Feb. 2, 1965 F. H. BARTZ 3,168,234

DIVISIBLE FOOD CARTON

Filed June 20, 1963 2 Sheets-Sheet 1

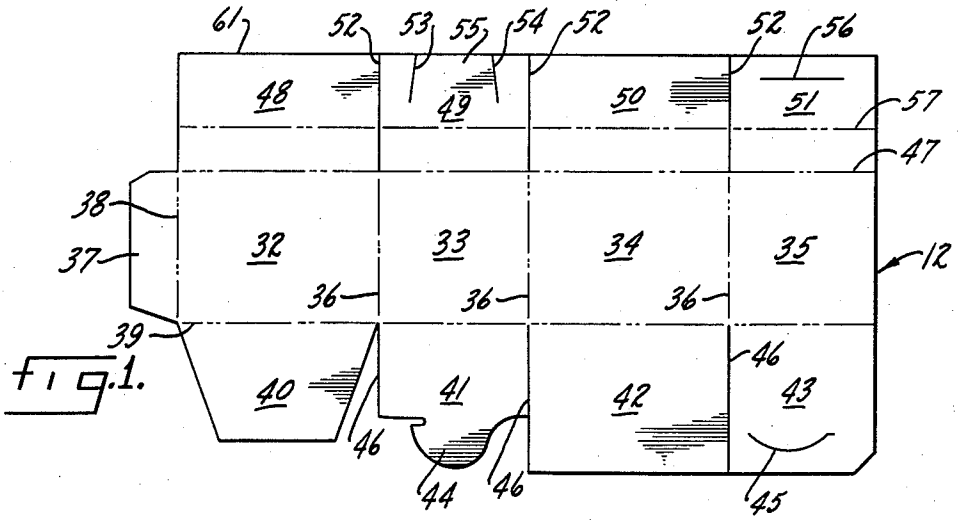


Fig. 1.

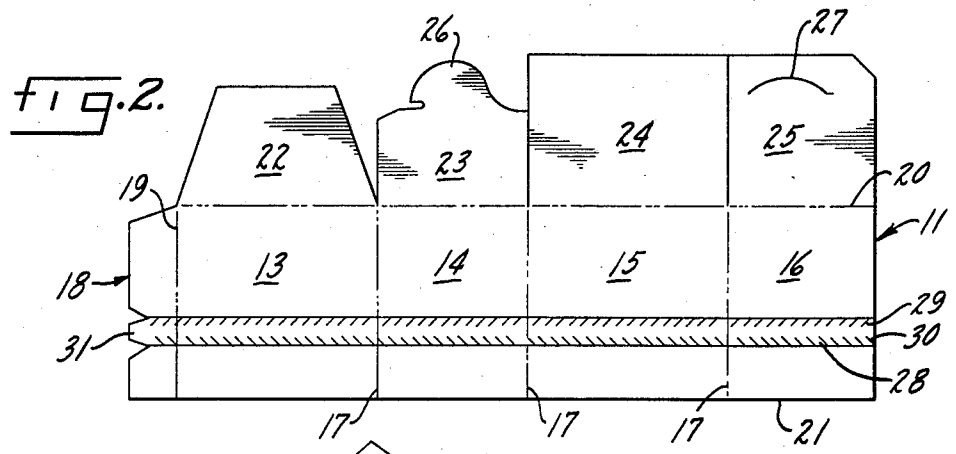


Fig. 2.

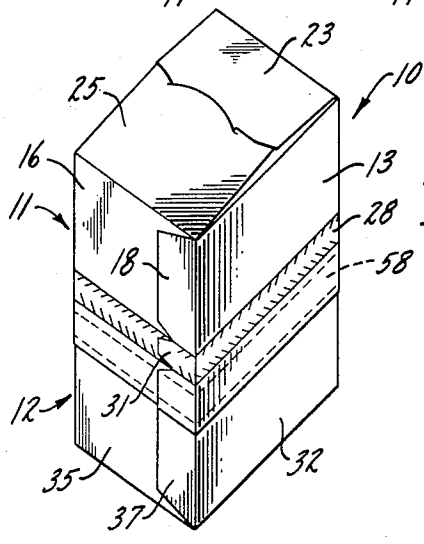


Fig. 4.

