

Dec. 20, 1960

J. WILLIAMSON ET AL

2,965,272

PACKING AND DISPENSING MEANS FOR PLASTIC FILM

Filed Nov. 29, 1957

3 Sheets-Sheet 1

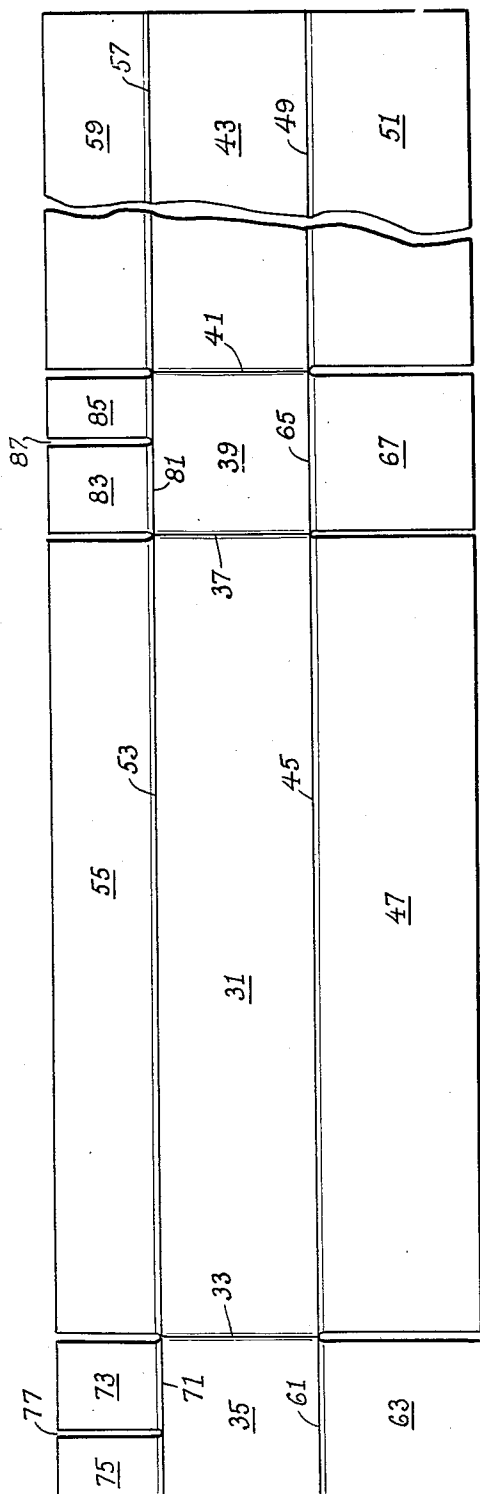


FIG. 1

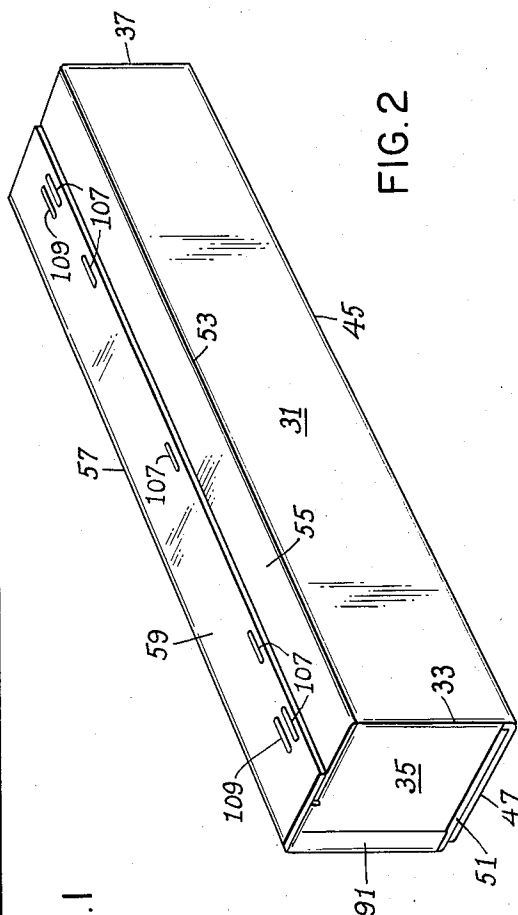


