Aug. 11, 1964 W. R. SAIDEL 3,144,191

RECLOSABLE CARTON

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Fig. 1.

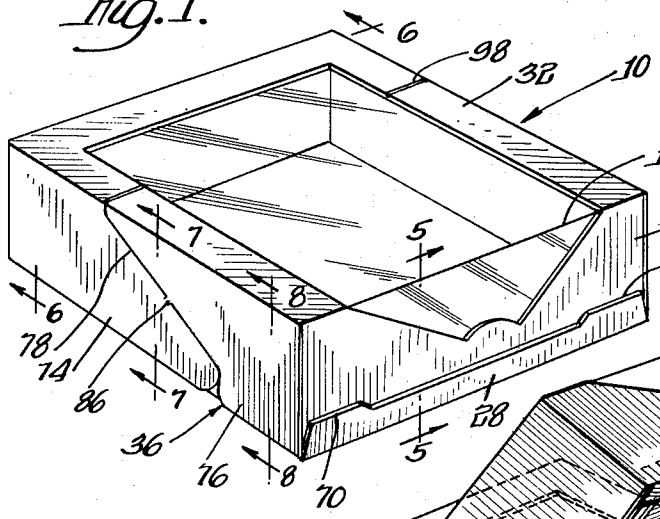

Fig. 2.

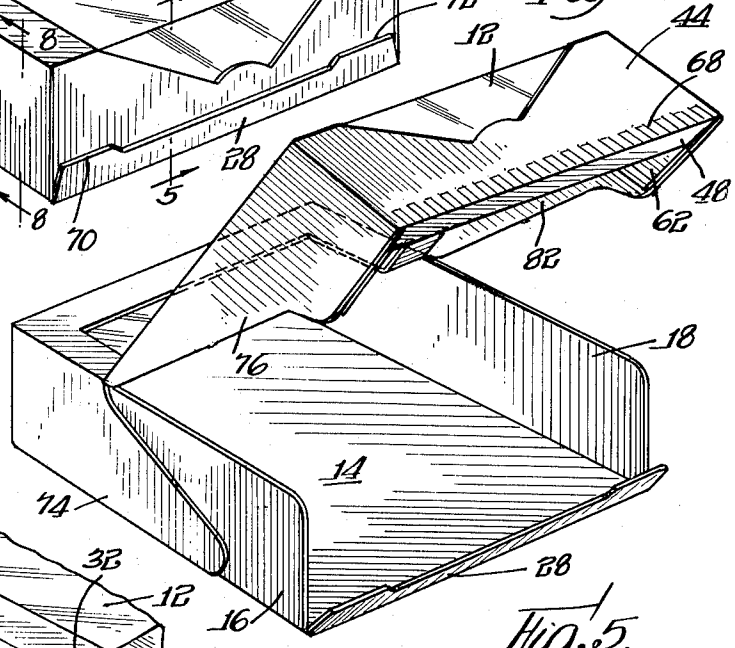

Fig. 3.

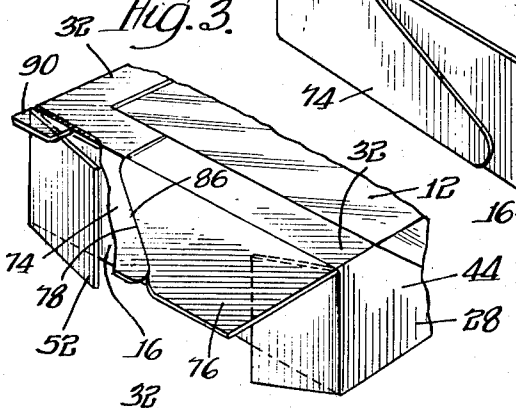

Fig. 5.

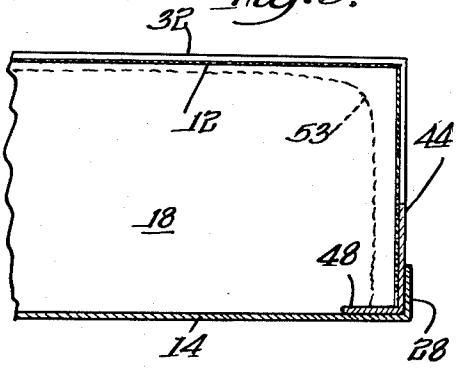

Fig. 4.

