

Aug. 20, 1968

R. C. FOGLE

3,397,771

CONTAINER

Filed July 28, 1965

2 Sheets-Sheet 1

FIG. 1

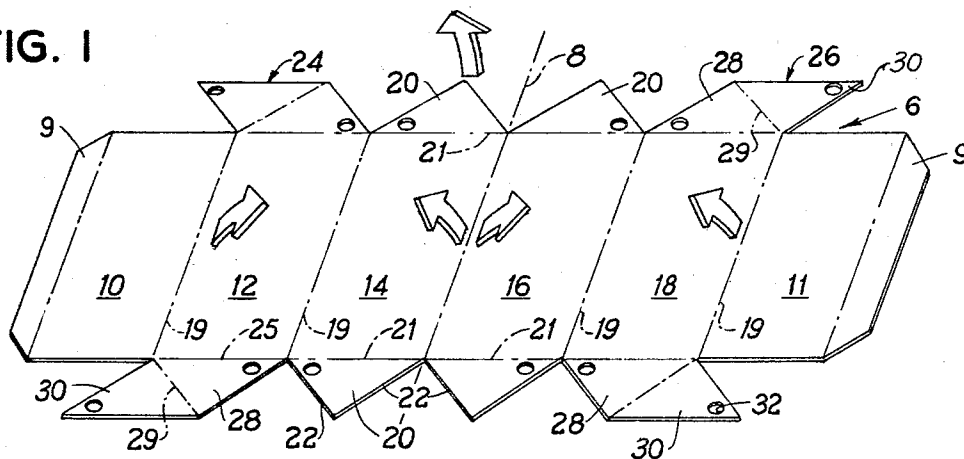


FIG. 2

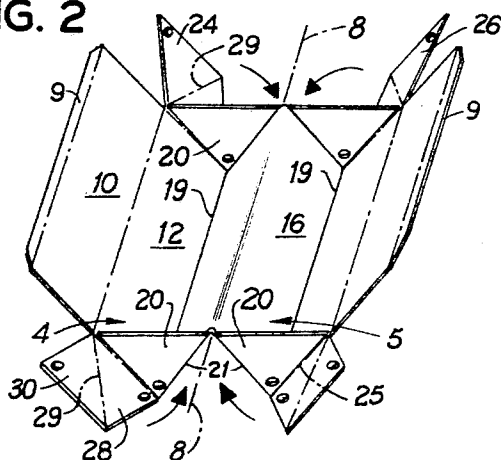


FIG. 3

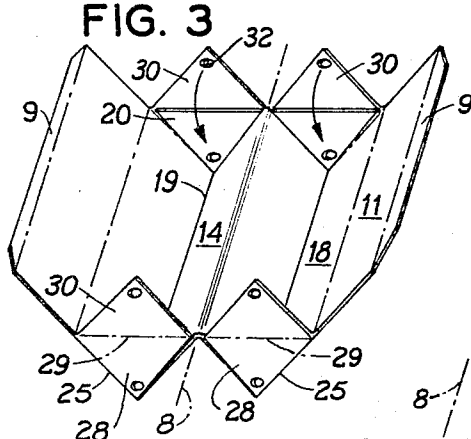


FIG. 4

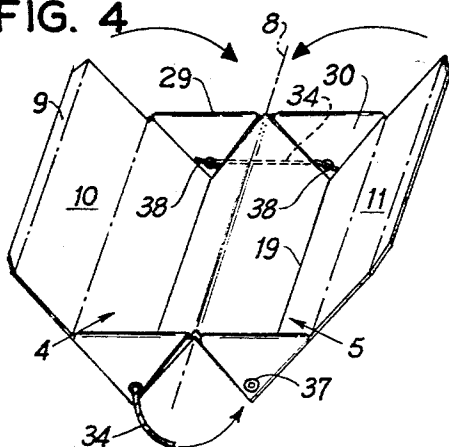


FIG. 6

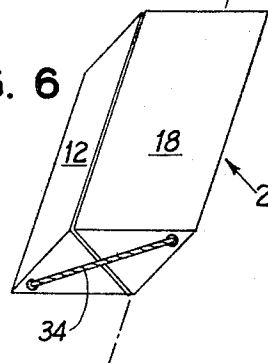
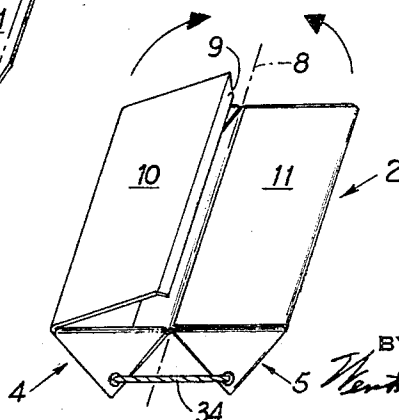