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DIVISIBLE FOOD CARTON

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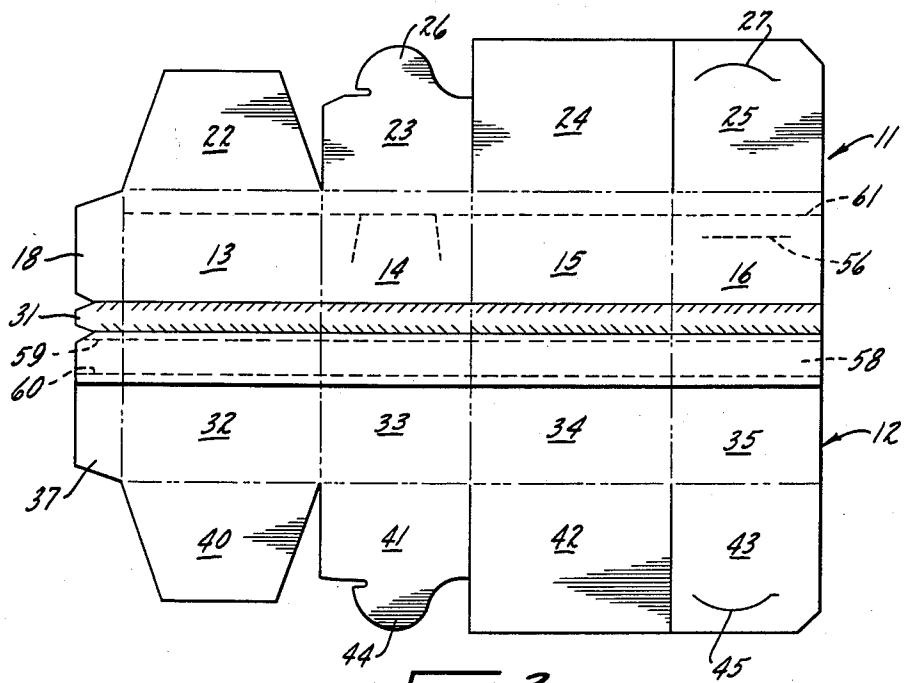


Fig. 3.

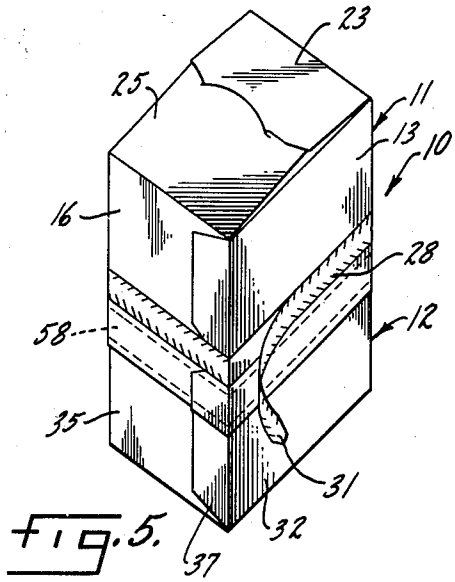


Fig. 5.

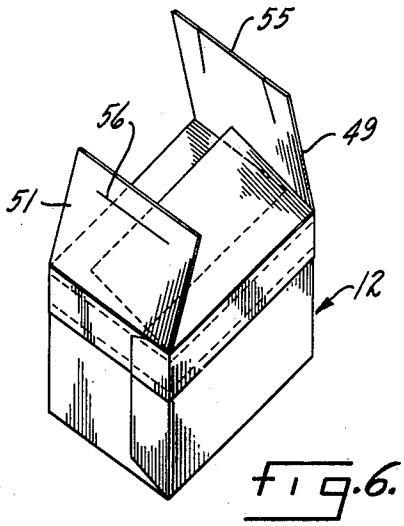


Fig. 6.