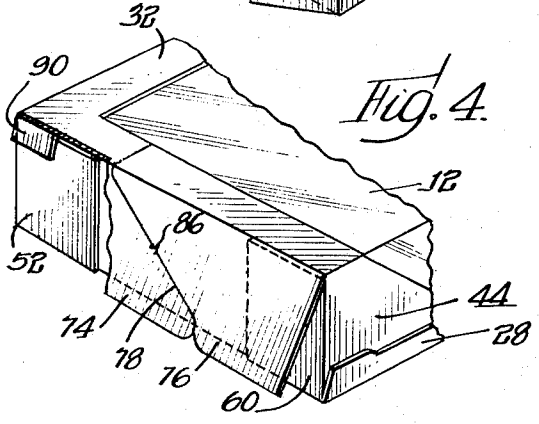

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Fig. 6.

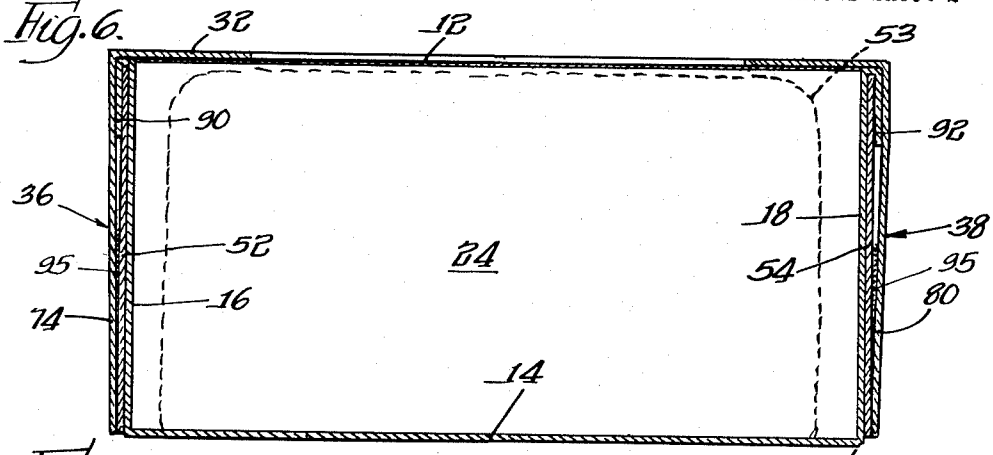


Fig. 9.

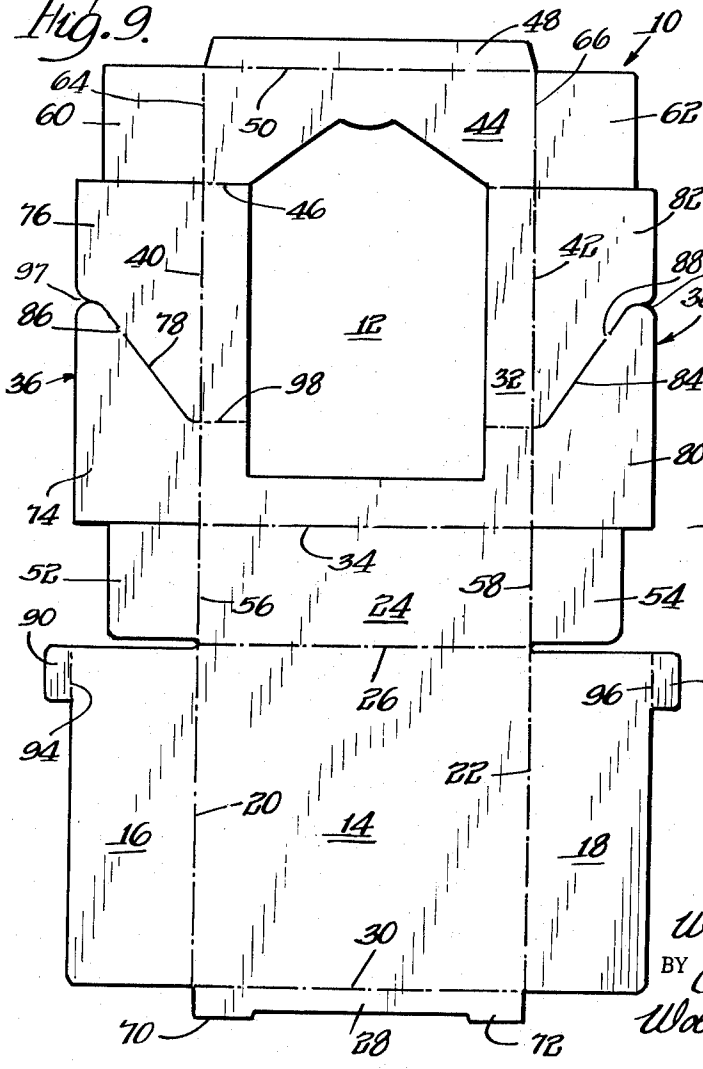


Fig. 7.