FIG. 5



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FIG. 7

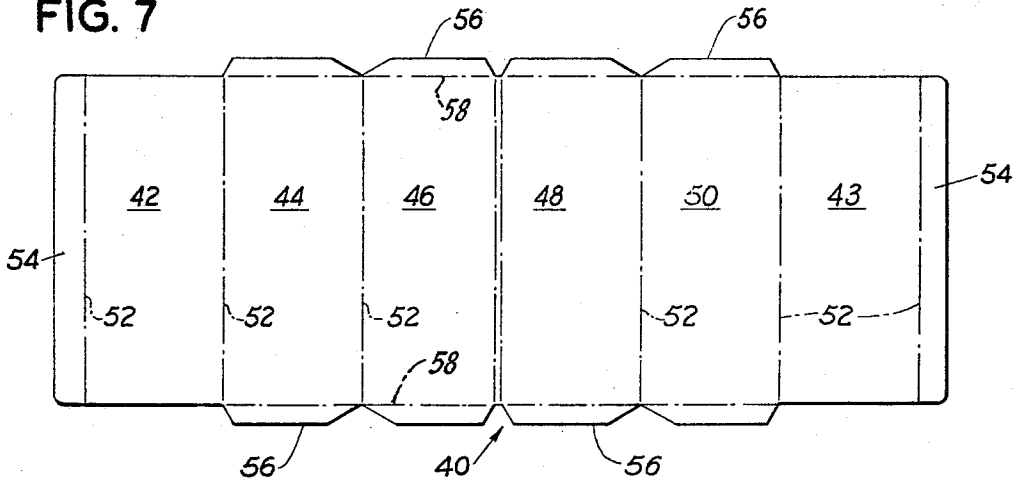


FIG. 8

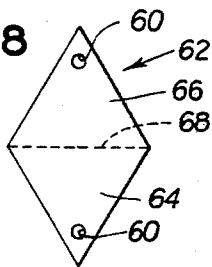


FIG. 9

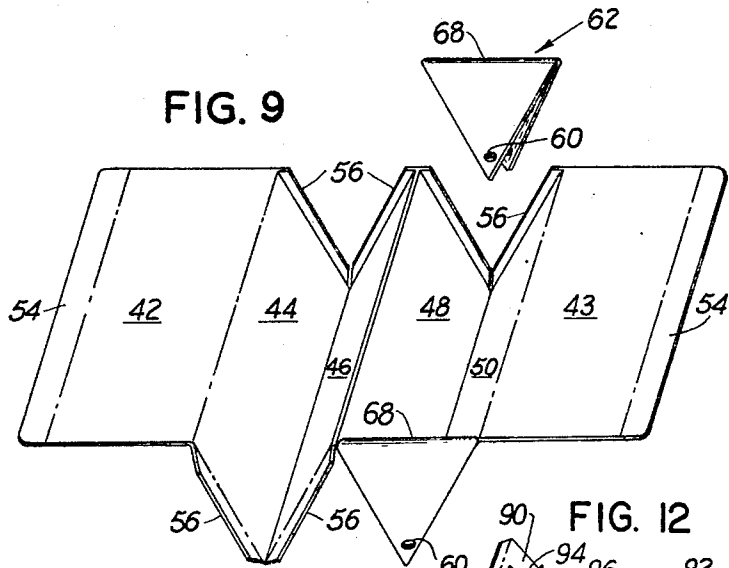


FIG. 10

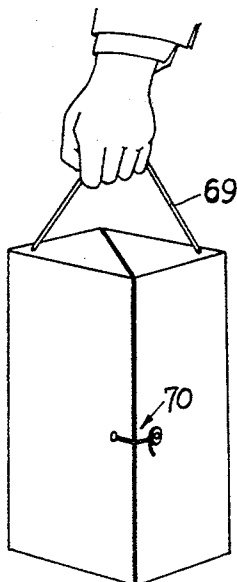


FIG. 11

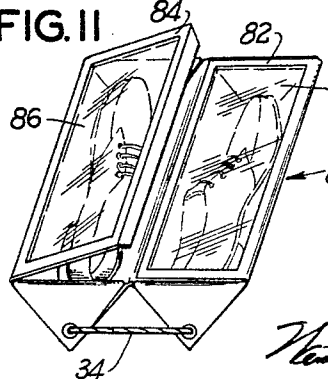
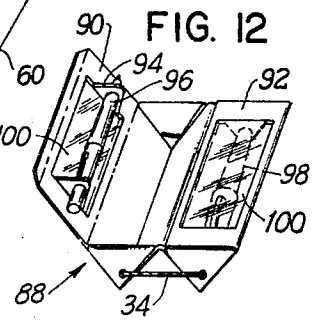


