

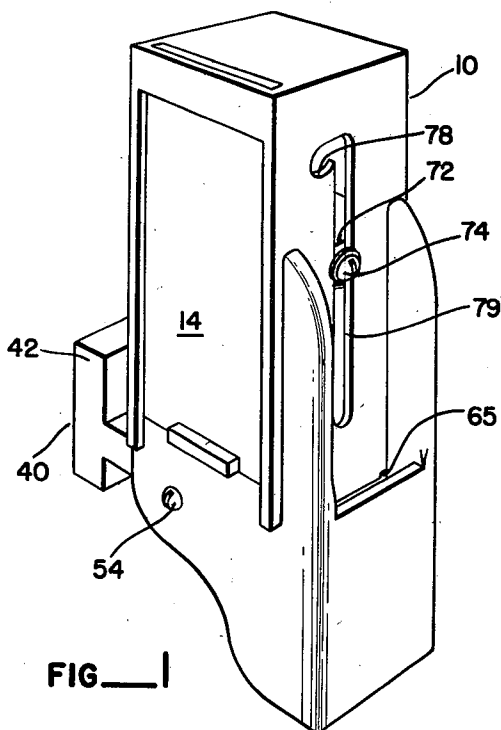
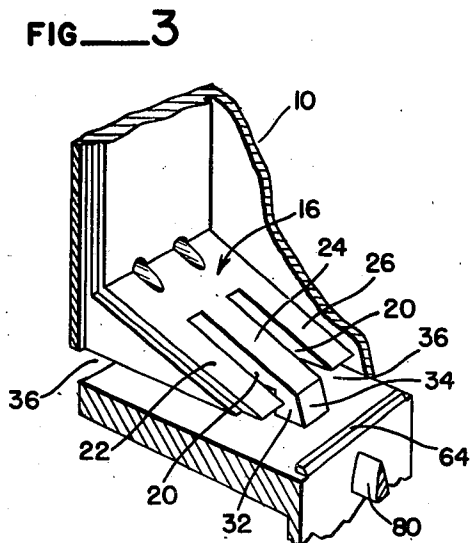
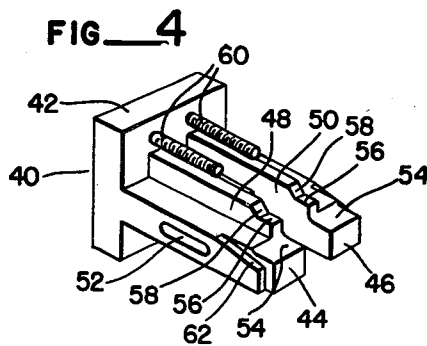
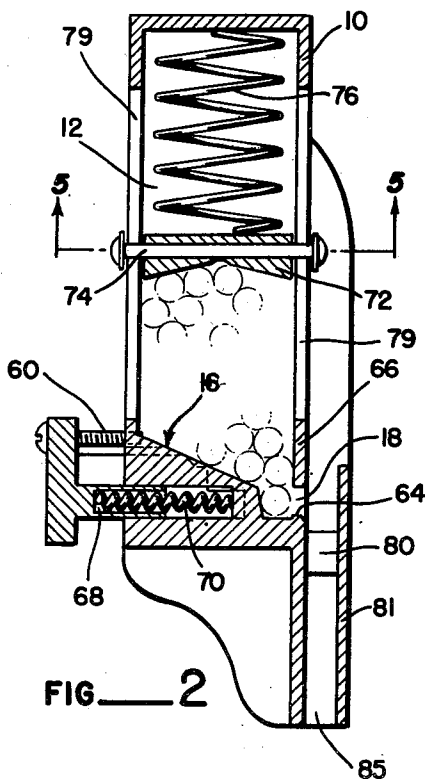
Dec. 30, 1952

