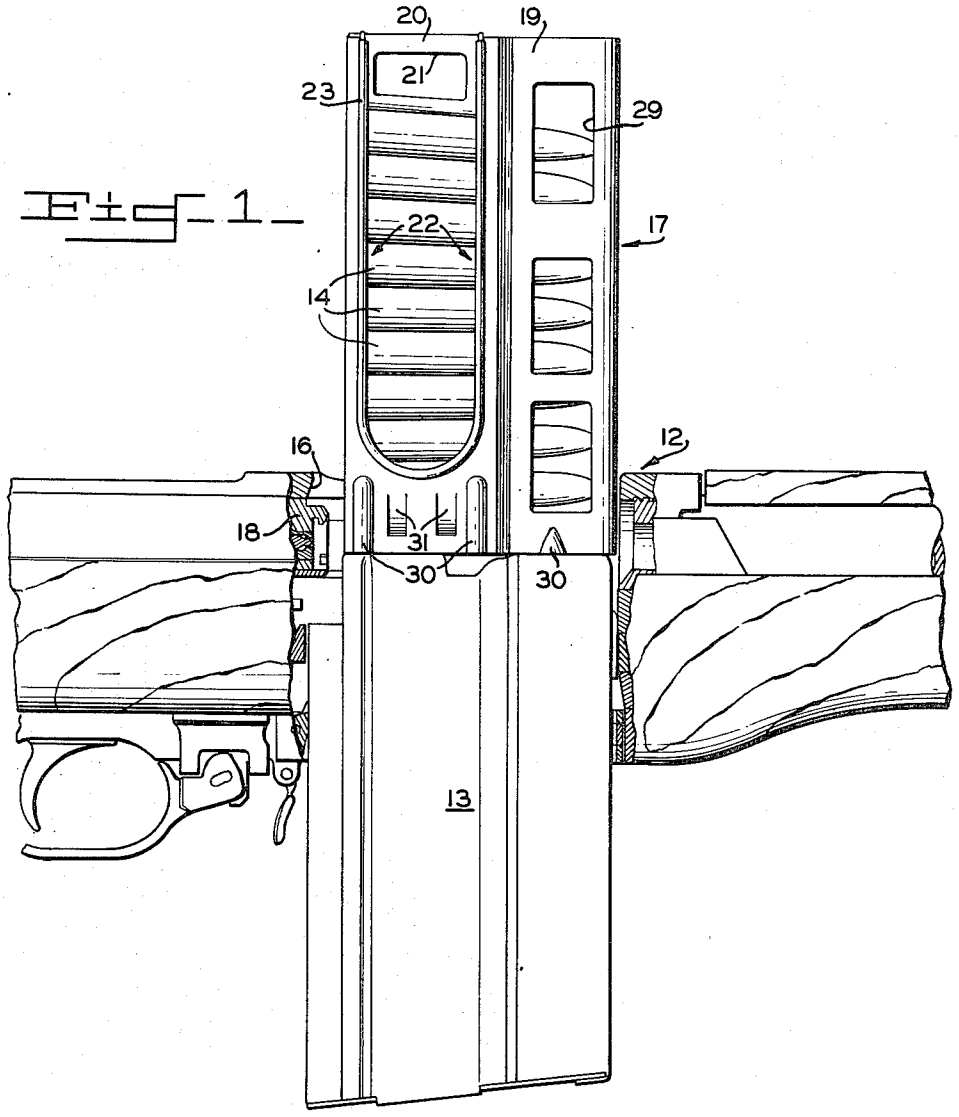
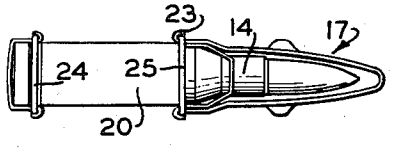