FIG. 12



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ABSTRACT OF THE DISCLOSURE

A container comprising two triangular compartments joined by a common hinge, each of said compartments including a cover panel adapted to be moved over the portion of the compartment forming the base of the triangle, and means connecting said compartments being operative when on one side of said common hinge to maintain said compartments in separated open relationship, and when located on the opposite side of said common hinge being operative to maintain said compartments in abutting closed relationship, said connecting means comprising at least one elongated resilient extensible member connected to an end of each of said compartments at a point spaced from said hinge connecting said compartments.

This invention relates to the art of packaging and more particularly to a novel multiple compartment carton or container.

It is an object of the invention to provide a novel multiple section or compartment container having means for maintaining the sections or compartments thereof in open or closed relationship.

The invention is further characterized by the provision of a two compartment container or carton which when closed comprises a parallelogram or other four-sided polygon in cross-section and means for maintaining the two three-sided compartments thereof in open or closed relationship, as desired.

The invention is further characterized by the provision of a novel four-sided carton or container formed with two triangular cross-section article holding compartments joined along a common hinge line and means connected to each section for holding said sections separated or in closed relationship.

Other objects and features of the invention will be set forth or apparent in the following description and claims and illustrated in the accompanying drawings which disclose by way of example and not by way of limitation, in a limited number of embodiments, the principle of the invention and structural implementations of the inventive concept.

In the drawings, in which like reference numbers designate like components, in the several views:

FIGURE 1 is an isometric view of a preferred form of container blank embodying the invention;

FIGURES 2 and 3 are views showing stages in the formation of the blank shown in FIGURE 1 into the completed carton or container of FIGURES 4, 5 and 6;

FIGURE 4 is a view of the carton or container shown in FIGURE 1 in open condition;

FIGURE 5 is a view showing the container of FIGURE 4 partly closed;

FIGURE 6 is a perspective view of a closed carton or container;

FIGURE 7 is a plan view of a modified form of blank embodying the invention;

FIGURE 8 is a view of the end blanks which are used in erecting a carton from the blank shown in FIGURE 7;

FIGURE 9 illustrates one manner of forming a container from the blank and end blanks shown in FIGURES 7 and 8;

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FIGURE 10 is a perspective view showing the completed container formed from either the blank shown in FIGURE 1 or in FIGURE 7;

FIGURES 11–12 show further modified forms of the invention.

Referring to the drawings, carton 2, has two complementary compartments or carton sections 4 and 5 formed from a unitary blank 6. The two parts of blank 6 from which compartments 4 and 5 are formed are symmetrical and of equal size relative to hinge line or axis 8.

If desired, carton 2 could be formed from two or more suitably shaped blank portions joined together along a common hinge line. It has been found, however, that a single blank, such as blank 6, gives satisfactory results.

Carton 2 (see FIGURE 6) is of parallelogram shape in cross-section. Compartments 4 and 5, therefore, are congruent triangles in cross-section. It will be appreciated that, if desired, carton 2 can take the form of a polygon with more sides and that in such case, the cross section of compartments 4 and 5 would vary accordingly.

Blank 6 has two outer panels or closure flaps 10 and 11 preferably provided with integral tuck tabs 9, and intermediate body panels 12, 14, 16 and 18 joined thereto at fold lines 19. As shown in FIGURES 1–4, closure flap 10 and body panels 12 and 14 constitute the main panels of compartment 4. Similarly closure flap 11 and body panels 16 and 18 constitute the main panels of compartment 5. Closure flaps 10, 11 and body panels 12–18, as illustrated herein, are of equal width. It will be appreciated that the dimensions of container compartments or sections 4 and 5 can be varied as desired according to the requirement of a customer who uses this carton.

The ends of each body panel 14 and 16 are provided with triangular end flaps 20 in order to give greater strength to the ends of the set up container and maintain the desired angular relationship between panels 12, 14 and 16, 18, as shown in FIGURES 2–5.