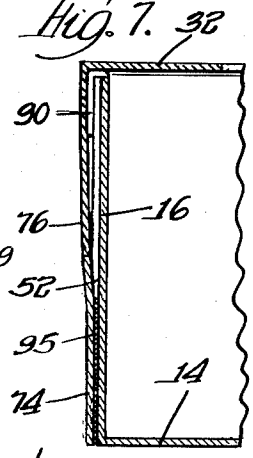
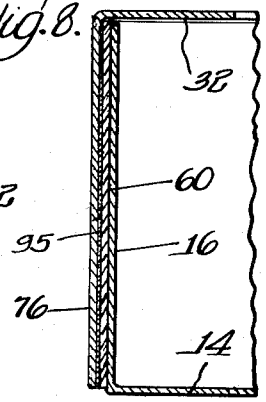


Fig. 8.



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3,144,191

RECLOSABLE CARTON

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Filed Oct. 6, 1961, Ser. No. 143,514
3 Claims. (Cl. 229—36)

The present invention relates to a novel container structure, and more specifically to a novel foldable carton structure.

While many uses will suggest themselves for cartons incorporating features of the present invention, the cartons are especially suitable for the packaging of bakery goods. As will be understood, a consumer of such goods frequently uses only a portion of the product at one time so that it is subsequently necessary to cover and enclose the remaining portion in order to preserve the quality of the product.

An important object of the present invention is to provide a novel carton structure which may be readily opened to permit access to the goods or material packaged therein and which may also be readily reclosed for effectively preserving the product.

A further important object of the present invention is to provide a novel reclosable carton which is constructed so as to be tamper proof or, in other words, which is constructed so that the fact that the carton has been opened will be obvious.

Another object of the present invention is to provide a novel reclosable carton structure which may be easily and quickly assembled and packed with the goods either by means of relatively simple equipment or by means of relatively high speed automatic machinery.

Still another object of the present invention is to provide a novel reclosable carton structure which is relatively strong and rigid.

A further object of the present invention is to provide a novel reclosable carton structure which is formed so as to permit a product contained therein to be served directly therefrom.

Other objects and advantages of the present invention will become apparent from the folowing description and the accompanying drawings wherein:

FIG. 1 is a perspective view showing a carton incorporating the features of the present invention;

FIG. 2 is a perspective view showing the carton with a top portion thereof in an open position;

FIG. 3 is a fragmentary perspective view showing a portion of the carton in an intermediate stage of assembly;

FIG. 4 is a view similar to FIG. 3 and shows the portion of the carton in an advanced intermediate stage of assembly;

FIG. 5 is an enlarged fragmentary sectional view taken along line 5—5 in FIG. 1;

FIG. 6 is an enlarged sectional view taken generally along line 6—6 in FIG. 1;

FIG. 7 is an enlarged fragmentary sectional view taken along line 7—7 in FIG. 1;

FIG. 8 is an enlarged fragmentary sectional view taken along line 8—8 in FIG. 1; and

FIG. 9 is a plan view showing a blank of the carton structure in a flat condition.

Referring now more specifically to the drawings wherein like parts are designated by the same numerals throughout the various figures, a carton 10 incorporating features of the present invention is shown in a completed condition in FIG. 1 and in a flat condition in FIG. 9. The carton is essentially formed in one piece from any suitable sheet material such as fibreboard and the like.

However, in the embodiment shown a window 12 is provided, which window may be formed from any desired substantially clear sheet or plastic material. As will be understood, certain materials may be used for the window which will enable the carton to breathe while other materials may be used which will make the carton substantially airtight.