FIG. 2

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FIG. 3

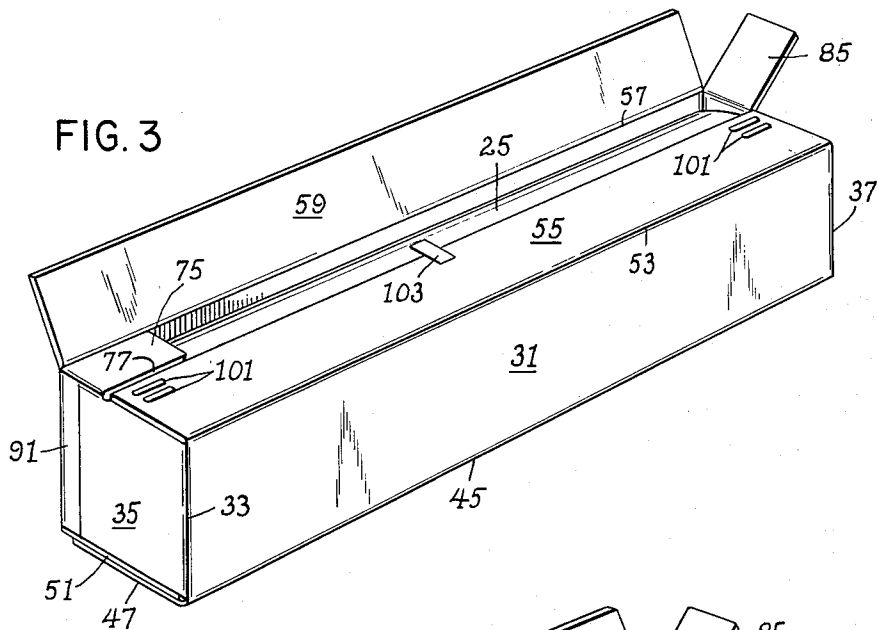


FIG. 4

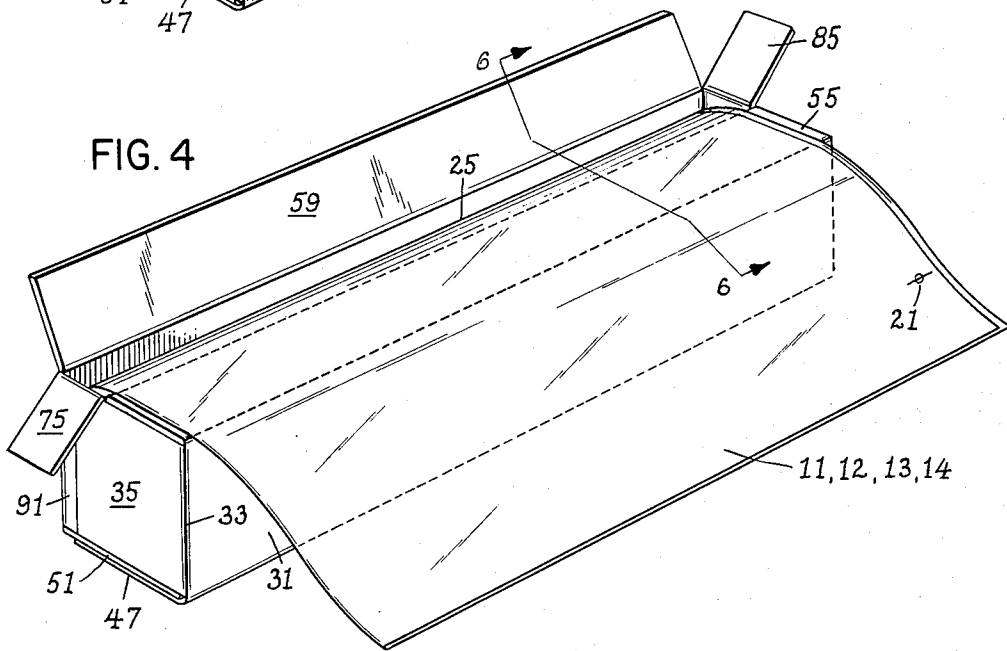
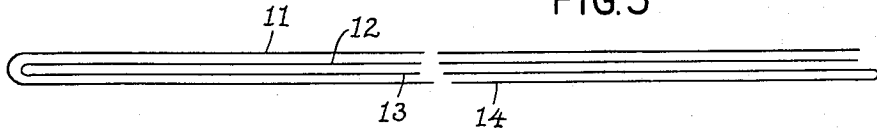