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DIVISIBLE FOOD CARTON

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7 Claims. (Cl. 229—51)

The present invention is directed to new and useful carton constructions which may be formed from cardboard, paper, or the like.

In consonance with the development and sale of present day freezer cabinets of large storage capacity, the public has tended toward the purchase of relatively large packages of frozen foods for reasons of economy and a desire to have such foods constantly available in the home. The use of relatively large packages of foods necessarily results, from time to time, in use of only a portion of the contents of the package or carton at one serving after which time the package or carton is stored away in the freezer compartment for serving at a later time. When foods are packaged in containers of stiff carboard, paper or the like, it is impractical to reduce the original volume of the container after dispensing a portion of its contents with the result that freezer storage space is consumed by partially filled containers. In the case of some foods, such as ice cream, the air spaces left in such containers after dispensing a portion of the contents, results in the formation of an undesirable crustlike, contamination of the remaining contents. Accordingly, a major purpose of the present invention is to so form containers of the type above referred to that reduction of the original volume of the container by disposal of a used section of the container becomes simple and practical after dispensing a portion of the contents of the container, while at the same time enabling closing of the reduced carton to minimize air spaces therewithin.

Through use of the principles of the invention, containers may be proportioned to provide a plurality of individual servings of equal or unequal volume with the container formed to facilitate disposal of the used portion thereof after a serving has been dispensed while enabling closure of the unused portion of the carton without air spaces of significant size therewithin. For example, cartons may be formed as one half gallon containers to permit two individual one quart servings with disposal of the used portion of the carton and effective closure of the unused portion of the carton after the first serving has been dispensed. Similarly, a container of one quart size may be formed to permit dispensing of two one individual pint servings.

Other and related purposes of the present invention are to so far form such cartons for perishable foods, such as ice cream, or the like, that essentially standard filling techniques may be utilized to fill the carton and while using essentially conventional techniques for forming foldable carton blanks, all of which lend economies to the manufacture of cartons incorporating the principles of the present invention.

Other purposes will appear from time to time in the course of the ensuing specification and claims, when taken with the accompanying drawings, in which:

FIGURE 1 is a plan view of a carton blank utilized in the present invention;

FIGURE 2 is a plan view of another carton blank utilized in the present invention;

FIGURE 3 is a plan view of the carton blanks illustrated in FIGURES 1 and 2, while illustrating the two carton blanks of FIGURES 1 and 2 in an assembled relation;

FIGURE 4 is a perspective view of a single unitary carton formed from the carton blanks illustrated in FIGURES 1, 2 and 3 and in folded and closed form;

FIGURE 5 is a perspective view of the carton illustrated in FIGURE 4 but illustrating another condition of certain elements illustrated in FIGURE 4;

FIGURE 6 is a perspective view of a small carton body formed after removal and separation of the carton body illustrated in FIGURES 4 and 5.

Like elements are designated by like characters throughout the specification and drawings.

With particular reference now to the drawings and in the first instance to FIGURES 1 through 4, inclusive, the numeral **10** generally designates a carton body of folded construction and having a generally rectangular cross section. The carton body **10** is so formed as to provide an upper section generally designated at **11** and a lower section generally designated at **12**. The carton body **10** is defined by folded and slotted cardboard or paperlike blanks providing the walls of the carton and closure flaps for the opposite ends of the carton. The blanks are sufficiently stiff as to maintain the shape and cross section of the carton when in folded form.