Referring particularly to FIG. 9, it is seen that the carton 10 is provided with a bottom panel 14 which is preferably generally rectangular. Opposite side panels 16 and 18 are respectively integrally articulated to opposite side edges of the bottom panel 14 along lines 20 and 22. The bend lines 20 and 22 are preferably scored as are the remaining bend lines of the carton which will be described herein.

A back side panel 24 is articulated to a rear edge 26 of the bottom panel, and a flap 28 is articulated to a forward edge of the bottom panel along scored bend line 30. The flap 28 is provided for a purpose which will be described in detail below.

A top panel 32 is articulated to an upper margin of the back side panel 24 along scored bend line 34. As previously indicated the top panel 32 may be provided with a window 12, but it is to be understood that the top panel may be solid, if desired. Opposite side panels 36 and 38 are joined to opposite side margins of the top panel 32 along scored bend lines 40 and 42 respectively. In addition a front side panel 44 is articulated to the front margin of the top panel along scored bend line 46. The front panel 44 may also be solid, but in the embodiment shown, the window 12 traverses the bend line 45 and extends into the front panel. A short flap 48 is joined to the lower margin of the front panel 44 along a scored bend line 50 for a purpose described below.

Flaps 52 and 54 are respectively articulated to opposite ends of the back side panel 24 along scored bend lines 56 and 58. Similar flaps 60 and 62 are articulated to opposite ends of the front side panel 44 along scored bend lines 64 and 66. The flaps 52, 54, 60 and 62 combine with the side panels 16, 18, 36 and 38 to provide opposite side structures of the carton when the blank is folded or assembled in the manner described below.

When assembling the carton, the blank in the flat condition shown in FIG. 9 is first preferably folded along the bend line 34 so that the top and front side panels 32 and 44 overlie the bottom and back side panels 14 and 24. At the same time, the flap 48 is folded inwardly and doubled back along the inner surface of the front panel 44 and the flap 28 is folded over and pressed against the lower or free marginal portion of the front side panel 44. A suitable adhesive material is applied to the inner surface of the flap 28 or to the aforementioned lower marginal portion of the front panel 44 or to both so that when the flap 28 is pressed against the front panel, these parts are secured together.

In accordance with a feature of the present invention, the flap 28 is releasably secured to the front panel 44 so as to enable the carton to be easily opened and so as to make the fact that the carton has been opened obvious. Thus, the adhesive material which is used between the flap 28 and the front panel is such as to enable the adhesive connection to be broken by pulling the flap 28 away from the front panel. In addition, the adhesive material which may be of a known composition is such as to enable the front flap to be pulled away without destroying the carton. In order to aid in the release of the adhesive connection between the flap and the front panel of the carton, spaced areas 68 along the lower margin of the front panel 44 may be printed or coated with an ink or other suitable material to which the adhesive will not firmly stick as shown in FIG. 2. In addition, the flap 28 is provided with tabs 70 and 72 which project above the

adhesive material on the flap or on the front panel of the carton so as to enable a customer to insert a fingernail or a knife or other suitable tool between the flap and the front panel of the carton so as to facilitate pulling of the flap away from the front panel.

While the adhesive material is such as to permit the flap 28 to be pulled away in the manner described above without destroying the carton, there will, nevertheless, be some slight tearing of the surface of the paper or fibreboard in most instances.

After the blank has been folded along the line 34 and the flap 28 has been secured to the front panel in the manner described above, the carton may be shipped or stored in a flat condition. Thereafter the carton can be fully set up and assembled in the following manner. The carton is first folded, either by means of machinery or manually, along the bend lines 26, 30, 34, 46 and 50 so as to open the carton or, in other words, so as to shift the back and front panels 24 and 44 into upright positions so that the top panel is spaced above the bottom panel. At the same time, the opposite side panels and flaps are left so that they extend outwardly whereby the opposite sides of the carton are open to permit the goods to be packaged to be inserted therethrough.

After the goods to be packaged such as a cake 53 shown in broken lines in FIGS. 5 and 6 has been inserted into the carton, the opposite side structures of the carton are closed. More specifically, the panels 16 and 18 are first folded upwardly into upright positions shown, for example, in FIGS. 2, 3 and 6. Then the end flaps 52 and 60 are folded inwardly over the outer surface of the side panel 16 as shown in FIG. 3, and the opposite end flaps 54 and 62 are similarly folded against the outer surface of the side panel 18. Subsequently, the side panel 36 is folded downwardly over and against the flaps 52 and 56 and the top side panel 38 is folded downwardly and against the outer surfaces of the flaps 54 and 62.