FIG. 5



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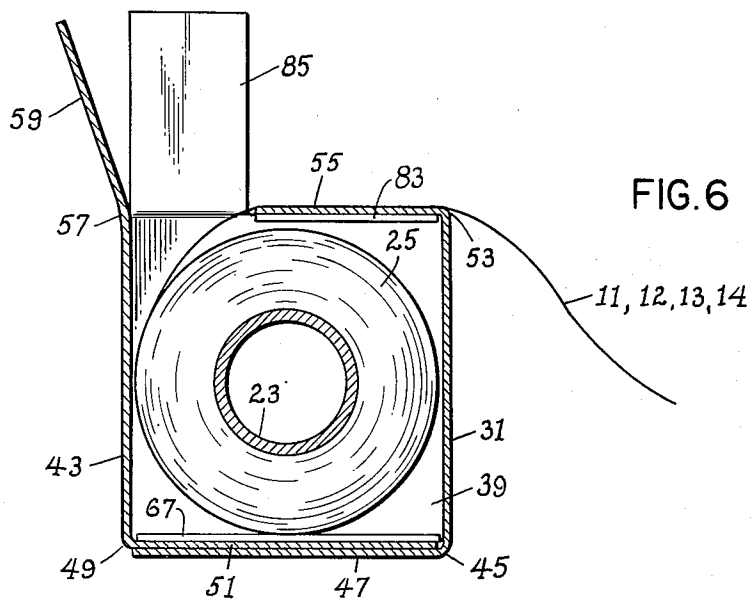


FIG. 6

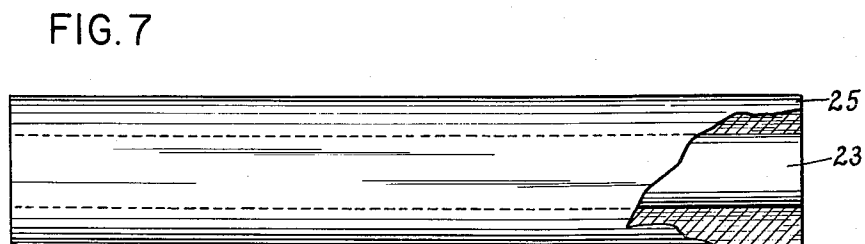


FIG. 7

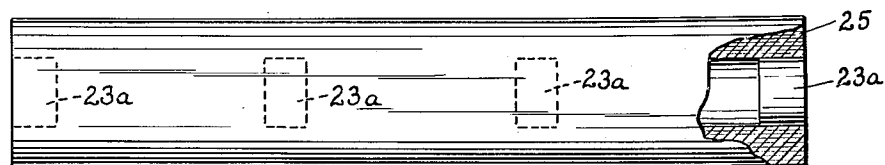


FIG.8

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PACKING AND DISPENSING MEANS FOR PLASTIC FILM

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Filed Nov. 29, 1957, Ser. No. 699,603

4 Claims. (Cl. 225—48)

This invention relates to the packing or packaging of plastic film, and to convenient means for dispensing successive lengths of the film from a roll.

An object of the invention is the provision of generally improved and more satisfactory packing and dispensing means.

Another object is the provision of such means in a form which can be manufactured and assembled easily and cheaply, which is sufficiently strong and rugged to withstand the expected handling in use, and from which it is easy to dispense lengths of film as required.

A further object is the provision of packing means which is relatively light so as to save transportation costs, yet sufficiently rigid and rugged to provide a good cutting edge for cutting successive lengths of film when the same are to be dispensed.

These and other desirable objects may be attained in the manner disclosed as an illustrative embodiment of the invention in the following description and in the accompanying drawings forming a part hereof, in which:

Fig. 1 is a face view of a blank from which the carton constituting part of the present invention is made, the blank being in flat condition and partly broken away;

Fig. 2 is a perspective view of the carton or box constituting part of the present invention, in closed condition packed with a roll of film and ready for shipment;

Fig. 3 is a perspective view of the same in partially opened condition;

Fig. 4 is a similar view of the carton fully opened ready for dispensing the contained film, and with a short length of the film drawn out of the carton ready for cutting;

Fig. 5 is an edge view of the film, on a larger scale and partly broken away, illustrating the manner in which the film is folded in the package;

Fig. 6 is a section taken approximately on the line 6—6 of Fig. 4, on a larger scale;

Fig. 7 is a view of a roll of film such as is contained within the carton shown in the previous views, with one type of core; and

Fig. 8 is a similar view of a roll of film with a different type of core according to the present invention.

