May 5, 1936. J. H. MOORE 2,039,437

DISPENSING CARTON

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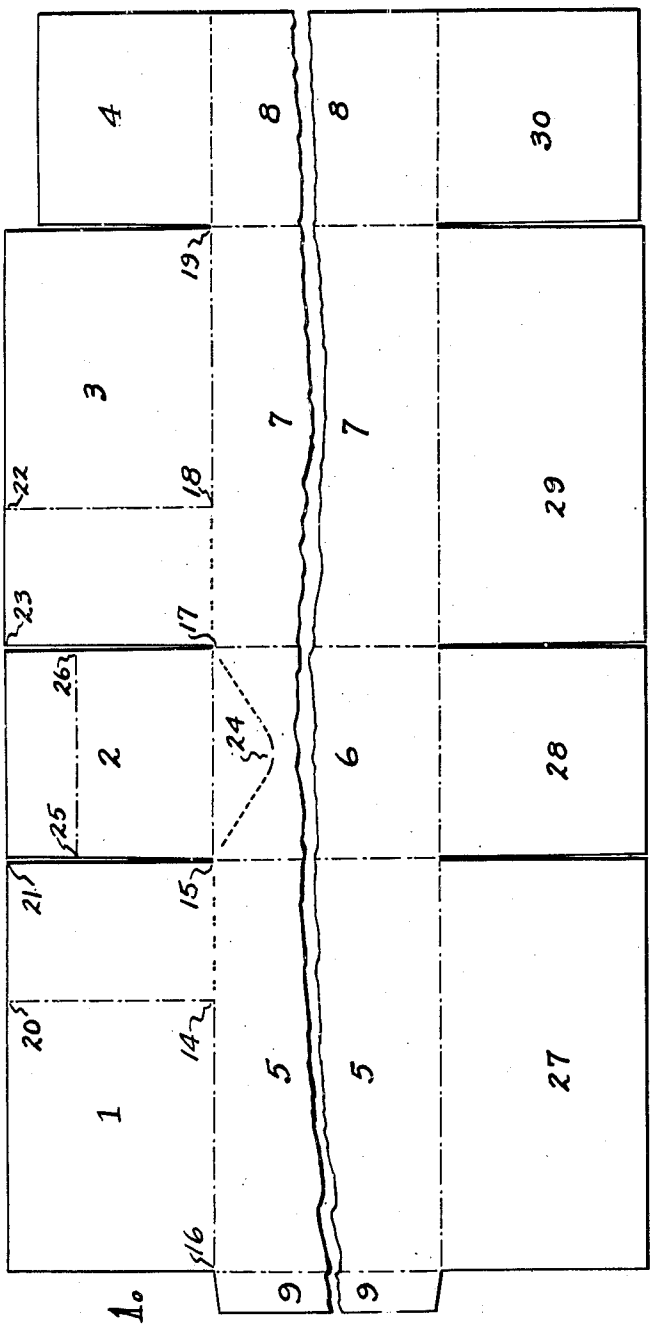


Fig. 1.

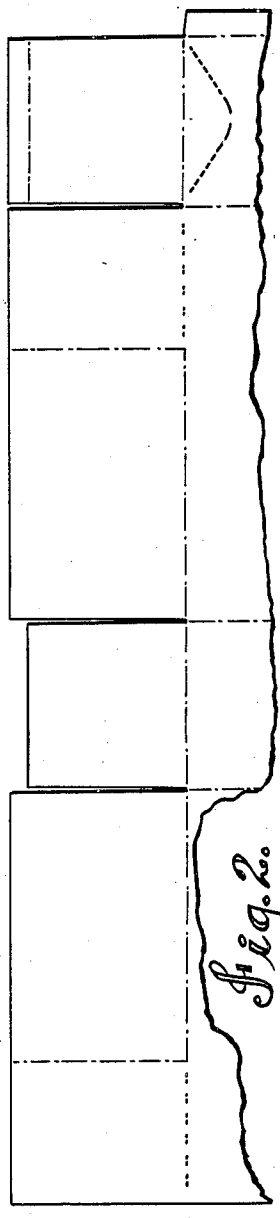


Fig. 2.

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Fig. 4.