As previously indicated, one of the important features of the present invention is the provision of a carton which may be readily opened and reclosed. In this connection it is to be noted that the side panel 36 is divided into two sections 74 and 76 by a slit 78 extending generally diagonally across a mid-portion thereof, and the panel 38 is similarly divided into sections 80 and 82 by a diagonal slit 84. However, the slit 78 is initially interrupted by a small connecting link 86 between the panel sections 74 and 76, and the slit 84 is similarly initially interrupted by a small connecting link 88. These connecting links cause the two sections of each of the top side panels to stay together and move in unison during the forming and assembly of the carton. However, the links 86 and 88 may be easily broken in order to permit opening of the carton in the manner described below.

It is also important to note that small tabs 90 and 92 are provided, which tabs are respectively joined to upper margins of the inner side panels 16 and 18 along scored bend lines 94 and 96. As shown in FIG. 3, when the side panels 16 and 18 are initially folded into their upright positions and the end flaps are folded over the side panels, the tabs 90 and 92 will project over the upper margins of the end flaps 52 and 54. Then when the top side panels 36 and 38 are folded downwardly, the tabs 90 and 92 are also folded downwardly over the upper margins of the end flaps 52 and 54 respectively so as mechanically to lock the inner panels 16 and 18 with respect to the flaps 52 and 54.

This mechanical lock between the flaps 52 and 54 and the inner side panels maintains the panels in an upright position for providing the carton with strength and rigidity and also for insuring effective sealing of the sides of the carton against the entry of air. Furthermore, when the top of the carton is opened in the manner to be discussed, the tabs 90 and 92 positively prevent the back of the carton from coming open since they retain the flaps 52 and 54 and the back panel cannot pivot about the fold line 26.

When the top side panels 36 and 38 are folded downwardly, the sections 74 and 80 are respectively adhesively secured to the outer surfaces of the end flaps 52 and 54 and the inner panels 16 and 18. In addition, the sections 76 and 82 are respectively secured adhesively to the outer surfaces of the flaps 60 and 62, but not to the inner panels. This effectively substantially seals the corners and lower side edges of the carton against the entry of air. The manner in which the sections 78 and 82 are pressed against and secured to the end flaps 52 and 54 is shown in detail in FIG. 6 while the manner in which the sections 76 and 82 are pressed against and secured to the flaps 60 and 62 is shown in detail in FIG. 8. It is important to note that the connections provided by adhesive material 95 or other securing means are limited to areas between the sections 74 and 80 of the top side panels and the end flaps 52–54 and the inner side panels 16 and 18, and to areas between the sections 76 and 82 and the end flaps 60 and 62. In other words, there is no adhesive or other connection directly between the forward sections 76 and 82 and the inner side panels 16 and 18. Furthermore, there is no connection between the front end flaps 60 and 62 and the inner side panels 16 and 18. The adhesive connection between the lower marginal portion of the section 74 and the panel 16 is shown in FIG. 7.

In accordance with a preferred procedure, a temperature sensitive adhesive material is applied to at least one of the surfaces of the above mentioned areas of the panels 16, 18, 36 and 38 and the flaps 52, 54, 60 and 62 to be connected. Then heat and pressure are applied to the side structures. The mechanical interlock provided by the tabs 90 and 92 holds the inner panels upright so that they back up the end flaps during the application of the sealing pressure and so that they are properly positioned for adhesive connection to the sections 74 and 80.

The forward ends of the sections 74 and 80 extend to points adjacent the flaps 60 and 62. At these points the diagonal slits 78 and 84 are curved into generally vertically extending end portions merging with notches 97 and 99. The arrangement is such that, at least lower marginal portions of the sections 74 and 80 may be pressed into contact with and secured to the panels 16 and 18 while the adjacent lower marginal portions of the sections 76 and 82 will be held away from the inner panels by the flaps 60 and 62 sufficiently to prevent the sections 76 and 82 from being secured to the inner panels.

