

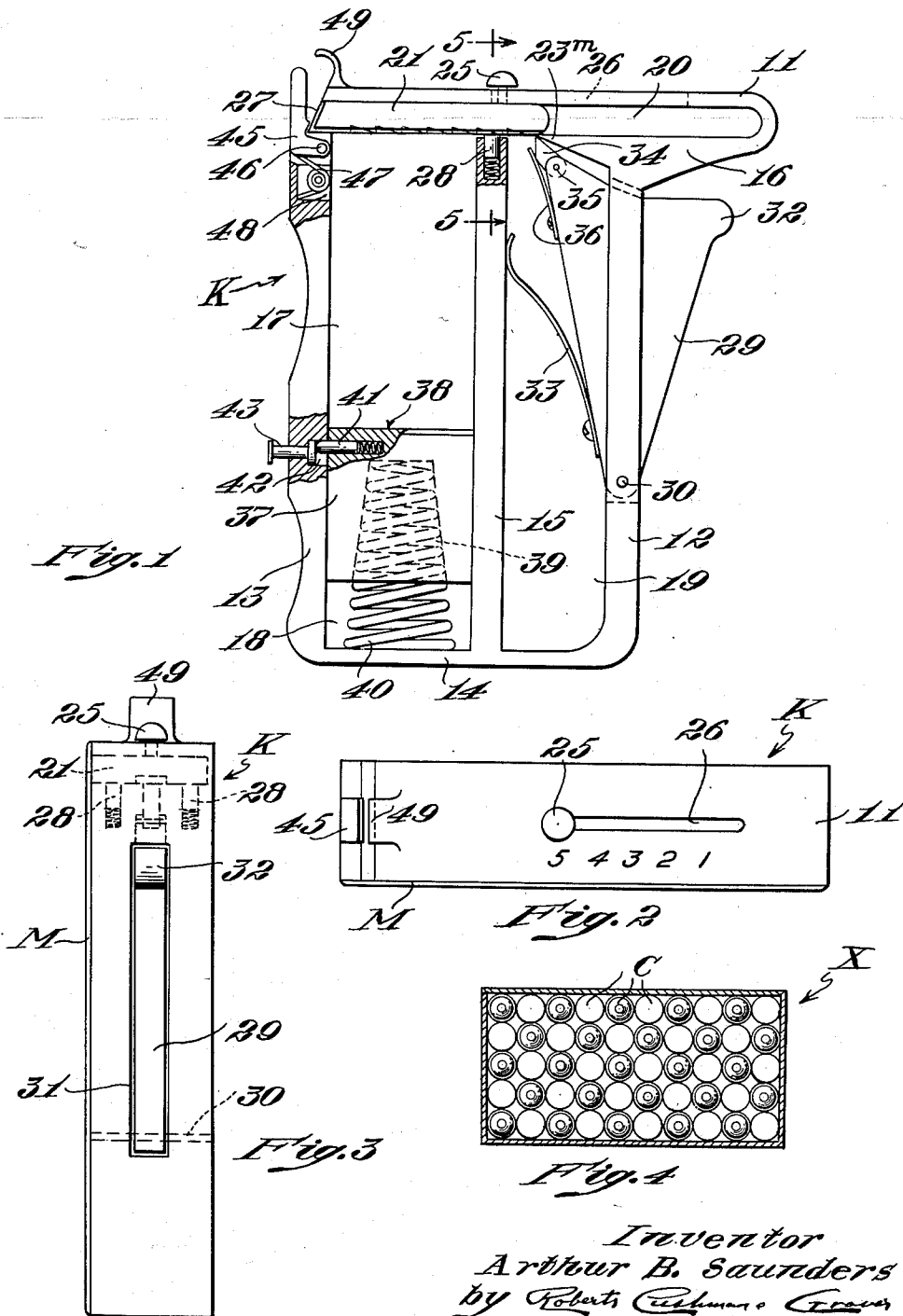
**Feb. 20, 1951**

**A. B. SAUNDERS**  
CARTRIDGE DISPENSER

**2,542,842**

Filed Aug. 17, 1948

2 Sheets-Sheet 1



*Inventor*  
*Arthur B. Saunders*  
*by Roberts, Cushman & Graves*  
*Att'ys*

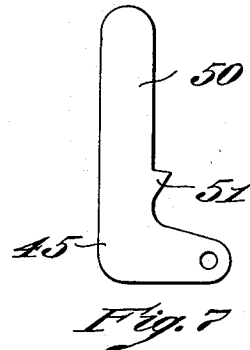
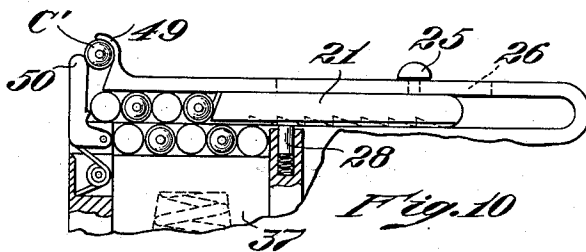
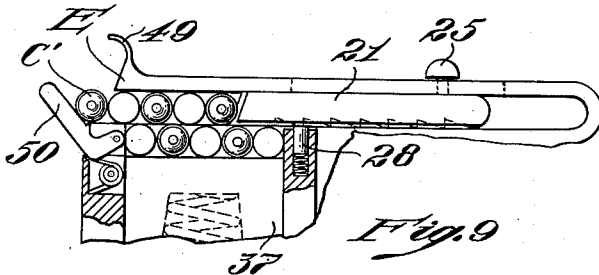
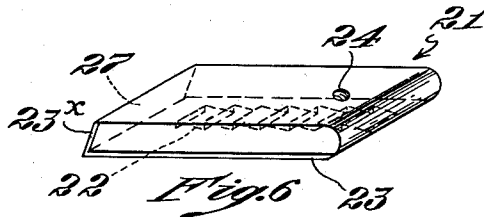
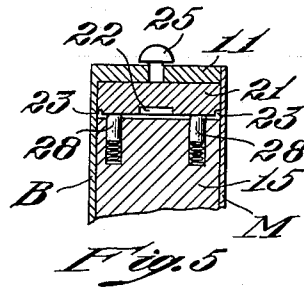
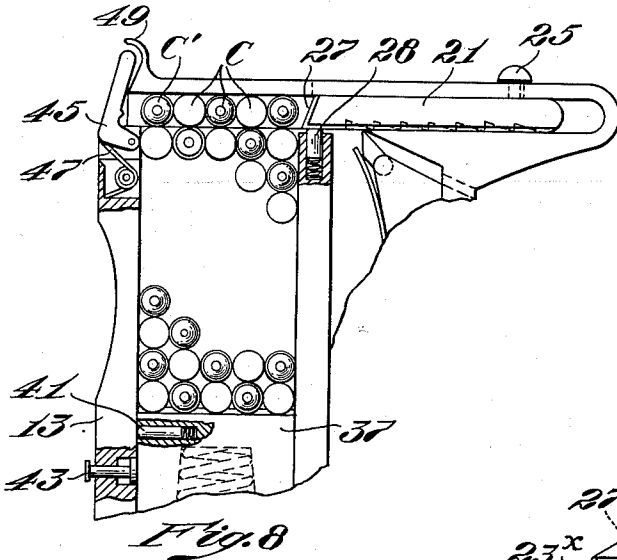
Feb. 20, 1951

A. B. SAUNDERS  
CARTRIDGE DISPENSER

2,542,842

Filed Aug. 17, 1948

2 Sheets-Sheet 2



Inventor  
Arthur B. Saunders  
by *Roberts Cushman & Co.*  
Att'ys

## UNITED STATES PATENT OFFICE

2,542,842

## CARTRIDGE DISPENSER

Arthur B. Saunders, Hollis, N. H.

Application August 17, 1948, Serial No. 44,735

9 Claims. (Cl. 224-15)

1

This invention pertains to dispensing apparatus and in particular to a dispensing receptacle for cartridges.