R. L. GAMBLE
 DEVICE FOR DISPENSING AND ORIENTING
 AMMUNITION FOR FIREARMS

2,623,803

Filed April 21, 1950

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

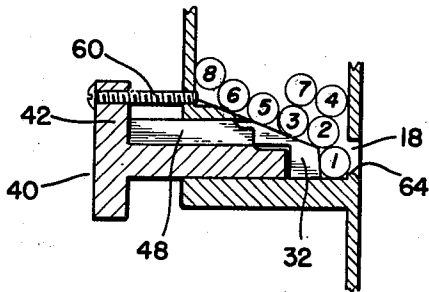


FIG. 6

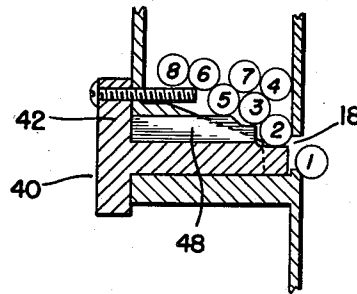


FIG. 7

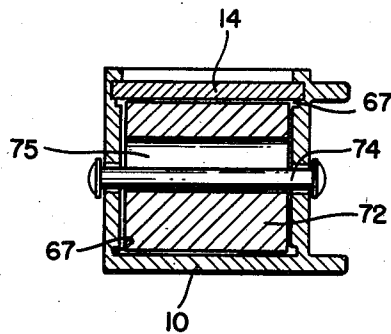


FIG. 5

FIG. 9

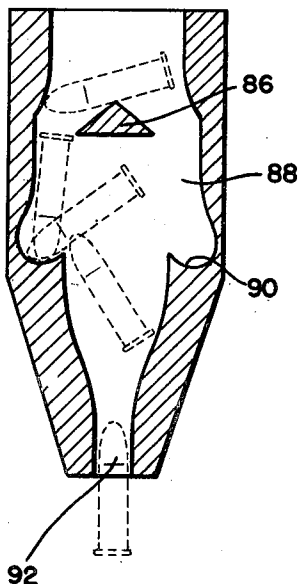
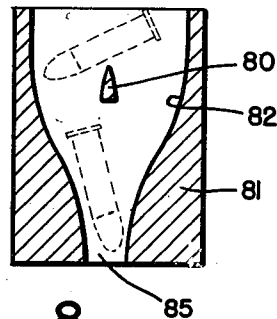


FIG. 8

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UNITED STATES PATENT OFFICE

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DEVICE FOR DISPENSING AND ORIENTING
AMMUNITION FOR FIREARMS

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3 Claims. (Cl. 312-78)

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This invention consists of a cartridge receiving chamber normally of a size to accept a full box of cartridges so that in one operation a complete box of cartridges will be disposed of. Means are provided at the bottom of the hopper-like chamber to dispense the cartridges one at a time in a horizontal position and normally the base and bullet ends will be alternately disposed in the hopper as they were in the cartridge box. After the cartridge has been dispensed means are provided as the cartridge drops from the device for presenting it to the user either base foremost or bullet foremost, depending upon which of two alternate arrangements are used with the device.

The gradual shift of the masses of population from the rural areas into centers of dense population has, to a marked degree, changed the shooting habits and facilities of the users of firearms. In the past, persons living in rural areas would normally employ a repeating form of rifle, either manually operated or capable of semi-automatic fire, and would charge the rifle near their residence and then would go out into the field looking for small game and the like. Normally, one such charge would probably be all the cartridges that would be used at one period. The firearms lover, though, of the present day, quite often finds his field of activities greatly curtailed and he normally must content himself with shooting at targets on a range where proper safety regulations can be maintained, or to go to some open space where he can set up improvised targets, such as tin cans, bottles, and the like, and then engage in "plinking" or the firing of, normally, a number of rounds at a single target until he has broken the same or has caused the can to roll along the ground and thus he finds his substitute for small game shooting. The changing conditions therefore, brings about a circumstance in which, instead of casual and occasional shots being fired, the shooter must go to some safe place and there will enjoy an extended period of shooting and under such conditions, due to the trouble of going to this safe place, will normally prefer to fire a large number of rounds. It is under such conditions that it becomes necessary to re-load the repeating arm a number of times and thus the over-all rapidity of fire of the firearm is reduced to a point where a person can, to all intents and purposes, fire about the same number of rounds over the same period with a single shot arm. As now loaded, therefore, the original advantage of the repeating arm is largely lost, due to the fact that it usually requires con-