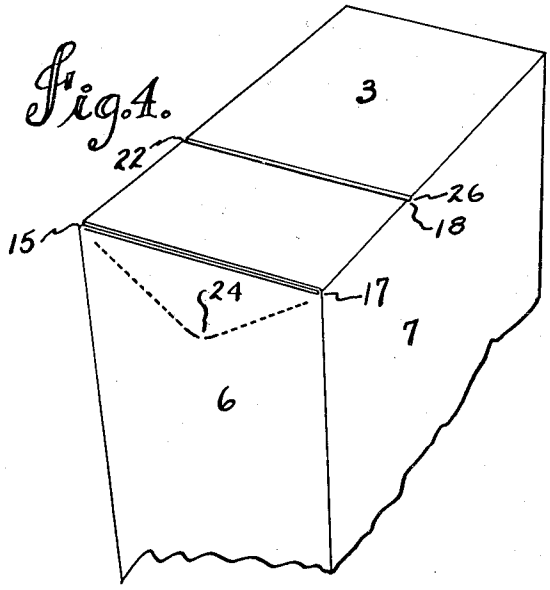
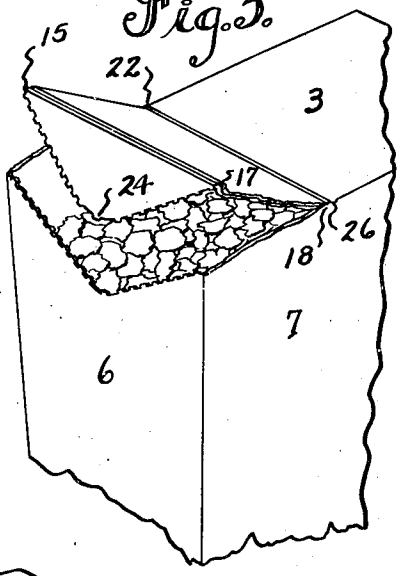


Fig. 5.



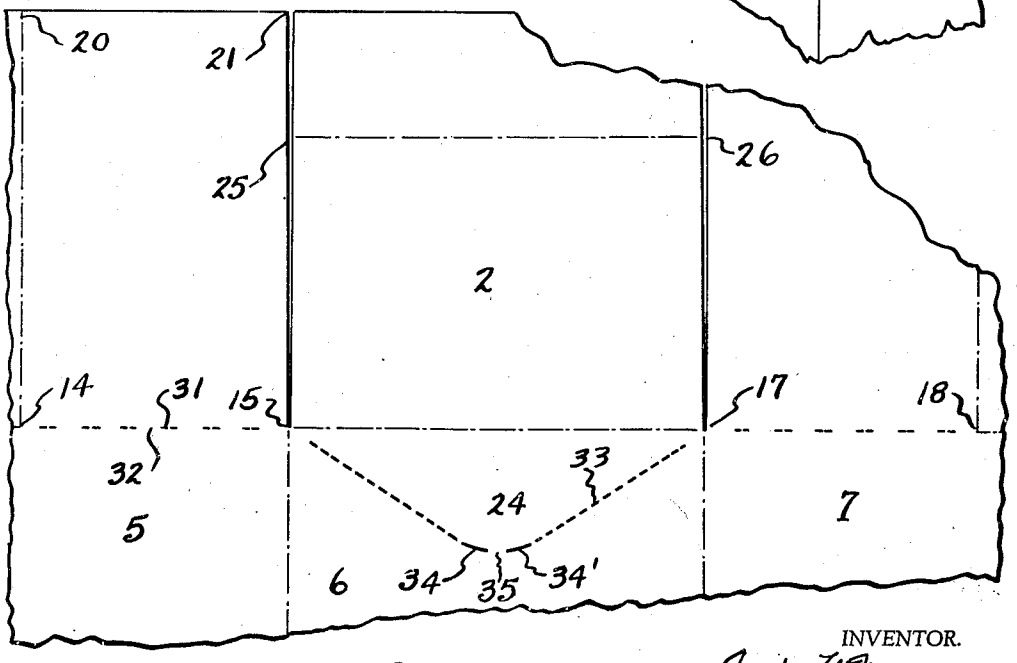


Fig. 3.

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UNITED STATES PATENT OFFICE

2,039,437

DISPENSING CARTON

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Application August 8, 1933, Serial No. 684,230

9 Claims. (Cl. 229—17)

My invention relates to an improved form of dispensing carton which can readily be opened sufficiently to allow the contents to be poured out without destroying the carton. Its object is to provide a means by which such an opening of suitable size and shape can be made in the carton at the time of use, and to permit the opening to be closed again when not in use, so as to protect the contents.