Rifle cartridges are usually put up for sale in boxes of fifty, arranged in five rows of ten cartridges each. Preparatory to shooting, the cartridges must be removed from the box by hand one at a time, whether they are to be loaded directly into the firearm or into a clip or magazine which is then loaded into the firearm. For example, in target shooting it is common practice to load the firearm, whether pistol, revolver or rifle, with one shell at a time. When using a revolver, a single cartridge is placed in the cylinder in the revolver. In slow-fire target shooting with the rifle, it is usual to place one shell in the chamber of the rifle preparatory to each shot, and the same practice is followed when using a single-shot pistol. For rapid fire target shooting, it is customary to load the cartridges one at a time into a five or ten cartridge magazine or clip which is then inserted into the receiving chamber of the rifle. This is also customary in rapid-fire target shooting with a semi-automatic pistol.

The cartridges are not very large. They are usually coated with a lubricant or protective material and have some tendency to stick together, and they are round and smooth so that it is not always easy to remove them one at a time from the box, particularly when the fingers are cold, without danger of dropping some of them onto the ground. It is not always convenient to find a support for the box, and the target shooter may be obliged to place the box on the ground where it remains open and where the cartridges may easily be covered with dust or grit which adheres to the lubricant on the cartridges, with consequent damage to the gun barrel. Even if, in an indoor range, there is a bench or table on which the box may be placed, there is always the danger that in trying to pick up a cartridge the box will be overturned and the cartridges spilled onto the floor.

To avoid the above difficulties, it has heretofore been proposed to provide a block of wood or other suitable material having vertical sockets drilled into it into which the cartridges may be inserted after removing them from the box in which they are purchased, the block being heavy and of larger superficial area than the box, and having the cartridge-receiving holes spaced apart so that when once the cartridges are placed in the block they may more readily be removed one at a time for insertion in the firearm or in

2

the clip or magazine. While the use of such a block represents an improvement over the withdrawal of the cartridges directly from the shipping box for insertion into the firearm, the use of the block necessitates the removal of the cartridges from the box and their placing one by one in the sockets in the block before they are used. Since the block is purposely made of substantial size so that the cartridges will be spaced apart, and heavy enough to be stable, it can not well be placed in the pocket of the user or attached to his belt or readily held, so that the use of this block, although in some respects advantageous, does not avoid the substantial necessity of a table or other support in the near vicinity of the shooter.

The present invention has for its object the provision of a dispensing receptacle for cartridges so designed that the contents of a box of cartridges, as purchased, may be inserted into the dispensing receptacle as a unit and without substantially disturbing the orderly relative position which they occupy in the box in which they are received. A further object is to provide a dispensing receptacle so designed that, by simple manipulation, one cartridge at a time is ejected and held in a position such that it may readily be seized between the thumb and finger and removed for insertion into the firearm. A further object is to provide a dispensing receptacle of a kind which protects the cartridges from dirt and moisture and which avoids all possibility of spilling the cartridges as they are dispensed one by one for use. A further object is to provide a dispensing receptacle which does not depend on gravity for positioning or ejecting the cartridges so that it is operative equally well regardless of the position in which it is held. A further object is to provide a dispensing receptacle of convenient size to be carried in the pocket or attached to the belt of the user, or which may be laid upon a table or even on the ground without danger of spilling the cartridges or exposing them to dirt. A further object is to provide a dispensing receptacle having indicator means to show to the user to what extent the supply of cartridges has been exhausted. Other and further objects and advantages of the invention will be pointed out in the following more detailed description and by reference to the accompanying drawings wherein:

Fig. 1 is a side elevation, with parts in vertical section and with the cover removed, showing the cartridge dispensing receptacle of the pres-

3

ent invention with the cartridge receiving chamber empty;

Fig. 2 is a plan view of the device shown in Fig. 1, but with the cover in place;

Fig. 3 is a rear elevation of the device shown in Fig. 2;

Fig. 4 is a plan view of a box of cartridges as they are usually put up for sale, the cover of the box being removed;

Fig. 5 is a fragmentary vertical section on the line 5-5 of Fig. 1;

Fig. 6 is a perspective view to larger scale, showing the cartridge-ejecting slide;

Fig. 7 is a side elevation, to larger scale, illustrating a cartridge-retaining and positioning lever;

Fig. 8 is a fragmentary view similar to Fig. 1, but showing the cartridge-receiving chamber filled with cartridges;

Fig. 9 is a view similar to Fig. 8 but showing an intermediate stage in the delivery of a cartridge; and

Fig. 10 is a similar view showing a cartridge ejected from the chamber and held in position to be grasped by the user.