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siderably more time to load the firearm than it does to fire the loaded magazine. This present device is believed to go far into correcting this condition and making it possible for the user of a repeating arm to much more quickly load his weapon. It also, is then quite an advantage to the person with a single shot arm, in that the ammunition is always presented to him in the same sense, either point foremost or base foremost.

The principal object of this invention, therefore, is to provide a container which will accept a full box of the smaller rifle ammunition at one charging operation and will then present the ammunition to the user, one at a time, and oriented in their presentation in the same way, even though they may be contained in the device disposed alternately point and base.

A further object of this invention is to provide a dispensing device that is easily charged with ammunition and which will hold the same free from all contamination and present the cartridges, one at a time, to the user in a most convenient manner.

Another object of this invention is to provide a dispenser for ammunition so arranged as to prevent bridging of the ammunition in the hopper-like container, so that the ammunition can be continuously fed without stoppages.

A further object of this invention is to provide a hopper bottom and dispensing slide so arranged as to insure the delivery of only one cartridge at a time, and to further assist in preventing the bridging over of the discharge opening so as to insure continuity of delivery.

Another object of this invention is to provide in a cartridge dispensing device, means to insure the dispensing of a cartridge base foremost without regard to how the cartridges lie in the dispensing hopper.

A further object of this invention is to provide a cartridge dispensing device which will present the cartridges contained therein, one at a time, point foremost without regard as to how they lie in the dispensing hopper.

Further objects, advantages and capabilities will be apparent from the description and disclosure in the drawings, or may be comprehended or are inherent in the device.

In the drawings:

Figure 1 is a perspective view of one of the preferred arrangements of the cartridge dispensing and orienting device made after the teachings of this present invention;

Figure 2 is a vertical cross-sectional view taken through the device of Figure 1;

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Figure 3 is a fragmentary, perspective view with certain parts shown in section to better illustrate certain parts of the cartridge handling means;

Figure 4 is a perspective view of the cartridge dispensing slide or ejector which co-acts with the elements of Figure 3 to dispense cartridges individually.

Figure 5 is a horizontal cross-sectional view taken along the plane of line 5—5 of Figure 2;

Figure 6 is a fragmentary, vertical sectional view taken in the same sense as Figure 2 and showing the means for insuring that cartridges are dispensed one at a time;

Figure 7 is a vertical sectional view taken in the same sense as Figure 6, but showing the cartridge dispensing plunger or slide in a different operating position;

Figure 8 is a cross-sectional view through the dispensing chute of the form wherein the cartridges are presented point or bullet first;

Figure 9 is a cross-sectional view of an alternate arrangement, similar in part, to Figure 8, but showing the means employed to insure the delivery of cartridges base or rim foremost.

Referring more particularly to the disclosure in the drawings, the numeral 10 designates the main body of my dispensing device. This may be formed of any suitable material. It may be formed of sheet-metal, or, preferably, it should be molded of plastic material or some of the various die-casting metals. A box-like container, or chamber 12, is thus provided having the slidable closure 14, which should have suitable guideways to insure a reasonably tight dirt and rain-proof enclosure for chamber 12. The bottom of chamber 12 is formed with a sloping floor or bottom as 16, so that a hopper-like arrangement is provided out of chamber 12, having at its lowermost portion the cartridge dispensing opening 18. The construction of bottom 16 is probably best illustrated in Figure 3, in which it will be noted that the sloping floor is provided with two open ended slots 20. This arrangement provides three floor portions as 22, 24 and 26. The floor portions 22 and 26 terminate in wedge-like outer ends, each having a horizontal bottom surface. The central floor portion 24 is provided at its outer end with a lug 32 which extends downwardly until it contacts the slide-supporting slideway 36. This construction is well illustrated in Figures 2 and 3 and it is to be noted that the outward surface as 34 of lug 32 is sloping. This serves a purpose in insuring the proper delivery of the cartridges.