In the ordinary type of sealed carton containing soap or other materials in forms suitable for pouring, such as powder, granules, or flakes, it has usually been necessary to tear or cut the carton open in order to remove the contents. It is often difficult to open a carton without the aid of a knife, which is not always readily available, and openings thus made often injure the carton for further use, and the opening is rarely of the best shape, size or location for convenient pouring; and usually it cannot be closed again for the protection of the contents. Various proposals have been made for providing openings, or certain weakened places in the carton which can be readily forced open by applying pressure or by other means. Most of these devices, however, have drawbacks, such as adding to the cost of the carton, weakening the carton so that it may not stand shipment and handling, inconvenient location, or making an opening which can not be easily closed after it has once been opened.

It is an object of my invention to provide a carton that may be readily opened by applying pressure of the thumb or other means against the side of the carton, and thereby making an opening through which the contents of the carton may be poured, and which may be closed after the desired amount of the contents have been poured out, thereby protecting the remaining contents of the carton.

It is a further object of my invention to provide the above without in any way weakening the carton itself, so that it may readily withstand the rough handling of shipping, etc., but which may be readily opened by the receiver without the use of any tools, such as a knife, carton cutter, etc.

It is one of my objects to provide a carton with an opening of the most desirable size, shape, and location for conveniently pouring out the contents in any desirable quantity, and without destroying the carton or interfering with its subsequent use as a container for the remainder of the contents, or some other material which it may be desirable to place in it after the original contents have been removed. The opening thus made may be closed again, and reopened and closed as often as desired.

It is an object of my invention to provide a carton having the advantages as described above, but being so constructed as to prevent the sifting of the contents of the carton at the time of shipment. This is a great advantage inasmuch as the usual cartons heretofore made, which contained frangible lines to assist in the opening of the carton, often permitted the sifting of the contents from the carton, especially if the contents are very fine matter, through the frangible lines.

These and other objects of my invention which will be set forth hereinafter, or will be apparent to one skilled in the art upon reading these specifications, I accomplish by that certain construction and arrangement of parts of which I shall now describe a preferred embodiment. Reference is now made to the drawings which form a part thereof, and in which—

Figure 1 shows a blank for making my carton with the necessary scorings and perforations.

Figure 2 shows the top portion of a blank for making a modified form of carton containing my invention.

Figure 3 is an enlargement of the portion of Figure 1 which shows the necessary perforations and scorings incident to my invention.

Figure 4 is a perspective of my novel carton in the condition in which it is shipped, and before it is opened.

Figure 5 is a perspective of my novel carton after it has been opened.

Briefly in the practice of my invention I provide a paper blank of the usual shape and dimensions for forming a carton in any desired form, such, for example, as the blank illustrated in Figure 1. This blank has the usual four panels **5**, **6**, **7**, and **8**, representing respectively the back, one side, the front and the other side, together with the necessary flaps **1**, **2**, **3**, and **4**, for the top and the flaps **27**, **28**, **29**, and **30**, for the bottom of the carton. The panels are divided from each other and from the flaps by the usual score lines, and the flaps are separated from each other by cuts in forming the blank in the manner well known in the art.

In practicing my invention, I provide a line of perforations **14—15** along a portion of the score line **15—16** which separates the back panel **5** from the top flap **1** (Fig. 1). These perforations consist of a series of spaced, perforated dots **31** with unperforated portions **32** between the dots. I may, in the practice of my invention,

only partially perforate these dots so that there is not a clear passage between the inside and the outside of the finished carton, and I therefore do not wish to limit myself to perforations which pierce the blank but wish it to be understood that in this description the word perforations refers to either complete or partial perforations. The line of perforations 14—15, in my preferred embodiment, is approximately ⅓ the width of the front and back panels of the finished carton. There is a line of perforations 17—18 similar to, and the same length as, the line of perforations 14—15, along a portion of the score line 17—19 which divides the front panel 7 from the top flap 3.

On the top flaps 1 and 3 there are score lines 14—20 and 18—22 running from the end 14 of the perforated line 14—15 and the end 18 of the perforated line 17—18. These score lines 14—20 and 18—22 are parallel to the sides of the flaps 1 and 3 and run completely to their tops.