Referring to the drawings, K designates the dispensing receptacle as a whole. This receptacle comprises a case which may be made of any suitable material, for example, a molded plastic, a molded metal such as aluminum or magnesium, or which may be made of sheet metal or the like. Preferably the case or frame of the apparatus, except for the removable cover hereinafter described, is of unitary construction. It comprises the top member 11 (Fig. 1), the rear member 12, the front member 13, the bottom 14, the internal web 15 and a guide portion 16. These several parts are so disposed as to define the cartridge-receiving chamber 17 (having the downward extension 18 which receives the cartridge follower, hereafter described), the chamber 19 which houses the trigger spring and a part of the trigger, and the guide channel 20. These several cavities are closed at the right-hand side of the receptacle by the thin wall or web B (Fig. 5) which is preferably integral with the parts 12, 13, 14, 15, etc., although this member B may be a separate plate or cover suitably secured to the frame members 12, 13, 14, 15, etc., for example, by screws or rivets. As illustrated, the case is externally shaped to be grasped in the hand, with the fingers curled around the front edge of part 13 (said edge being shaped to provide a secure grip) and with the thumb in operative relation to the trigger, hereafter described.

An ejector member or slide 21 is arranged to reciprocate in the guide channel 20. This ejector member 21 is a block of suitable material, for example, material similar to that from which the case itself is made, and is of a length, from front to rear, such that when disposed, as shown in Fig. 1, it laps over the upper edges of the members 13 and 15. The member 21 is of a width to extend transversely across the entire width of the cartridge chamber 17. At its underside (Fig. 6) the ejector member 21 is provided with a series of ratchet teeth 22. As here illustrated, there are seven such teeth, each tooth having a substantially vertical surface at its forward edge. Preferably the lower lateral corners of the slide 21 are rabbeted to provide grooves 23 (Figs. 5 and 6) for the accommodation of the rims of the cartridges. The forward or left-hand edge 27 of the slide or ejector member 21 is inclined upwardly and rearwardly, and the edges of this in-

4

clined surface are also rabbeted, as shown at 23<sup>a</sup> (Fig. 6) to accommodate the rims of the cartridges. The member 21 is provided with a bore 24, preferably internally screw threaded, for the reception of the shank of a stud or screw having a head 25. The head 25 constitutes a convenient handle for moving the ejector 21 manually. The upper wall 11 of the case of the receptacle is provided with an elongate groove 26 (Fig. 2) to accommodate the shank of the screw, the head 25 being arranged above the upper surface of the member 11 and in a convenient position for actuation by the user. Preferably, as illustrated in Fig. 2, the top 11 of the receptacle is provided with numerals spaced along the slot 26 for cooperation with the head 25 of the actuating screw, thereby to indicate to the user the extent to which the cartridges have been exhausted.

The upper edge of the web member 15 of the case is provided with spaced vertical bores which receive spring-actuated friction pins 28 which bear against the under surface of the ejector member 21, thereby frictionally to retain the latter in its retracted position, as hereinafter described.

A pivoted trigger member 29 (Fig. 1), fulcrumed at 30 on a pin fixed in the rear member 12 of the case, is movable in a front to rear direction in a slot 31 (Fig. 3) formed in the member 12. The upper rear end of this trigger member 29 has a projection 32 for engagement by the user's thumb. A spring 33, housed in the chamber 19, tends to swing the trigger 29 rearwardly.