In Figure 4 is illustrated the cartridge ejector or plunger 40 which is adapted to slide on slideway 36. Ejector 40 is provided with a pressure plate 42 of considerable area so that the thumb, or one or more fingers, can exert considerable pressure thereon. It also forms a base for the ejector to which the outstanding lugs 44 and 46 are secured. Lugs 44 and 46, which may be termed ejector lugs, are disposed in the assembled position, one on each side of the downward extending lug 32, and the main portions of lugs 44 and 46 lie under floor portions 22 and 26. Formed as part of lugs 44 and 46 are the upwardly extending guide and positioning ribs 48 and 50, which in turn, normally are positioned within slots 20 of floor 16. The ejector, of course, is slidably mounted upon slideway 36 and this reciprocation is limited by the side slot 52, which in turn, forms a stop by engaging at alternate ends in accordance with its movement, the stop screw 54

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which normally is threaded into the wall of container 10. Lugs 44 and 46 and ribs 48 and 50 are similarly formed on their ends. Ribs 48 and 50 are stepped providing a lower cartridge seat as at 54, an upper cartridge seat at 56, and a cartridge cam surface at 58. The relationship and use of these various surfaces will be apparent, it is believed, from a study of Figures 6 and 7. It is to be noted in Figure 6 that none of these surfaces contact the cartridge. In Figure 7 it is to be noted that one cartridge has been ejected, one cartridge is lying upon rest portion 54, another is positioned on portion 56, and incidental to the movement a cartridge, as number 5 in Figure 7, has been cammed upwardly so that it will be properly positioned and bridging over of the discharge openings 18 guarded against. To further insure against the bridging over of the cartridges at the discharge openings a plurality of screws or pins are secured within plate 42, and these screws 60, extend into the mass of cartridges when the ejector is moved, as is illustrated in Figure 7. A relieved cut is shown at 62 which occurs also on the outside face of lug 46 and the purpose is to provide clearance for the cartridge rim. The amount of this relief should be normally equal to the amount the rim of the cartridge extends outwardly from the body of the same. Rib 64 forms a retaining ledge over which the cartridge must be forced by ejector 40, and it should be cut short of being the full width of slide-way 36 to provide clearance for the cartridge rim as at 65. These two items, together with notches 67 cut in wall 66 of body 10, provide a guideway cut for the cartridge rim which tends to momentarily arrest the base of the cartridge and assists in starting the cartridge bullet downwardly as it is ejected from the device.

Disposed centrally between lugs 44 and 46 is a cylindrical recess 68 adapted to form a seat for compression spring 70 bearing against stop lug 32, which function is to return the cartridge ejector to the position shown in Figures 2 and 6 so that it will be ready for a repetition of the ejection cycle.

Disposed for reciprocation within chamber 12 is a cartridge follower 72. This block is guided by a through pin 74 set in a horizontally elongated slot 75 which is preferably headed over on its end so that it can be readily gripped as by the fingers on the outside of body 10. This permits the operator to raise follower 72 against the feed spring 76, and, if desired, it can be secured in its upper position, as for the insertion of a new box of cartridges, by positioning pin 72 in the retaining notches 78 appearing at the upper end of each of the opposed guide slots 79. Attention is invited to the fact that the lower surface of follower 72 should be curved or have two joined sloping surfaces after the showing of Figure 2 so that the entire mass of cartridges contained in the cartridge box will be distorted from their rectangular form and thus be less apt to bridge over within chamber 12.