On the side panel 6 of the blank I place a perforated line 15—24—17. This line runs from the ends 15 and 17 of the perforated lines 14—15 and 17—18 and is not straight, but is V-shaped with the point 24 at the apex of the V, and thereby forming a triangle with the score line 15—17 which separates the side panel 6 from the top flap 2. It will be understood that the apex of the V may be of a pointed nature as above described or may be somewhat rounded as shown in the accompanying drawings. This line 15—24—17 is preferably perforated or partially perforated in dots 33 and with two short linear perforations or partial perforations 34 and 34' separated by an unperforated portion 35 at the apex 24 of the triangle. (See Fig. 3.) The point 24 in the line 15—24—17 is located a sufficient distance below the line 15—17 to form a triangle 15—24—17 of suitable size and shape to form a lip when this portion is removed to facilitate pouring out the contents of the carton. I find that an angle of about 33° between the lines 15—17 and 15—24 provides a suitable construction when the carton is assembled.

Since it is an object of my invention to provide a carton which is relatively strong for shipping, but which may be easily opened by the pressure of the thumb on the triangular portion 15—24—17, the length of the perforated portions and unperforated portions in the line 15—24—17 is of considerable importance. Therefore, in my preferred embodiment I make the perforated dots 33 in the lines 15—24 and 17—24 start from points, which are in the lines 15—24 and 17—24, but which are a quarter of an inch from the points 15 and 17. In order to further attain this object, I make the unperforated portion 35 an eighth of an inch long, and the two perforated lines 34 and 34' three-sixteenths of an inch long. I have found that this does not weaken the structure of the carton, but permits the easy tearing of the line 15—24—17 with the use of the thumb.

Extending across the top flap 2 is a score line 25—26. This score line is parallel to the score line 15—17 dividing the side panel 6 from the top flap 2, and is so positioned that the distance 25—15 and 26—17 is equal to the length of the perforated lines 14—15 and 17—18.

The carton is now assembled in the usual manner so that the back and front panels 5 and 7 parallel each other, and so that the two side panels 6 and 8 parallel each other. This is accomplished by bending the carton around a form (or without a form) on the score lines between the successive panels, and fastening the side flap 9 to the inside edge of the side panel 8, in a manner well known in the art. The top flaps 1, 2, 3 and 4, are now folded into position, with the two top flaps 2 and 4 folded down on the score lines first, and with the top flap 1 folded down on top of them; the top flap 3 is then folded down on the other top flaps and all of the top flaps are pasted or fastened together, as is shown in Fig. 4.

It is now apparent that the score lines 25—26, 14—20 and 18—22 register on each other usually in the order named. It is also apparent that the points 14 and 18 register with the points 25 and 26 and that the perforated lines 14—15 and 17—18 run along the front and back upper edges of the finished carton, with the points 15 and 17 corners of the carton (Fig. 4).

The filled carton is shipped in the form as illustrated in Fig. 4, and the recipient opens the carton by pressing with the thumb on the triangular portion 15—24—17 on the side panel 6 of the carton, thereby breaking the side panel along the line 15—24—17. The operator then pulls the edge portion 15—17 upward, thereby breaking the upper edge along the perforated lines 15—14 and 17—18. The portion 15—17—18—22 of the top flap 3 is bent upward on the hinge comprising the score lines 25—26, 14—20, and 18—22. The V-shaped lip 17—24—15 permits the easy pouring of the contents of the carton; and by merely releasing the hold on the edge 15—17, or by pressing it back into place, the carton is again closed until it is desirable to open it again for further use.

Figure 2 shows a modified form of blank incorporating my invention; and since the resulting carton, when this blank is set up, is the same as the one heretofore described, and since the application of my invention to it is clear from the drawings, it is believed that further description of it is unnecessary.

It should be understood that considerable variation is permissible from the dimensions and spacing of lines and perforating given in the detailed description above. The opening may be located in any of the panels desired. Any other style or spacing of perforations may be used. The lines outlining the opening may be scored instead of perforated, if desired, provided such lines will permit the carton material to break where required. Other variations from the detailed description may also be made without departing from the spirit of the invention. Where the word "side" is used in the claims, it should be understood that unless otherwise indicated, it may refer to any of the four sides of a rectangular carton. Likewise, for convenience I have referred to those score lines defining the panels and flaps in the blank as "primary score lines" and to those additional lines used in forming the openable section as "secondary score lines."