Sides 22 of these flaps preferably are equal in length to the width of each body panel 12–18. The ends of body panels 12 and 18 are provided with parallelogram shaped end flaps 24 and 26, respectively. Each flap 24 and 26 comprises two complementary base to base triangular portions 28, 30, respectively preferably forming integral parts of blank 6. Outer triangular portions or locking flaps 30 extend in opposite directions (FIGURE 1) to provide for folding into locking relationship with associated parts of blank 6.

FIGURES 2–4 illustrate the manner in which blank 6 is formed into the carton shown in FIGURES 5 and 6. In FIGURE 2 body panels 12, 14 and 16, 18 have been folded along scored or fold lines 19 into V-shaped relationship. End flaps 20 have been folded along scored or fold lines 21 inwardly into the V-space between body panels 12, 14 and 16, 18 and at right angles relative thereto.

In FIGURE 3, end flaps 24, 26 of body panels 12, 18 have been folded inwardly on scored or fold lines 25 to locate inner flap portions 28 in outer juxtaposed relationship with end flaps 20. Locking flaps 30 extend upwardly above the tops of folded end flaps 20. In FIGURE 4, locking flaps 30 have been folded on scored or fold lines 29 downwardly over end flaps 20 and secured by suitable fastening devices in locked relationship with end flaps 20 and flap portions 28. If desired, end flaps 20 can be trapezoidal in shape, in which case the opposite sides thereof are disposed at such angle to the base or hinge line 25 that the proper angularity between panels 12, 14 and 16, 18 is assured when a blank 6 is erected to the form shown in FIGURE 4.

Box or carton 2 shown in FIGURE 4 is ready for filling and closing, or it can be closed and moved or sent to a place where it is filled and closed. The design of the carton

is such that it can be sent flat and readily be set up at the place of business of the user, as desired. For example, box 2 is well adapted for packing shoes; one shoe being placed in each compartment 4, 5. It will be appreciated that the shape of a closed box 2 whether empty or filled adapts it for ready stacking, handling and display.

Assuming that a set up box 2 is to be filled, say with shoes, one shoe of each pair is placed in compartments 4 and 5. Closure flaps 10, 11 are then folded to the positions shown in FIGURE 5 and tabs 9 are tucked in adjacent body panels 14, 16.

If desired, tabs 9 can be omitted because closure flaps 10 and 11 when folded into the position occupied by flap 11 in FIGURE 5 keep the contents in their respective compartments or sections 4 and 5 when they are folded on hinge line 19 in the abutting relationship shown in FIGURE 6, and held in such relationship by means described hereinafter.

The fold lines shown in the drawings and referred to herein can be formed in any known conventional manner by machine or by hand.

Carton or container 2 is closed to its final form shown in FIGURE 6 by moving one or both compartments or sections 4, 5 toward each other about their common hinge line or axis 8. Means comprising an extensible resilient closure member, such as an elastic cord, elongated coil spring, rubber band 34 or other suitable type of closure are provided for maintaining the carton sections 4, 5 in open positions for filling as shown in FIGURE 2, or in closed position with closure flaps 10 in face to face or abutting relationship, as shown in FIGURE 6.

Member 34 can be attached to one or both ends of carton 2. As shown, they are secured to both ends. A preferred way of attaching cords or members 34 is by providing suitable openings or holes 32 preferably reinforced by grommets 37 in end flaps 20, and in flap portions 28, 30 of end flaps 24, 26. Preferably holes 32 are made closely adjacent these apex angles in order that the securing elements or fastening clips 38 attached to each end of cords 34 are pulled by the tensioned cords against end flap portions 30 and hold the end flaps 20, 28 and 30 of the carton properly secured together.

Closure cords or members 34 act as resilient tensioned means for holding the carton open (see FIGURE 5), or closed (see FIGURE 6). Closure member 34 is tensioned in passing over dead center or hinge axis 8 when sections 4 and 5 are moved to carton open or carton closed positions. Closure members 34 also serve as a handle for carrying a filled carton (see FIGURE 10). When so used its function as a closure member is enhanced.

Under some conditions a non-resilient handle 34 can be used at the top end of the carton. In this case closure is effected by the resilient closure member at the other end. The non-resilient member 34 however, when serving as a handle also aids in maintaining the carton closed.

It will be appreciated that the end flaps 20 and flap portions 28 and 30 of end flaps 24, 26 also can be secured or held together by a suitable glue or adhesive, or by staples and the like. Furthermore, the invention contemplates the attachment of the ends of tensioned closure members 34 to the exposed ends of sections 4 and 5 by other suitable means, such as adhesive or staples.