Owing to the shape of the hopper formed within chamber 12 by the sloping floor 16, the various cartridges lie in a horizontal position; and, as they pass through opening 18, they are ejected normally in a horizontal position, excepting for the retarding effect of the rim end of the cartridge being retained momentarily in the grooving arrangement provided by cuts 62 and the floor at 65. The cartridge, except for this retarding action, is permitted to roll out and drop

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under the influence of gravity and it meets midway in its descent, a fulcrum member 80 in a discharge chamber 81 which is disposed centrally or medially with respect to the tapering passageway 82; and this is a basic requirement in that the cartridges may be delivered in a horizontal position with the bullet faced either to the left, as viewed, or reversed and faced to the right. The fulcrum or lug 80 is a balancing point and a stoppage of motion, momentarily, permits the weight of the bullet to up-end the cartridge so that it is delivered bullet foremost as is illustrated in Figure 8. Passageway 82, in vertical cross-section, is concave in its upper portion and convex in its lower portion.

In Figure 9 a further sequence of operation is employed in that a fulcrum 86 is preferably formed with a broader base so that a more pronounced guiding action is provided. Here again, fulcrum 86 is centered in passageway 88 as the cartridges may be delivered with the bullets on either side of the passageway 88. As the bullets turn the cartridge with the axis disposed substantially vertically the bullet end of the cartridge contacts the stop or abutment member 99. As the bullet end of the cartridge is arrested the rim end is free to revolve, consequently, the action illustrated in Figure 9 occurs and the cartridge is discharged out through the tapering discharge opening 92 rim first as distinguished from the showing of Figure 8, in which the cartridge is discharged from that delivery opening 85 bullet first.

The functioning of this device, in brief, is substantially as follows: When a shooter wishes, cartridges dispensed and oriented for him, he will have the device equipped either with the discharge arrangement of Figure 8 or of Figure 9, and his choice will be in accordance with the type of arm, normally, which he proposes to load. Certain arms use tubular magazines in the front stop of the gun. These must be entered into the magazine point or bullet foremost. The other type of tubular magazines, normally, require the entering of the cartridges from the muzzle end of the weapon and in this case they must be entered base first. There are many cases, however, where the user may merely wish to have cartridges dispensed for him, such as in using a single shot rifle, or many of the rifles, which, although they are not normally repeating rifles, will use a loading pack form, which in effect, converts the same to a single-shot weapon. In any event, the cartridge is dispensed by pressing inwardly on pressure plate 42. This causes the ejector unit, shown in detail in Figure 4, to move inwardly into body 10 of the dispenser. This functioning is probably best illustrated in Figures 6 and 7. Normally, the ejector and its various lugs do not contact the cartridges which are axially supported by the floor member 16 which forms the hopper bottom. As the pressure plate is pressed inwardly, however, a series of actions occur in that the one cartridge, as has been indicated by numeral 1 in Figure 6, is forced out, up and over rib 64 and out opening 18. At the same time, cartridges 2, 3 and 5 are definitely positioned in a manner that has been found to avoid bridging over the cartridges at the discharge portion of the hopper. This action is further asured by the functioning of rod 60 which will raise cartridges 6 and 8 so that the entire mass of cartridges is loosened and then, as pressure is released from the pressure plate, spring 70 will move the plate out of the ejector out of

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contact with the cartridges, permitting them to again fall upon the sloping floor 16. This action occurs on each ejection of a cartridge, moving as it does the entire lower mass of the cartridges and bridging over of the dispensing opening 18 is effectively prevented. After the cartridge has been ejected out of 18 it will then follow the sequences previously described and which are illustrated in Figures 8 and 9.

It is believed that it will be clearly apparent from the above description and the disclosure in the drawings that the invention comprehends a novel construction of a device for dispensing and orienting ammunition for firearms.

Having thus disclosed the invention, I claim:

1. A device for dispensing cartridges, comprising: a cartridge chamber having a sloping floor with two slots and a side discharge opening on the level of and spaced from the lowermost portion of said floor; a cartridge follower disposed for vertical movement in said chamber, the lower surface of said follower being formed with two joining sloping surfaces; a spring returned cartridge ejector disposed for horizontal reciprocation at the level of said discharge opening and having two outstanding lugs positioned under said floor with upwardly disposed stepped ribs positioned within the slots of said sloping floor, the inward ends of said lugs passing into the space between said sloping floor and said discharge opening when the ejector is in an inward position, each rib having two seats for cartridges formed by the stepped portion thereof; and a plurality of pins extending from the outer end of said ejector to within said chamber to urge cartridges in said chamber toward said discharge opening.