The same reference numerals throughout the several views indicate the same parts.

Plastic film or sheeting finds extensive usefulness in the building industry and elsewhere. Such sheeting may be made of any convenient plastic material, film or sheeting of polyethylene being particularly satisfactory.

For certain uses in the building field, a rather wide strip of film or sheeting is needed. A roll having the same length as the width of the sheeting would be quite awkward and inconvenient to handle. One of the features of the present invention is that the film is folded a plurality of times in a direction across the sheet, before it is rolled. Conveniently, the sheeting material, before rolling into the final package roll, is folded once with a longitudinal fold at the center of the strip (that is, bringing one lateral edge over against the other lateral edge) and then is folded a second time in the same manner, bringing one

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edge of the previously folded pack over onto the opposite edge. The two folds thus result in producing a strip of material having a thickness of four layers, respectively indicated at 11, 12, 13, and 14 in Fig. 5 of the drawings.

The sheeting thus folded to make four layers is then rolled into a roll of convenient size for handling, a length of 100 feet of material making a roll of convenient size. Due to the fact that it is folded twice to make four layers, a piece of sheeting 100 feet long and 20 feet wide can be formed into a convenient roll of a few inches in diameter and approximately five feet long, which may be handled easily, whereas a roll 20 feet long (as would be needed if the material had not been folded) obviously could not be handled conveniently. Preferably also one edge of the material is imprinted at suitable intervals (e.g., one foot intervals) with distance marks consecutively numbered, so that when a given quantity of material is required from the roll, the graduations may be observed and the required quantity may be drawn off the roll without requiring separate measurement. The first or zero mark of a fresh roll is indicated at 21 in Fig. 4, and similar marks suitably numbered are placed along the entire length of the rolled material, along the same edge.

The folded sheeting, with the number graduations thereon, is then rolled on a suitable core. As shown in Fig. 7, the core may be in the form of a continuous cardboard tube 23 having a length equal to the length of the roll, the body of rolled sheeting on this core being indicated in general at 25. However, according to one feature of the present invention, the core 23 does not extend continuously throughout the entire length of the roll, but is made of discontinuous short rings of cardboard or fiberboard as indicated at 23a in Fig. 8, where the rolled body of sheeting is again indicated in general at 25. The discontinuous or spaced cores 23a are placed at intervals of about one foot throughout the length of the roll, with one such core 23a at each end of the roll, as shown. Thus, if the roll has a length of about three feet (resulting in a sheet width of about 12 feet, when folded as above indicated) four of the cores 23a would be used as indicated in Fig. 8, while five or six such cores might be used in a somewhat longer roll.

When the material is rolled, it is rolled on the core in such way that the free or cut edges of the sheet are on the outside of the roll, and the layers 13 and 14 which have folded edges at both ends of the roll are on the inside. In this way, the length markings 21, which are on the outer face of the first layer 11, will be visible on the outside of the roll and on the top of the material as it is pulled off the roll.

Referring now to the carton or box in which the roll of sheeting is packed and from which it is dispensed, this carton is preferably made from a stiff and substantial grade of corrugated board, the blank of which is of the shape shown in Fig. 1. It is cut and scored to provide a front wall section 31 connected at its left end by a score line 33 to the left end wall section 35. At its right end the front wall section 31 is connected by a score line 37 to the right end wall section 39, the opposite edge of which is in turn connected by a score line 41 to the back wall section 43.

At the lower edge of the front wall section 31 is a score line 45 at which is hinged a bottom wall section 47, and at the bottom edge of the rear wall section 43 is a score line 49 at which is hinged another bottom wall section 51. Similarly, at the top of the front wall section 31 is a score line 53 to which is hinged the front top wall section 55, and at the top edge of the back wall section 43 is a score line 57 at which is hinged a rear top wall section 59.

The end wall sections 35 and 39 have, at their bottom edges, score lines 61 and 65, respectively, to which are

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hinged bottom flaps 63 and 67, respectively. The end wall sections 35 and 39 have at their top edges score lines 71 and 81, respectively, at which are hinged respective front top flaps 73 and 83, and rear top flaps 75 and 85, and there is a slot 77 between the two flaps 73 and 75, and a similar slot 87 between the two flaps 83 and 85.