When the carton is fully assembled as shown in FIGS. 1 and 5–8, the opposite side structures provided by the aforementioned side panels and end flaps greatly enhance the strength and rigidity of the package. In addition, the flap 48 along the lower margin of the front panel 44 is turned inwardly as shown in FIG. 5 so as to increase the rigidity of the forward margin of the carton. In order to open the carton, the adhesive connection between the flap 28 and the front panel 44 is broken in the manner described above and, in addition, the integral connections or links 86 and 88 are broken by pressing in on the sides of the carton. Then the forward portion of the top panel 32 along with the front panel 44 and the section 76 and 82 of the outer side panels are folded upwardly as shown in FIG. 2. The flap 48 serves to maintain the front panel 44 in a relatively rigid condition even when the carton has been opened. A scored bend line 98 is provided across the top panel 32 for facilitating folding of the top panel toward the open position in a controlled manner. Preferably, the scored bend line 98 is disposed so that it substantially intersects the inner or upper ends of the slits 78 and 84. If desired, the top may be opened wider than the position shown in FIG. 2 and may even be folded substantially completely back on itself.

When the carton has been opened in the manner described above, it is to be noted that both the top and the front of the carton are exposed. Thus, the contents of the carton may be easily removed and, if desired, such contents may be served directly from the carton. For example, in the event the contents of the carton is a cake, the cake may be cut into individual pieces while still in the carton since both the top and the front of the cake are exposed. During such dispensing or serving of the contents of the carton, it is to be noted that the sealing flap 28 extends upwardly as shown in FIG. 2 and traps any crumbs or the like within the carton so as to eliminate the mess which frequently accompanies the serving of cake and similar items.

It will be appreciated that the carton may be easily closed simply by folding the top back down to its original position. The overlapping portions of the carton at the lower front edge thereof including the flaps 28 and 48 provide a suitably effective seal even though the flap 28 is not adhesively or otherwise reconnected to the front panel. In this connection, the flap 48 extends horizontally so that it lies substantially flat against the bottom 14 in order substantially to reseal the carton.

While the preferred embodiment of the present invention has been shown and described herein, it is obvious that many structural details may be changed without departing from the spirit and scope of the appended claims.

The invention is claimed as follows:

1. A carton comprising a generally rectangular bottom panel having first and second opposite side edges and front and back edges, a back side panel extending upwardly from said back edge, a top panel connected to and extending from said back panel and overlying said bottom panel, a front panel connected to and depending from a forward margin of said top panel, means releasably connecting a lower margin of said front panel with said front edge of said bottom panel, first and second inner opposite side panels respectively connected with and extending upwardly from said first and second side edges of said bottom panel, flaps respectively extending from opposite ends of said back panel forwardly and along outer surfaces of said first and second inner side panels, tab means extending between said flaps and said inner side panels and interconnecting said flaps and said inner side panels, additional flaps extending rearwardly from opposite ends of said front panel and along outer surfaces of said inner side panels, and first and second outer side panels connected with and depending from opposite side margins of said top panel and overlying said flaps, each of said outer side panels including separable rearwardly disposed and forwardly disposed sections, said rearwardly disposed sections respectively being secured to said first mentioned flaps, said forwardly disposed sections respectively being secured to said additional flaps, and said top panel including transversely disposed bend line means located substantially between junctions between said rearwardly and forwardly disposed sections at opposite sides of the carton.

2. A combination, as defined in claim 1, which includes an inturned flap joined to and substantially coextensive with a lower margin of said front panel.

3. A carton for bakery products and other goods comprising a generally rectangular bottom panel having first and second opposite side edges and front and back edges, a back side panel connected to and extending upwardly from said back edge, a top panel connected to and extending forwardly from said back panel and overlying said bottom panel, a front panel connected to and depending from a forward margin of said top panel, first and second inner opposite side panels respectively connected with and extending upwardly from said first and second side edges of said bottom panel, flaps respectively connected to and extending from opposite ends of said back panel forwardly along outer surfaces of said first and second inner side panels, additional flaps respectively connected to and extending rearwardly from opposite ends of said front panel along outer surfaces of inner side panels and being free of any connection with said inner side panels, first and second outer side panels connected with and depending from opposite side margins of said top panel and overlying and secured to said flaps, another flap articulated along a bend line to said front edge of said bottom panel and extending upwardly therefrom and overlying an outer surface of a lower marginal portion of said front panel, means comprising adhesive material releasably securing said lower marginal portion of the front panel with said last mentioned flap, said last mentioned flap having free opposite ends and being foldable toward a flattened and opened position substantially coplanar with said bottom panel when it is released from said front panel during opening of the carton for facilitating removal of the goods from the carton.

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