2. A device for dispensing cartridges to fall on fulcrum means for orientation for rim or bullet first presentation to the user, comprising: a cartridge chamber having a sloping floor with two slots and having a side discharge opening on the level of and spaced from the lowermost portion of said floor, said cartridge chamber having an upstanding rib on the lower portion of said side discharge opening, said rib being shorter than the full length of a cartridge and having its ends spaced from the ends of said discharge opening a distance equal to the thickness of a cartridge rim; a spring pressed cartridge follower disposed for vertical movement in said chamber; and a spring returned cartridge ejector disposed for horizontal reciprocation at the level of said discharge opening and having two outstanding lugs positioned under said floor with upwardly disposed stepped ribs positioned within the slots of said sloping floor, the inward ends of said lugs passing into the space between said sloping floor and said discharge opening when the ejector is in an inward position, the inward ends of said lugs having relieved side edges facing said discharge opening forming a recess between said lugs and the adjacent walls of said chamber having a width equal to the thickness of a cartridge rim; whereby a cartridge being ejected from said chamber has its rim momentarily arrested, because it is disposed in said recess and between said rib and the end of said discharge opening, and the cartridge falls from said discharge opening oriented with its rim at a level above its bullet.

3. A device for dispensing cartridges to fall on fulcrum means for orientation for rim or bullet first presentation to the user, comprising: a cartridge chamber having a sloping floor with two

slots and having a side discharge opening on the level of and spaced from the lowermost portion of said floor; a cartridge follower disposed for vertical movement in said chamber; said cartridge chamber having an upstanding rib on the lower portion of said side discharge opening, said rib being shorter than the full length of a cartridge and having its ends spaced from the ends of said discharge opening a distance equal to the thickness of a cartridge rim; a spring returned cartridge ejector disposed for horizontal reciprocation at the level of said discharge opening and having two outstanding lugs positioned under said floor with upwardly disposed stepped ribs positioned within the slots of said sloping floor, the inward ends of said lugs passing into the space between said sloping floor and said discharge opening when the ejector is in an inward position; the inward ends of said lugs having relieved side edges facing said discharge opening forming a recess between said lugs and the adjacent walls of said chamber having a width equal to the thickness of a cartridge rim; whereby a cartridge being ejected from said chamber has its rim momentarily arrested, because it is disposed in said recess and between said rib and the end of said discharge opening, and the cartridge falls from said discharge opening oriented with its rim at a level above its bullet; and rigid pusher means extending from the outer end of said ejector to within said chamber to urge cartridges in said chamber toward said discharge opening.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
126,692	Gove -----	May 14, 1872
161,382	Carey -----	Mar. 30, 1875
448,637	Cooke -----	Mar. 24, 1891
744,357	King -----	Nov. 17, 1903
819,964	Watson -----	May 8, 1906
1,086,720	Knudsen -----	Feb. 10, 1914
1,191,715	Meszaros -----	July 18, 1916
1,325,339	Swasey -----	Dec. 16, 1919
1,371,173	Kenkel -----	Mar. 8, 1921
1,492,112	Watrous -----	Apr. 29, 1924
1,767,112	Antoine et al. -----	June 24, 1930
1,843,233	Kaiser -----	Feb. 2, 1932
2,083,843	Hicks -----	June 15, 1937
2,187,218	Witt -----	Jan. 16, 1940
2,348,449	Chandler -----	May 9, 1944
2,358,792	Conway -----	Sept. 26, 1944
2,419,242	Woodberry -----	Apr. 22, 1947
2,499,652	Kirby -----	Mar. 7, 1950
2,542,842	Saunders -----	Feb. 20, 1951

FOREIGN PATENTS

Number	Country	Date
561,938	Germany -----	Oct. 20, 1932