A pawl 34 is pivotally mounted at 35 near the forward upper corner of the trigger and within the chamber 19 and is urged upwardly by a spring 36. The guide member 16 of the case has a forward extension 23<sup>m</sup> which engages the pawl 34 and holds the latter down out of contact with the ratchet teeth 22 of the ejector 21, except when the trigger 29 is moved forwardly so as to disengage the pawl 34 from the member 23<sup>m</sup>.

A cartridge follower block 37 is housed in the chamber 18, this block having a substantially flat upper surface 38 and having a cavity 39 which receives the upper end of a coiled compression spring 40. A pin 41 is housed in a horizontal bore in the block 37, and is urged forwardly, that is, to the left, in Fig. 1, by a coil spring. The inner surface of the member 13 is provided with a chamber 42 designed to receive the outer end of the pin 41 so as temporarily to hold the follower block 37 in depressed position such that the chamber 17 above the block is of a size to receive all of the cartridges contained in a box. A manually actuable plunger 43 is arranged in a bore in the forward wall 13 of the case and is designed, by manual manipulation, to disengage the pin 41 from the chamber 42, thus freeing the block 37 so that it may be moved forwardly by the spring 40.

A substantially L-shaped cartridge-controlling lever 45 (Fig. 7) is mounted to swing in a slot at the upper end of the forward wall 13 of the case and is pivoted upon a transverse pin 46. A spring 47, housed in a cavity 48 in the upper part of the wall 13 of the case, urges the lever 45 in a clockwise direction. The forward or left-hand edge of the top 11 of the case has a fixed, upstanding cartridge-retaining hook 49 of a width substantially less than the length of the cartridge. Preferably this hook or finger 49 is disposed about midway between the right and left edges of the case. The lever 45 has an upstanding arm 50 normally reaching up nearly to the

upper edge of the hook 49, and also has an inclined surface 51 (Fig. 7).

The receptacle has a closure or cover M (Figs. 2, 3 and 5) which may be of sheet metal, plastic or the like, and which is preferably hinged to the case and held in normal closed position, for example, by spring clips or the like (not shown).

In using the device, the closure M is first opened, the ejector member 21 is drawn back to the fully retracted position, shown in Fig. 8, where it is retained by the friction pin 28, and the follower block 37 is moved down to the position shown in Fig. 1 where it is held by pin 41. The user then removes the cover from the box X of cartridges (Fig. 4), places the dispensing receptacle over the box so that the box registers with the chamber 17, and then inverts the box and receptacle, whereupon the entire mass of cartridges from the box drops as a unit into the chamber 17 without disturbing the orderly arrangement of the cartridges, so that they are still arranged in parallel rows. The cover M is then replaced and the user depresses the pin 43 (Fig. 8) which permits the spring 40 to push the follower block 37 firmly against the mass of cartridges in the chamber 17. The spring 40 is so designed as to keep the follower in contact with the cartridges in chamber 17 until the last one has been ejected.

When the user wishes a cartridge he pushes the trigger 29 forwardly, the first inward thrust of the trigger causing the pawl 34 to engage the forward tooth 22 of the ejector 21 and to move the first or top row of cartridges bodily to the left a distance substantially equal to the diameter of one cartridge. The trigger is now released and the pawl 34 is retracted beneath the part 23, the slide or ejector being held in its advanced position by the friction pins 28. The operator now again presses the trigger, thereby pushing the foremost cartridge in the top row against the lever 45 and swinging the lever 45 down to the position shown in Fig. 9. This position is momentary, for as soon as the forward cartridge C' escapes from beneath the corner E of the top 11 of the case, the arm 50 immediately acts to urge the cartridge upwardly, as shown in Fig. 10, and to place it so that it is partially embraced by the hook, the inclined surface 51 of the lever 45 helping to guide the cartridge up toward the hook. The cartridge is held in the hook by the finger 50, and the user may now easily pick the cartridge C' out from between the members 49 and 50, the ends of the cartridge being freely exposed, as shown in Figs. 2 and 3.