When the blank has been cut and scored to make it of the shape as above described in connection with Fig. 1, it is folded on the score lines 33, 37, and 41 to make a rectangular body, bringing the right edge of the wall 43 (when viewed as in Fig. 1) around behind the wall 31 to meet the left edge (when viewed as in Fig. 1) of the wall 35, and these two edges of the walls 35 and 43 are secured firmly to each other by adhesive tape 91 (Figs. 2 and 3) in the manner familiar in the box maker's art. The bottom of the box is then completed by folding the wall 47 horizontally rearwardly on the score line 45 (the description proceeding on the assumption that the wall 31 is arranged vertically, although obviously the folding may be done in any position of relative orientation), the wall 51 is folded on the score line 49 so as to extend forwardly above the wall 47, to form the second or inner layer of the bottom of the carton, and the bottom flaps 63 and 67 lie inside on top of the layer 51. Of course in doing the folding, the flaps 63 and 67 must be folded in first, so that the wall 51 will lie outside them, and then finally the wall 47 must be folded over. Then these various layers are securely fastened to each other by staples, adhesive, or any other desired manner.

Then the completed roll of sheeting 25, on the core 23 or 23a, is inserted in the open top of the box or carton in the relative position of orientation indicated in Fig. 6, with the free end of the sheeting coming off the back edge of the roll (next to the wall 43) rather than at the front edge of the roll.

Next, the front top flaps 73 and 83 are folded down on their respective score lines 71 and 81, to lie horizontally over the top of the roll 25 at the ends thereof, and the front section of the top wall 55 is folded down on the score line 53, overlying the flaps 73 and 83, and is firmly and permanently stapled thereto by the staples 101 (Fig. 3). A short piece of adhesive tape 103 is then applied in the manner shown in Fig. 3, approximately midway of the length of the roll, with the front edge of the adhesive tape adhered to the top wall 55, and the rear end projecting beyond the rear edge of the wall 55 and contacting with the free end of the outermost layer or convolution of the plastic sheeting in the roll, to form a convenient means of starting to draw the sheeting from the roll when the carton is opened for dispensing.

The flaps 75 and 85 are now folded down, after which the rear section 59 of the top wall is folded down on top of the flaps just mentioned, in overlapping relation to the rear margin of the other top wall section 55. The section 59 is then stapled to the section 55 by staples 107 (Fig. 2) located near the forward edge of the section 59 and rear edge of the section 55, and may also be attached by staples 109 placed a little to the rear of the staples 107, at the ends of the box, far enough rearwardly to go through the flaps 75 and 85.

The main bottom sections 47 and 51 are each of the full size of the bottom of the carton, except for allowance for necessary clearance in the assembling operation. It will be noted, however, that the top wall sections are considerably narrower than the front-to-rear dimension of the carton, so that each section 55 and 59 covers only a part of the area of the top of the box. Also, it is pointed out that the staples 101 which secure the top section 55 to the flaps 73 and 83 are placed quite far rearwardly, near the rear edge of the section 55, and are preferably overlapped and hidden or obscured by the top section 59 when the latter is folded down and secured in the final completion of the carton.

The reason for this is that in using the carton, it is desired to have the user see and remove the staples 107

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and 109, so that he may open up the top wall section 59. But because the staples 101 are covered and not seen at this time, the user is not tempted to remove them until the section 59 has been folded back and opened up, and when this is done the user then sees that it is not necessary for him to remove the staples 101. These staples should be left in place, so that the carton is still rather secure even after the flap 59 has been opened, and still may be handled easily and moved from place to place.

In use, the staples 107 and 109 are removed as just mentioned, the top wall section 59 is opened up to the position shown in Figs. 3 and 4, and the flaps 75 and 85 are folded outwardly to a non-interfering position. Then by taking hold of the adhesive tape 103 and pulling it loose from the top wall section 55, the tape may be used to start the pulling of the outer layer or convolution of sheeting material forwardly over the top of the wall section 55, in the manner shown in Fig. 4. The desired length of sheeting is pulled off the roll, and then the desired length may easily be cut from the remainder of the roll by drawing a sharp knife across the width of the roll, pressing downwardly on the top wall section 55 near the forward edge thereof, as the front wall 31 supports the wall 55 from sagging near its forward edge, and the wall 55 thus forms a good and reasonably solid support to react against the sharp point of a knife when cutting the sheeting.