Fig. 2



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Fig. 3

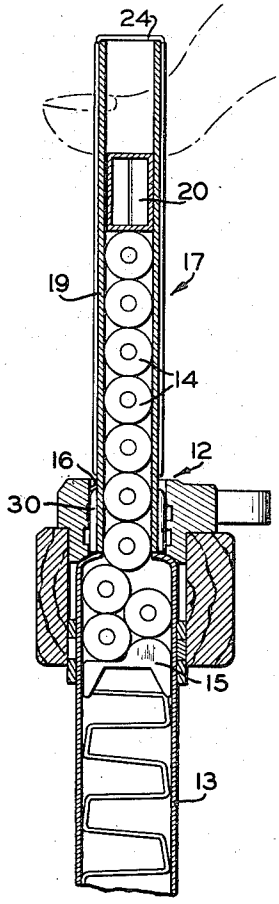


Fig. 4

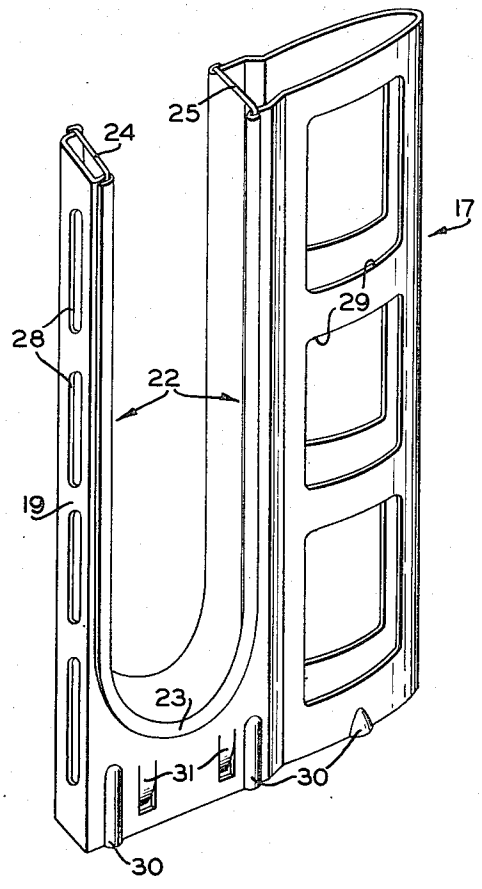
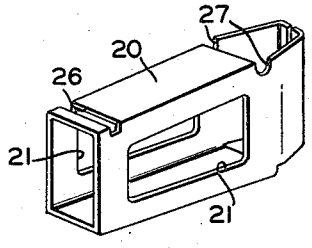


Fig. 5



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MAGAZINE CHARGER FOR FIREARMS

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Application April 29, 1954, Serial No. 426,613

1 Claim. (Cl. 42—87)

(Granted under Title 35, U. S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to firearm magazines and is particularly directed to chargers for loading a plurality of cartridges into a magazine while assembled to a firearm.

One of the inherent problems of automatic types of shoulder arms is that of supplying cartridges thereto. The magazine and the number of cartridges carried by a firearm are obviously limited by weight, as it is important that the complete load of the weapon be as light as possible. The magazines are generally separable containers in which a limited number of cartridges, generally twenty or less, are spring-biased to a feeding position. In extensive firing, this amount is inadequate, therefore, the magazine must be removed and replenished or a spare, previously loaded, magazine installed.

Because the magazine has to be sufficiently rugged in construction to feed the cartridges to the firearm under heavy spring tension without being distorted, the weight thereof is necessarily heavy. It is, therefore, inconvenient for an operator to carry many spare magazines on his person. Then, too, an operator is inclined to throw away an empty magazine rather than be bothered by its weight and bulk. This adds up to a considerable loss as the magazines are relatively expensive to manufacture.

Further, if it becomes necessary to refill a magazine, the operator must lay aside the weapon as the loading requires the use of both hands, being a rather intricate and bothersome operation. The difficulties are, of course, intensified by darkness. Then, too, it is inconvenient for the operator to keep the count of the number of rounds loaded into a magazine, especially if under fire.

It is, therefore, an object of this invention to provide a magazine charger for loading a plurality of packaged cartridges to a firearm magazine while installed in the firearm.

It is another object of this invention to provide a magazine charger for a firearm whereby the operator may load the firearm magazine easily and quickly without losing visual contact with the target or physical contact with the weapon.

It is a further object of this invention to provide a means for supplying cartridges to a firearm whereby only a single magazine is necessary.

It is a further object of this invention to provide a magazine charger which is light in weight so as to add little to the operator's load.

It is another and still further object of this invention to provide a magazine charger which is inexpensive to manufacture and, therefore, economically expendable.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawings in which:

Fig. 1 is a partially cross-sectional side view of a firearm showing the magazine charger of the invention in place;

Fig. 2 is a top view of the magazine charger;

Fig. 3 is a rear cross-sectional view showing some cartridges loaded into the firearm magazine from the magazine charger;

Fig. 4 is an enlarged perspective view of the magazine charger with the follower removed; and

Fig. 5 is an enlarged perspective view of the follower.

Shown in the figures is a firearm receiver **12** having a bolt slidably mounted therein and a cartridge magazine **13** separably mounted thereto. Magazine **13** is of conventional two-column type and is loaded by the insertion of a plurality of cartridges **14** into the top thereof against a spring loaded member **15**. Immediately above magazine **13** is an injection port **16** which provides free access of a magazine charger **17** to the top of the magazine when bolt **18** is in recoil position.

Charger **17** includes a body **19** and a follower **20**. Body **19** is a hollow container fabricated from a lightweight material such as aluminum and has a transverse cross-section similar to the longitudinal profile of cartridge **14** for closely receiving a column of such cartridges. The front portion of body **19**, however, is arranged to extend slightly beyond the nose of the projectile of cartridge **14** to prevent any accidental injury thereto during handling.

Follower **20** is hollow and substantially rectangular in conformation and is arranged for close slidable movement from the top of body **19** to the bottom in the part thereof which receives the case portion of cartridge **14**. Therefore, the longitudinal cross-section of follower **20** is substantially similar to that of the case of cartridge **14**. Provided through the longitudinal sides of follower **20** are lightening holes, as noted at **21**, which reduce the weight of the follower without weakening the structural strength thereof below that required to load a column of cartridges **14** from body **19** into magazine **13** against the pressure of spring loaded member **15**.