The upper section or portion **11** of the overall carton body is defined by a cardboard or paperlike blank which appears in FIGURE 2. This upper section blank includes side defining panels **13, 14, 15** and **16** which are defined by spaced score or fold lines **17** extending generally parallel to one another between the side defining panels. One side defining panel at one side of the blank, as for example the side defining panel **13**, may include a securing tab **18** which is defined as a separate foldable part from the side defining panel **13** by a fold or score line **19**. The blank for the upper section **11** includes a score line or fold line **20** extending at right angles to the fold line **17** and spaced from the lower edge **21** of the blank so as to define top closure flaps **22, 23, 24** and **25** joined to the side defining panels **13, 14, 15** and **16** respectively. The carton blank may be slotted along lines extending collinearly with the fold lines **17** above the fold line **20** so as to allow folding of the flaps **22, 23, 24** and **25** about the fold line **20** so as to enable an overlapping relation of the flaps **22, 23, 24** and **25** to close one end of the carton body when the blank for the upper section is folded about the lines **17**. One of two oppositely disposed flaps, as for example the flap **23** may be provided with a securing tongue or tab portion **26** which is adapted for reception within a slot **27** in the other oppositely disposed closure flap **25** so as to enable securing of the flaps **22, 23, 24** and **25** in closed position as is illustrated in FIGURES 4 and 5.

A tear line or area is impressed upon the blank for the upper section at a point above the lower edge **21** of the upper section. This tear line **28** may be defined by a plurality of spaced rows **29** and **30** of small slots which are impressed along the blank from one side thereof to the other, thereby enabling separation of the portion of the upper section **11** along the area defined by these slots **29** and **30** from the portion below these slotted portions. The slotted portions may be spaced from one another, as appears in FIGURE 2 so as to provide a predetermined width of carton blank therebetween and with a tab portion **31** joined thereto at one side edge of the blank, thereby enabling tearing along the general area **28** as by pulling on the tab **31**.

The blank for the lower section **12** is illustrated in FIGURE 1 and includes side defining panels **32, 33, 34** and **35**, which are defined by score, crease or fold lines **36** extending generally parallel to one another in spaced relation as appears in FIGURE 1. One of the side defining panels, as for example, panel **32**, is provided with a securing tab **37** which extends along one side edge of the side defining panel **32** and is defined therefrom by a fold line **38** extending parallel to the fold lines **36**.

Bottom closure flaps are defined in the panel blank for

the lower section 12 at the lower portion thereof by a fold line 39 which extends at right angles to the fold lines 36. Fold line 39, as is the case with the other fold lines in the blanks illustrated in the drawings may be defined by a crease or score line impressed in the carton blank. Fold line 39 thus defines bottom closure flaps 40, 41, 42 and 43, the lower portion of the blank. One of two oppositely disposed closure flaps, as for example flap 41, may have a tongue or tab portion 44 receivable within a slot 45 in the other 43 of the flaps enabling an interlocking relation of the flaps 41 and 43, as is the case with the top closure flaps. The carton blank may be slotted along portions extending generally collinearly with the fold lines 36, as at 46 to enable folding of the closure flaps 40, 41, 42 and 43 about the line 39 when the lower section 12 is moved into carton defining form as by folding about the lines 36 and 38.

The blank for the lower section 12 includes an additional fold line 47 which extends generally parallel to the fold line 39 and spaced upwardly therefrom so as to provide additional flaps 48, 49, 50 and 51 which are on the opposite side of the blank from the bottom closure flaps 40, 41, 42 and 43. The additional flaps 48, 49, 50 and 51 may be separated from one another by slots 52, which extend collinearly with the fold lines 36. In lieu of slotting the blank along the lines 52 from the upper edge of the blank to the line 47, tear lines may be impressed to define lines of separation collinearly with the fold lines 36 from the upper edge of the blank illustrated in FIGURE 1 to the fold line 47. Two oppositely disposed flaps of the additional flaps, as for example the flaps 49 and 51, may be provided with means adapted to provide an interlocking engagement. For example, the flap 49 may have slots 53 and 54 extending from the upper edge thereof downwardly a slight distance so as to define a tab portion 55. The oppositely disposed flap 51 may have a slot 56 extending generally parallel to fold line 47 for reception of the tab 55 as by insertion of the upper edge of the tab 55 into slot 46, thus enabling interlocking of these flaps when the blank illustrated in FIGURE 1 is folded into carton defining position. In lieu of forming slots along the lines 53 and 54, tear lines may be impressed in this flap in the same position as the slots 53 and 54, thereby enabling the separation of the tab portion 55 for insertion within the slot 56. An additional fold line may be impressed upon the additional flaps as at 57 in upwardly spaced relation to and generally parallel relation to the fold line 47 for a purpose which will appear hereinafter.