FIGURE 7 discloses a modified form of blank, designated generally 40, embodying the invention. This blank is provided with two end closure flaps 42, 43 and four body panels 44, 46, 48 and 50 which correspond to panels 10-18 of blank 6 described hereinabove. Fold lines 52 are provided for folding the several panels into an article holding carton. Each closure flap 42, 43 is provided with a tuck tab 54 for securing their respective closure flaps in closing position in a set up carton.

Panels 44, 46, 48 and 50 are provided with end flaps 56 preferably formed integrally therewith. When carton 40 is erected in generally the same manner as carton 2, end flaps 56 are folded inwardly, along scored lines 58 such that they lie in planes substantially at right angles

to the planes of their respective panels 44-50. As shown, each end flap 56 is cut at its ends to form a 60° angle with its respective scored line 52. Holes 60 are made in end flaps 56 for a purpose described more in detail hereinafter. Carton 40 is secured in erected or set up position, by folded end flaps designated generally 62 which as shown in FIGURE 8, is substantially diamond shape. Each end flap 62 comprises two triangular sections 64, 66 joined together along a common scored or fold line 68 such that when the two parts are folded together they form an enclosure blank which can be attached by suitable means, such as adhesive, or staples to end tabs 56 whereby the erection of carton blank 40 is completed.

Each section 64 and 66 is provided with complementary holes 60 formed in the apexes opposite their common fold lines 68. Holes 60 perform the same function as corresponding holes 32 in carton 2. That is, they provide openings through which ends of resilient closure members 69, only one being shown, such as elastic cord 34, shown in FIGURES 5 and 6 are inserted and suitably attached against removal. These tensioned members perform the multiple function of holding the two triangular sections of the carton together in closed relationship or maintaining them open for filling, display or removal of the contents, as shown in FIGURE 6, and/or to provide a handle for carrying the filled container.

When a closed container such as shown in FIGURES 6 and 10 is carried by one of its cords or handles 69, it is held closed by the other tensioned closure member 69 as well as that closure member 69 which acts as the handle, and therefore remains closed. However, if desired a conventional grommet or fastening cord device 70 can be provided to secure sections 45, 47 against possible unintentional opening, and pilferage.

Cartons or containers embodying the invention are excellent for holding elongated articles, such as shoes wherein one shoe of a pair is contained in each section of containers 2 and 40. The construction is such that the contents are readily and well displayed in their separate carton sections. With proper, and well designed printing and considered use of colors and designs, cartons 2 and 40 can have great sales appeal to the purchasing public.

FIGURE 11 illustrates a container 80 which can be made from a blank such as shown in FIG. 1 or in FIG. 7. Either or both closure flaps 82, 84 can be provided with a transparent section or window 86 which can form an integral part thereof, or can be a suitable attachment of a transparent sheet of suitable material, such as polyethylene, or cellophane. It will also be appreciated that the containers or cartons illustrated herein can be formed in their entirety of suitable sheet or film materials or combinations of paperboard or the like and plastic sheets and films.

A view portion, such as window 86, contributes to the satisfaction achieved by the invention. Otherwise the construction is the same as that shown in FIGS. 1-10. It allows the customer to see the contents without subjecting them to touching and possible damage resulting therefrom. As illustrated herein, the container is formed with two triangular compartments of equal size such that the cross-sections of the compartments are symmetrical. It will be appreciated, however, that if desired, the complementary sections or compartments need not be symmetrical in cross-section. That is, one compartment can have a triangular cross-section, as shown in FIGS. 1-10 and the other compartment connected thereto by a common hinge-line, i.e., 8 can be a polygon of a greater number of sides and of different size or even have a curved shape. In this case it is desirable that each of the compartments have a closure panel, such as panels 10, 11 shown in FIG. 1 or panels 42, 43 shown in FIG. 7 and corresponding tuck flaps 9, 54, respectively. Thus when these flaps are closed over the contents in their respective compartments and maintained in closed relationship

relative to each other, by a closure means such as member 34 or 69 described hereinabove, a satisfactory carton results.