Extending downwardly from the top edges of the longitudinal sides of body **19**, and in the portion thereof which receives the larger diameter portion of cartridge **14**, are arcuately terminated cut-out portions **22**. Cut-out portions **22** provide clearance for the finger or fingers of the operator to move follower **20** from the top to the bottom side of body **19** as well as lighten the weight of charger **17** and are so arranged that when the top side of the follower is approximately flush with the bottom end thereof the bottom side of the follower is approximately flush with the bottom side of body **19**. The edges of cut-out portions **22** are rolled, as noted at **23**, to give structural strength to body **19**. Received by the two rear end portions and the two front end portions of rolled portions **23** are substantially U-shaped pins **24** and **25** which provide transverse stops for the upward movement of follower **20**. A rear transverse slot **26** and a pair of notches **27** are provided in follower **20** to receive pins **24** and **25** when follower **20** is in the topmost position in body **19** and thereby the follower is connectively engaged to body **19** to provide strength to the upper portion of charger **17** during handling.

Provided in the rear end of body **19** and in the portion which receives the projectile of cartridge **14** are lightening holes, such as are noted at **28** and **29**. Extending upwardly from the bottom edge of each of the longitudinal sides of body **19** are three spaced outwardly extending dimples, noted by **30**, which are arranged to slidably engage the sides of ejection port **16** to centralize charger **17** therein. Dimples **30** further serve to strengthen the bottom edge of body **19** which engages magazine **13** during loading. Also provided in the bottom portion

of one of the longitudinal sides of body 19 is a pair of integral, restraining tabs 31 which extend inwardly and downwardly to press resiliently against the bottom one of the cartridges 14 in charger 17 and thereby releasably restrain the cartridges in such charger.

To load charger 17, cartridges 14 are inserted into the bottom end thereof against follower 20 until the follower is stopped by the reception of pins 24 and 25 by slot 26 and notches 27, respectively. In the selected embodiment, charger 17 holds ten cartridges 14 which is half the load of magazine 13. When filled, the loaded charger 17 is easily handled with little bulk or weight being added thereby to the ammunition load of the operator. Further, cartridges 14 are protected against accidental damage during handling.

When an operator desires to charge magazine 13, bolt 18 is retracted to recoil position and a loaded charger 17 inserted downwardly through ejection port 16 until engaged with the top side of the magazine. Dimples 30 assure that charger 17 is centrally located above magazine 13 so that when the operator presses downwardly on the top of follower 20, the column of cartridge 14 in the charger are loaded into the magazine, as best shown by Fig. 3. The empty charger 17 may then be discarded by the operator so as not to be further bothered by its bulk. The weight of ammunition charger 17 is negligible.

It is obvious that magazine 13 may be easily charged in the dark as ejection port 16 is readily located by charger 17, and the cartridge shape of the magazine makes it easy for the operator to identify the front end during installation. After locating ejection port 16 all that is required is the insertion of charger 17 thereinto until engaged with magazine 13. Pressure is then brought against the top of follower 20 to push the column of cartridges 14 into the magazine. When follower 20 is pushed down as far as the limit of cut-out portion 22 permits, the operator knows that ten cartridges have been loaded into magazine 13 and, therefore, is half filled. The operator needs only one hand to perform the above-mentioned operation, therefore, the other hand may still hold the rifle in aimed position.

From the foregoing, it is clearly apparent that there is here provided a means for providing a supply of cartridges to automatic firearms whereby the operator need not lose visual contact with the target or physical contact with the firearm and which is easily operable, is economically expendable and is also a convenient means of carrying ammunition on the person.

Although a particular embodiment of the invention has been described in detail herein, it is evident that many variations may be devised within the spirit and scope thereof and the following claim is intended to include such variations.

I claim:

A magazine charger for a firearm having a magazine and a port in alignment with the magazine, including a body member for storing a column of cartridges, said body member having an enclosing shell similar in configuration to that of the longitudinal profile of the cartridges whereby the cartridges are received therein for slidable, non-shifting, vertical movement, integral restraining tabs in said body member for releasably holding the column of cartridges therein, a box-like follower for moving the column of cartridges from said body member to the magazine, said follower having a longitudinal cross-section similar to that of the case portion of the cartridge and being arranged to engage such case portion, dimples in said body for centralizing said body member in said port, said dimples adding strength to said body member where engageable with the magazine, said body member and said follower being provided with perforations for lightening the weight thereof without weakening the structural strength below that required to load the column of cartridges into the magazine, a U-shaped, cut-out portion in each one of the longitudinal sides of said body member extending from the top side thereof in the portion adjacent the larger diameter portion of the case of the cartridges, said cut-out portions providing clearance for the means of moving said follower to load the magazine, a rolled edge around said cut-out portion to add structural strength to said body member, substantially U-shaped transverse pins received by the front ends of the rear ends of said rolled edge to provide stops for said follower, and detents in said follower for receiving said pins whereby said follower contributes structural strength to said body member when loaded with the column of cartridges.

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