As more sheeting is needed, successive portions are drawn forwardly and again cut off as required.

If it is expected that some little time will ensue before the next piece of sheeting is needed, then the cover may be closed again, to prevent entrance of dust or dirt. To do this, it is not necessary to roll the marginal end of a few inches of sheeting back onto the roll, but it is sufficient to let the end remain lying flat on top of the wall section 55. The flaps 75 and 85 can then be folded back to their original locations, because the sheeting can come out through the slots 77 and 87 previously mentioned, these slots being purposely provided to accommodate the sheeting. Then the cover section 59 is folded down on top of the replaced flaps 75 and 85, and may be allowed to remain in place simply by gravity, or may be tied with string or held in any other suitable way. Thus the carton, when closed after some of the sheeting has been dispensed, serves to protect the remainder of the sheeting quite adequately.

When the next piece of sheeting is to be dispensed, the wall portion 59 may be opened up and swung back again, but it is not really necessary to do so. After the first dispensing operation and the next closing of the flaps 75 and 85 and section 59, these parts of the box may be left in the closed position, if desired, and successive portions of sheeting may simply be grasped and drawn forwardly out of the box, sliding out through the slots 77 and 87, and underneath the cover 59. As already mentioned, the top wall section 59 is considerably narrower than the top area of the box, so does not extend all the way to the front edge of the top, but leaves a good margin of the wall 55 to provide a cutting surface for severing the sheeting even if the wall section 59 stays in its closed position without being raised.

It is seen from the foregoing disclosure that the above mentioned objects of the invention are well fulfilled. It is to be understood that the foregoing disclosure is given by way of illustrative example only, rather than by way of limitation, and that without departing from the invention, the details may be varied within the scope of the appended claims.

What is claimed is:

1. A carton for shipping and dispensing rolled sheet material, said carton comprising continuous front, back and end wall portions, one of said end wall portions having a free vertically disposed edge, means for securing said free edge to the adjacent edge of the back wall portion, a bottom wall portion including a first bot-

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tom section formed contiguous with the lower edge of the front wall portion and a second bottom section formed contiguous with the lower edge of the back wall portion, said first and second bottom sections being disposed in overlapping secured relationship, a first bottom end flap formed contiguous with the lower edge of one of said end wall portions and a second bottom end flap formed contiguous with the lower edge of the other of said end wall portions, said bottom end flaps extending into said carton and overlying a bottom section thereof, a top wall portion including a front top section formed contiguous with the upper edge of the front wall portion and a rear top section formed contiguous with the upper edge of the back wall portion, the width of said front top section being less than the width of said carton, a first pair of top end flaps parallel to each other and formed contiguous with the upper edge of one of said end wall portions and a second pair of top end flaps parallel to each other and formed contiguous with the upper edge of the other of said end wall portions, in each of said pairs of top end flaps the front flap being of a width not exceeding the width of the front top section, said front top section being adapted to be secured in overlapping relationship to said front end flaps, in each of said pairs of top end flaps the front flap being spaced from the rear flap to define a dispensing slot therebetween, the rear top section being of a width greater than that of the rear top end flaps whereby said rear top section will extend beyond said dispensing slots and overlap at least a portion of said front top section.

2. A carton as set forth in claim 1 wherein the front flap of each pair of top end flaps is of a width greater than that of the rear flap.

3. A carton as set forth in claim 1 wherein the width of the rear top section is less than the width of said carton and the free edge of said rear top section provides

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an edge for severance of material dispensed from said carton.

4. A blank for producing a carton, said blank being cut and scored to provide front, back and end wall portions disposed in continuous end to end relationship, a bottom wall portion including a first bottom section formed contiguous with the lower edge of the front wall portion and a second bottom section formed contiguous with the lower edge of the back wall portion, a first bottom end flap formed contiguous with the lower edge of one of said end wall portions and a second bottom end flap formed contiguous with the lower edge of the other of said end wall portions, a top wall portion including a first top section formed contiguous with the upper edge of the front wall portion and a second top section formed contiguous with the upper edge of the back wall portion, the width of said front top section being less than the width of said carton, a first pair of top end flaps parallel to each other and formed contiguous with the upper edge of one of said end wall portions and a second pair of top end flaps parallel to each other and formed contiguous with the upper edge of the other of said end wall portions, in each of said pairs of top end flaps the flap adjacent the front wall portion being of greater width than the remaining flap and being spaced therefrom the full length thereof.

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