On the next inward movement of the trigger 29, the top row of cartridges C is again advanced by an amount equaling the diameter of one cartridge, and thus the next forward cartridge in the row is ejected from the chamber and is caught between the members 49 and 50. This operation is repeated until all of the cartridges in the top row have been ejected. The position of the handle 25, relatively to the numerals on the top of the case, shows the user at any instant how many cartridges of a given row remain so that he may know when it is time to retract the ejector so as to admit another row of cartridges into the path of the ejector. The operator then retracts the ejector member 21 by means of the handle 25 and, as soon as it clears the upper edge of the wall 15, the follower 37 pushes the mass of cartridges upwardly, thus disposing the next row in the path of the ejector 21. This procedure is

repeated until all of the cartridges from the chamber 17 have been exhausted.

While a desirable embodiment of the invention has been illustrated and described by way of example, it is to be understood that the invention is broadly inclusive of any and all modifications falling within the scope of the appended claims.

I claim:

1. A cartridge dispenser comprising a case having therein a substantially rectangular chamber of such dimensions as to receive as a unit the entire contents of a box of cartridges in which the cartridges are arranged in parallel rows, an ejector movable across the chamber in a plane parallel to one end of the latter, means operative to urge the body of cartridges within the chamber toward the path of the ejector, thereby to dispose the several rows of cartridges one after another in said path, means operative to actuate the ejector step by step, thereby at each step to eject a cartridge from that row which lies in the path of the ejector, and means for retracting the ejector from said chamber thereby to permit another row of cartridges to be disposed in the ejector path when the first row has been exhausted.

2. A cartridge dispenser comprising a case having therein a substantially rectangular chamber of such dimensions as to receive as a unit the entire contents of a box of cartridges arranged in orderly rows, a slidable ejector movable transversely of the chamber in a path parallel to one wall of the latter and coincident with that row of cartridges which is adjacent to said wall, means for retracting the ejector from the chamber and for frictionally holding it in retracted position, means for moving the entire body of cartridges within the chamber so as to dispose the end row of cartridges in the path of the ejector, means for advancing the ejector one step at a time a distance substantially equaling the diameter of a cartridge thereby to eject the cartridges one at a time from the case, and means for holding each cartridge as it is ejected in a position to be grasped by the user.

3. A cartridge dispenser comprising a case having therein a substantially rectangular chamber of such dimensions that it may receive as a unit the entire contents of a cartridge box in which the cartridges are arranged in orderly parallel rows, a spring-actuated follower tending to move the entire body of cartridges in the chamber toward an end wall of the chamber, an ejector arranged to slide parallel to said latter wall of the chamber and in a plane coincident with the row of cartridges adjacent to said wall, the ejector having a series of ratchet teeth spaced apart a distance substantially equaling the diameter of a cartridge, a pivoted trigger, a pawl carried by the trigger and which is engageable with said ratchet teeth whereby each actuation of the trigger advances the end row of cartridges a distance equal to the diameter of a cartridge so as to eject the cartridges one at a time from the chamber, and retaining means including a spring-actuated finger for holding the ejected cartridge in a position to be grasped by the user.

4. A cartridge dispenser comprising a case having therein a rectangular chamber having a movable wall, spring means urging the movable wall toward the opposite wall, means for temporarily holding the movable wall at a distance from said opposite wall such as to provide a space of a size to receive as a unit the entire contents of a box of cartridges and without disturbing the orderly

arrangement of the cartridges, an ejector operative to move each row of cartridges in its own plane and without disturbing the others, means for moving the ejector step by step a distance substantially equalling the diameter of a cartridge whereby the cartridges of a row are ejected one by one from the case, and means for temporarily holding each ejected cartridge in a position to be grasped by the user.

5. A cartridge dispenser comprising a case having therein a rectangular chamber having a fixed wall and a movable wall parallel to and spaced from the fixed wall, spring means urging the movable wall toward the fixed wall, a spring-actuated detent for holding the movable wall at a distance from the fixed wall substantially equalling the length of the mass of cartridges in a cartridge box, the chamber being of a width substantially equalling the width of the mass of cartridges in the cartridge box whereby the entire contents of the box may be placed as a unit within the chamber, means for actuating the detent thereby to free the movable wall so that it may press against the body of cartridges in the chamber, ejector means arranged adjacent to the fixed wall and which is operative to deliver one cartridge at a time from the row disposed adjacent to said fixed wall, and means operative to indicate the number of cartridges which have been ejected from said row.