In accordance with the principles of the invention, the upper and lower sections 11 and 12 are assembled in unitary blank form as appears in FIGURE 3. The lower portion of the upper section 11 is positioned in overlapping relation to the side defining panels 32, 33, 34 and 35 of the lower section as appears in FIGURE 3, and in such wise that the lower edge of the tear line 28 is adjacent to or superimposed over the fold line 47, which defines the separation between the side defining panels and additional flaps of the lower section 12. The two sections are then fixed together as by use of adhesives or the like, extending along the area generally designated at 58 which is immediately below and closely adjacent to tear line 28. This area may have a defined width between the two lines 59 and 60 appearing in FIGURE 3. The two carton sections 11 and 12 are thus secured at points below the tear line and with the side panel defining portions of each of the carton blanks aligned with one another so that the side defining panels of the two blanks of FIGURES 1 and 2 cooperatively define the side panels of the completed carton of FIGURE 5. When so positioned, the upper edges 61 of the additional flaps are aligned with or spaced a small distance below the fold line 20 between the top closure flaps and the side panels of the upper section.

With the two sections positioned and secured as shown in FIGURE 3, the side defining panels of the two sections cooperatively define the side panels of the completed carton which appears in FIGURES 4 and 5. Side panel sections may be so proportioned as to cooperatively define a container of one volume, as for example, a one half gallon container, while the tear line 28 and the fold line 47 are so positioned with relation to the fold line 39 between the side panels and bottom flaps that the said defining panels 32, 33, 34 and 35 define a container of another pre-selected volume, as for example, a one quart container.

After the carton sections are secured together as appears in FIGURE 3, the carton may be folded about the fold lines 17 and 36 so as to define the boxlike form illustrated in FIGURES 4 and 5. The side securing tabs 37 and 18 may then be fixed to the adjoining exterior surfaces of the side panels 35 and 16 as through use of adhesives or the like. The carton may be filled through conventional filling techniques common in the industry. For example, one end of the carton, as for example, the upper end, may be closed by the top flaps with the contents inserted through the bottom opening. It should be noted here that the additional flaps 48, 49, 50, 51 extend away from the filling end or opening of the container so as to minimize interference or obstruction from these flaps during the filling process. It should also be noted that the additional flaps are so proportioned that their edges are closely adjacent one another while they overlie substantially all of the side defining panels 13, 14, 15 and 16 of the upper section and thereby thus effectively mask the securing area 58 from the contents within the carton.

In use, the completed carton of FIGURES 4 and 5 may be opened, as by opening the top flaps and the contents dispensed in customary fashion. When a predetermined quantity of the contents has been removed, as for example, by removal of substantially all of the upper half of the contents within the carton, the carton may be separated by pulling on the tab 31, thus removing this "Zipper" like portion of the upper section and separating the used portion of the upper section above the tear line from the portion which is adhesively secured to the unused lower section. This removed upper section may then be thrown away. The additional flaps 48, 49, 50 and 51 may then be folded over the remaining contents in the lower portion of the carton, as by folding of these flaps on the fold lines 47 or 57. Thus, the flaps 48, 49, 50 and 51 may effectively close the lower section, as appears in FIGURE 6 and substantially seal the contents within the smaller carton from air spaces or the like.

The plural fold lines 47 and 57 allow the use of an approximation of the general level within the carton which is proper for disposal of the upper section. For example, if the level of contents is somewhat above the fold line 47, the closure flaps 48, 49, 50 and 51 may be folded above the fold line 57 so as to effectively close the lower and smaller carton against the surface of the product therewithin. If the level of contents is approximately at or below the fold line 47, the additional flaps may be folded on this fold line to enable closure of the smaller carton.