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A blank for a dispensing carton divided into panels for the front, back, and two sides, four rectangular flaps for the top and four rectangular flaps for the bottom by suitable cuts and primary score lines, and having a section adapted to be broken open and folded back after said carton is assembled, said section being formed by secondary score lines extending across each of three top flaps so located that said secondary

score lines will be superimposed on each other when the carton is assembled and will then be parallel to the top edge of a side panel, perforated lines along the primary score lines separating the front panel and back panel from their respective top flaps, said perforations extending from the end of each of said secondary score lines in said respective top flaps to the respective top corners of said side panel, and perforated lines extending from points near said corners of said side panel and within said side panel obliquely downward to a common point in said side panel, thus forming a V in the top portion of said side panel.

2. A blank as described in claim 1, in which the perforated lines are only partially perforated so that there is not a clear passage between the inside and the outside of the finished carton.

3. A blank for a dispensing carton divided into panels for the front, back, and two sides, four rectangular flaps for the top and four rectangular flaps for the bottom, by suitable cuts and primary score lines, and having a section adapted to be broken open and folded back after said carton is assembled, said section being formed by secondary score lines extending across each of three top flaps so located that said secondary score lines will be superimposed on each other when the carton is assembled and will then be parallel to the top edge of a side panel, perforated lines along the primary score lines separating the front panel and back panel from their respective top flaps, said perforations extending from the ends of said secondary score lines in said respective top flaps to the respective top corners of said side panel, and perforated lines extending from points near said corners of said side panel and within said side panel obliquely downward to a common point in said side panel, thus forming a V in the top portion of said side panel, said first-mentioned perforated lines being as follows: the first portion from the corner amounting to approximately one quarter inch being left unperforated and the balance of the line containing alternate perforated and unperforated sections.

4. A blank for a dispensing carton divided into panels for the front, back, and two sides, four rectangular flaps for the top and four rectangular flaps for the bottom by suitable cuts and primary score lines, and having a section adapted to be broken open and folded back after said carton is assembled, said section being formed by secondary score lines extending across each of three top flaps so located that said secondary score lines will be superimposed on each other when the carton is assembled and will then be parallel to the top edge of a side panel, perforated lines along the primary score lines separating the front panel and back panel from their respective top flaps, said perforations extending from the ends of said secondary score lines in said respective top flaps to the respective top corners of said side panel, and perforated lines extending from points near said corners of said side panel and within said side panel obliquely downward to a common point in said side panel, thus forming a V in the top portion of said side panel, said points being approximately one quarter inch from said corners and lying substantially in line with said corners and the apex of the V.

5. A blank for a dispensing carton divided into panels for the front, back, and two sides, four rectangular flaps for the top and four rectangular flaps for the bottom by suitable cuts and primary score lines, and having a section adapted to be broken open and folded back after said carton is assembled, said section being formed by secondary score lines extending across each of three top flaps so located that said secondary score lines will be superimposed on each other when the carton is assembled and will then be parallel to the top edge of a side panel, perforated lines along the primary score lines separating the front panel and back panel from their respective top flaps, said perforations extending from the ends of said secondary score lines in said respective top flaps to the respective top corners of said side panel, and perforated lines extending from points near said corners of said side panel and within said side panel obliquely downward to a common point in said side panel, thus forming a V in the top portion of said side panel, said common point being defined as follows: a portion amounting to about one eighth inch at the apex of the V being unperforated, and on either side a continuous perforation approximately three sixteenths inch in length.

6. A dispensing carton formed from a blank described in claim 1, having a section lying partly in a side panel and partly in the top adapted to be severed along perforated lines by external pressure and bent back on a transverse score line in the top, thus forming an opening for dispensing the contents of said carton, which opening may be closed by returning said section to its original position.

7. A dispensing carton formed from a blank described in claim 3, having a section lying partly in a side panel and partly in the top adapted to be severed along perforated lines by external pressure and bent back on a transverse score line in the top, thus forming an opening for dispensing the contents of said carton, which opening may be closed by returning said section to its original position.

8. A dispensing carton formed from a blank described in claim 4, having a section lying partly in a side panel and partly in the top adapted to be severed along perforated lines by external pressure and bent back on a transverse score line in the top, thus forming an opening for dispensing the contents of said carton, which opening may be closed by returning said section to its original position.

9. A dispensing carton formed from a blank described in claim 5, having a section lying partly in a side panel and partly in the top adapted to be severed along perforated lines by external pressure and bent back on a transverse score line in the top, thus forming an opening for dispensing the contents of said carton, which opening may be closed by returning said section to its original position.

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