The invention also relates to cartons formed from blanks, such as illustrated in FIGURES 1 and 7, wherein the closure flaps and/or panels at ends thereof serve for supporting and positioning a product or products there-within. In carton 88 (FIGURE 12) either or both flaps 90, 92 can be modified or provided with suitable means for holding a product to be packaged. For example, this can be done by providing die-cut tabs 94 folding inwardly from flaps 90, 92 into the respective compartments which are normally closed by these flaps. FIGURE 12 discloses a pencil 96 supported by tabs 94 and a pen 98 supported on flap 92. These are held separate and free from the walls of the compartment in which they are disposed when the closure flaps, supporting them are folded into their housing or compartment closing positions.

If desired each compartment of carton 88 can contain an article, and also provide sufficient space for positioning an article, such as pen 98 or pencil 96 when its respective supporting flap is moved to its closing position.

With the construction shown in FIGURE 12, which also can be provided with windows 100 in flaps 90, 92 an exceptionally fine display effect is obtained. The inner surfaces of the compartments which house the product mounted on the inner surface of one or both closure flaps can be provided with suitable decoration or advertising matter which can also play a part in the sales appeal of the product packaged in this novel container.

A container embodying the invention is easy to fill, store and carry. It can stand upright on either end, closed or open. It thereby provides not only an excellent cartoning medium but also a container which can be decorated as desired and carry a maximum of advertising information.

What I claim is:

1. A container formed from at least one blank comprising two complementary compartments polygonal in cross-sections in which a product can be packed, each compartment having inner and outer inclined wall forming panels, adjacent edges of said inner panels comprising a common hinge for said two compartments, and flaps forming the end walls of said compartments, and elongated resilient extensible means connected to at least one end of the adjacent ends of said compartments operative to maintain said compartments in separated relationship for placing contents therein or for removing contents therefrom, and for maintaining said compartments in closed abutting relationship, said resilient means comprising elongated members located at both ends of said container, each of said elongated members having its two ends connected to selected portions of the ends of said compartments, whereby when said compartments are moved to their open separated relationship said members are elongated as they move past dead center of said hinge and contract to hold said compartments separated or in abutting closed position, and wherein closure panels are connected to the upper edges of said outer wall panels and tuck tabs are formed on the outer edges of said closure panels.

2. A container according to claim 1, wherein said compartments are triangular in cross-section.

3. The invention defined in claim 1 wherein said closure panels comprise transparent windows through which the contents of said compartments can be viewed.

4. The invention defined in claim 1 comprising supporting means on at least one of said panels of at least one compartment supporting an article within said compartment.

5. A container formed from at least one blank comprising two complementary compartments polygonal in

cross-section in which a product can be packed, each compartment having inner and outer inclined wall forming panels, adjacent edges of said inner panels comprising a common hinge for said two compartments, and flaps forming the end walls of said compartments, and elongated resilient extensible means connected to at least one end of the adjacent ends of said compartments operative to maintain said compartments in separated relationship for placing contents therein or for removing contents therefrom, and for maintaining said compartments in closed abutting relationship, said resilient means comprise elongated members located at both ends of said container, each of said resilient elongated members having its two ends connected to selected portions of the ends of said compartments, whereby when said compartments are moved to their open separated relationship said members are elongated as they move past dead center of said hinge and contract to hold said compartments separated or in abutting closed position, and one of said elongated resilient members connected to the ends of said compartments provides handle means for carrying said container and coacts with the other resilient member to maintain the container closed.

6. A container according to claim 5, wherein said compartments are triangular in cross-section.

7. A container comprising two triangular compartments joined by a common hinge, each of said compartments including a cover panel adapted to be moved over the portion of the compartment forming the base of the triangle, and means connecting said compartments being operative when on one side of said common hinge to maintain said compartments in separated open relationship, and when located on the opposite side of said common hinge being operative to maintain said compartments in abutting closed relationship, said connecting means comprising at least one elongated resilient extensible member connected to an end of each of said compartments at a point spaced from said hinge connecting said compartments.

8. A container formed from at least one blank comprising two complementary triangular compartments in which a product can be packed, each compartment having inner and outer inclined wall forming panels, and flaps forming the end walls of said compartments, the edges of said inner inclined wall forming panels comprising a common hinge for said two compartments, and elongated resilient extensible means connected at both ends of said container, each resilient member having its two ends connected to selected portions of the ends of said compartments, whereby when said compartments are moved to open separated relationship said members are elongated as they move past dead center of said hinge and contract to hold said compartments separated or in abutting closed position.

9. The invention defined in claim 8 wherein at least one of said closure panels of said compartments comprises a transparent window, and means for supporting an article on said panel, whereby when said closure panel is moved to compartment closing position, said article is disposed within said compartment.

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