6. A cartridge dispenser comprising a case having therein a rectangular chamber having a fixed wall and a movable wall spaced from and parallel to the fixed wall, spring means urging the movable wall toward the fixed wall, means operative temporarily to hold the movable wall at a distance from the fixed wall which substantially equals the length of the mass of cartridges in a cartridge box, the chamber being of a width substantially equalling the lengths of the cartridges whereby when the movable wall is so positioned the entire contents of the cartridge box may be placed as a unit within the chamber without disturbing the orderly arrangement of the cartridges in rows, an ejector arranged adjacent to the movable wall, fixed guides for the ejector operative to guide it to slide transversely across the chamber in a path parallel to the rows of cartridges, the ejector being of a thickness substantially equalling the diameter of a cartridge, a movable trigger device, spring means normally holding the ejector in inoperative position, and means carried by the trigger device for urging the ejector step by step thereby to eject one cartridge at a time from the row adjacent to said fixed wall.

7. A cartridge dispenser device having a chamber shaped and dimensioned to receive as a unit the entire contents of a cartridge box and to retain the cartridges in orderly rows, an ejector movable transversely of the chamber and in a path parallel to the rows of cartridges, said ejector being operative to advance one row of cartridges

in its own plane, without disturbing other rows, a distance equal to the diameter of a cartridge thereby to eject one cartridge after another from those forming the advancing row, a fixed retaining hook disposed adjacent to the point at which the cartridges are ejected, and a pivoted spring-pressed finger disposed in the path of the cartridge being ejected and which is operative to divert the ejected cartridge into the embrace of said hook.

8. A cartridge dispenser device having a chamber of a size and shape to receive as a unit the entire contents of a box of cartridges without disturbing the orderly rows in which the cartridges are boxed, means for advancing each row of cartridges, one at a time in its own plane, toward a delivery point and step by step a distance equal to the diameter of one cartridge, a fixed retaining hook disposed adjacent to the point at which cartridges are ejected, a substantially L-shaped lever having one leg disposed to support a cartridge as it is ejected, and a second leg operative to guide the ejected cartridge into the embrace of the hook.

9. A cartridge dispenser device having a chamber of a width substantially equalling the length of the cartridge and of variable length, means for temporarily fixing the length of said chamber to correspond to the length of a box of cartridges whereby the entire contents of a box of cartridges may be placed as a unit within said chamber without disturbing the orderly arrangement of the rows of cartridges in the box, means for advancing each row of cartridges, one row at a time, in its own plane a distance equalling the diameter of a cartridge, toward the delivery point whereby the cartridges are ejected one at a time at the delivery point, a fixed hook member disposed adjacent to the point at which the cartridges are ejected, and a combined guide and holder disposed in the path of cartridges as they are ejected and which is operative to move the ejected cartridge into retaining engagement with the hook.

ARTHUR B. SAUNDERS.

#### REFERENCES CITED

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

#### UNITED STATES PATENTS

| Number    | Name       | Date          |
|-----------|------------|---------------|
| 47,127    | Picket     | Apr. 4, 1865  |
| 372,181   | Speed      | Oct. 25, 1887 |
| 1,175,907 | Slade      | Mar. 14, 1916 |
| 1,286,810 | Sheppard   | Dec. 3, 1918  |
| 1,377,023 | Nelson     | May 3, 1921   |
| 2,115,591 | Sherbondy  | Apr. 26, 1938 |
| 2,137,680 | Vogel      | Nov. 22, 1938 |
| 2,436,154 | Signalness | Feb. 17, 1948 |
| 2,499,652 | Kirby      | Mar. 7, 1950  |
| 2,503,741 | Johnson    | Apr. 11, 1950 |