From the foregoing it will be seen that the use of the principles of the invention enable a saving in storage space in that after use of a predetermined quantity of the contents of a large carton, the carton is easily separated to provide a smaller carton before the remaining contents of the unused carton section are dispensed. At the same time, the principles of the invention tend to minimize the presence of air spaces or pockets within an existing and partly dispensed carton.

Whereas I have shown and described an operative form of the invention, it should be understood that this showing and description thereof should be taken in an

illustrative or diagrammatic sense only. There are many in the scope and spirit thereof and which will be apparent to those skilled in the art. The scope of the invention should be limited only by the scope of the hereinafter appended claims.

I claim:

1. A carton of ice cream and the like including a carton body defined by upper and lower sections, said upper and lower sections being comprised of folded portions cooperatively defining the side panels of said carton, said lower section having flaps joined to the folded portions thereof to define bottom closure flaps for said carton, said upper section having flaps joined to the folded portions thereof to define top closure flaps for said carton, said upper section being joined to said lower section at a medial portion of said carton, said lower section being positioned within the folded portions of said upper section at said medial portion, said lower section having upper flaps extending upwardly within and alongside the folded portions of said upper section, said upper section having a transverse tear line positioned above said medial portion, said lower section having fold lines between the folded portions thereof and said upper flaps adjacent said tear line, said upper flaps having sizes and proportions such as to form top closure flaps for said lower section after division of said carton along said tear line.

2. A carton for ice cream and the like including a carton body defined by upper and lower sections, said upper and lower sections being comprised of folded portions cooperatively defining the side panels of said carton, said lower section having flaps joined to the folded portions thereof to define bottom closure flaps for said carton, said upper section having flaps joined to the folded portions thereof to define top closure flaps for said carton, said upper section being joined to said lower section at a medial portion of said carton, said lower section being positioned within the folded portions of said upper section at said medial portion, said lower section having upper flaps extending upwardly within and alongside the folded portions of said upper section, said upper section having a transverse tear line positioned above said medial portion, said lower section having fold lines between the folded portions thereof and said upper flaps adjacent said tear line, said upper flaps having sizes and proportions such as to form top closure flaps for said lower section after division of said carton along said tear line while substantially masking the folded portions of said upper section from contents within the carton when said upper flaps are positioned alongside the folded portions of said upper section.

3. A multi-section carton blank for foods including first and second blank sections having a plurality of spaced and generally parallel fold lines defining side panels for a carton, said sections having portions overlapped with one another and portions extending outwardly from said overlapped portions, the outwardly extended portions of each section having fold lines extending transversely to said first named fold lines and defining closure flaps for the opposite ends of a carton, one section having additional fold lines defined thereon and extending transversely to said first named fold lines and spaced from the second named fold lines of that section to define additional closure flaps positioned between the first named closure flaps of said sections, means securing said two sections together at points between said additional fold lines and the flap defining fold lines for said one section, and means defining a tear line on said other section and extending transversely to said first named fold lines while being positioned between said securing means and the flaps for said other section.

4. The structure of claim 3 characterized by including additional fold lines on said additional flaps, said additional fold lines extending parallel to the flap defining fold lines and being spaced from the fold lines defining said additional flaps thereby enabling optional folding of said additional flaps at spaced points to enable use of long and short additional flaps.

5. The structure of claim 3 wherein said additional flaps have a width approximately equal to the width of said sides and a length such that they extend to a point adjacent the flap defining fold lines for said other section, the width of said additional flaps being substantially constant throughout the length thereof.

6. The structure of claim 3 wherein said additional flaps have slots therebetween and extending collinearly with said first named fold lines.

7. The structure of claim 3 wherein said additional flaps have tear lines therebetween and extending collinearly with said first named fold lines.

References Cited in the file of this patent

UNITED STATES PATENTS

2,056,032	Berman	Sept. 29, 1936
2,158,072	Jones	May 16, 1939
2,296,951	Rosen	Sept. 29, 1942
2,435,355	Ingram	Feb. 3, 1948
2,802,614	Gelin	Aug. 13, 1957
3,116,868	Lazure	Jan. 7, 1964