United States Patent

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[54] **CONVERTIBLE PACKAGE**
5 Claims, 6 Drawing Figs.

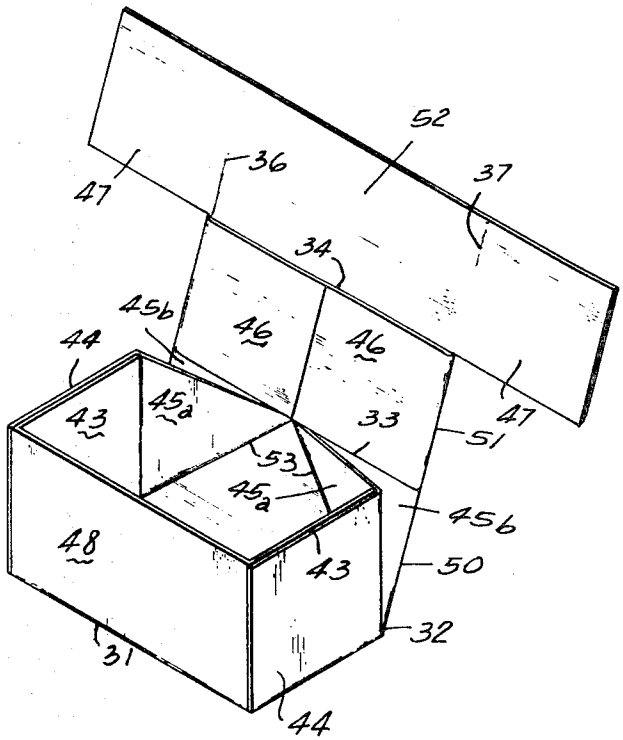
[52] **U.S. Cl.** **229/33,** 119/1, 229/40
[51] **Int. Cl.** **B65d 5/08,** A01k 67/00
[50] **Field of Search** ..... 229/33, 31 R, 40; 119/1

[56] **References Cited**
UNITED STATES PATENTS

3,154,052	10/1964	Sweeney	119/1
2,770,411	11/1956	MacKay	206/(ADH)(UX)
2,623,684	12/1952	Collura	229/33X
2,210,443	8/1940	Bergstein	229/33X
1,994,541	3/1935	Spiking	229/40

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ABSTRACT: A carton having a compact product storage position which opens up into an enlarged product use position. The carton is formed from a single sheet of fiberboard either plain or corrugated, flexible plastic or the like, slotted and scored to accommodate folding into a small, six-sided, sealed package housing a bag of absorbent ground clay. The box opens up into a large open-topped, closed-bottomed pan with upright sidewalls having free ends sealed by pressure-sensitive adhesive coated zones on the board. The clay product is spread over the bottom of the pan to provide a confined commode area for pets, such as cats.

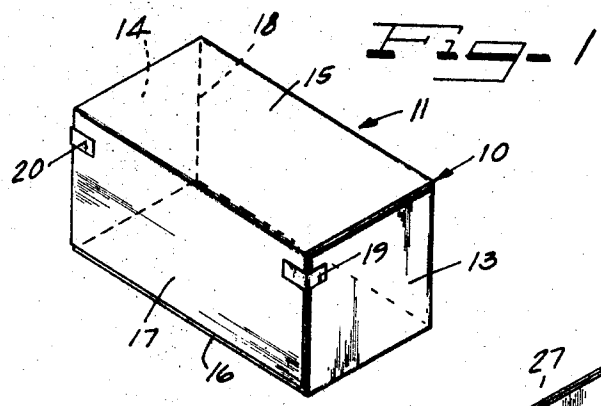


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SHEET 1 OF 2

Fig. 1



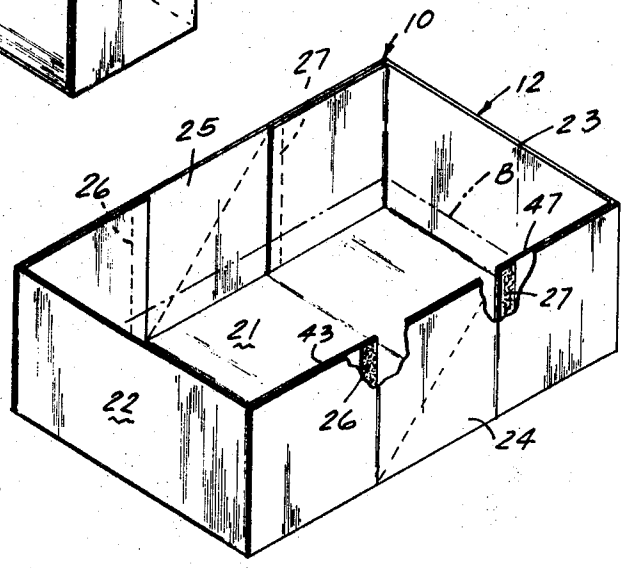
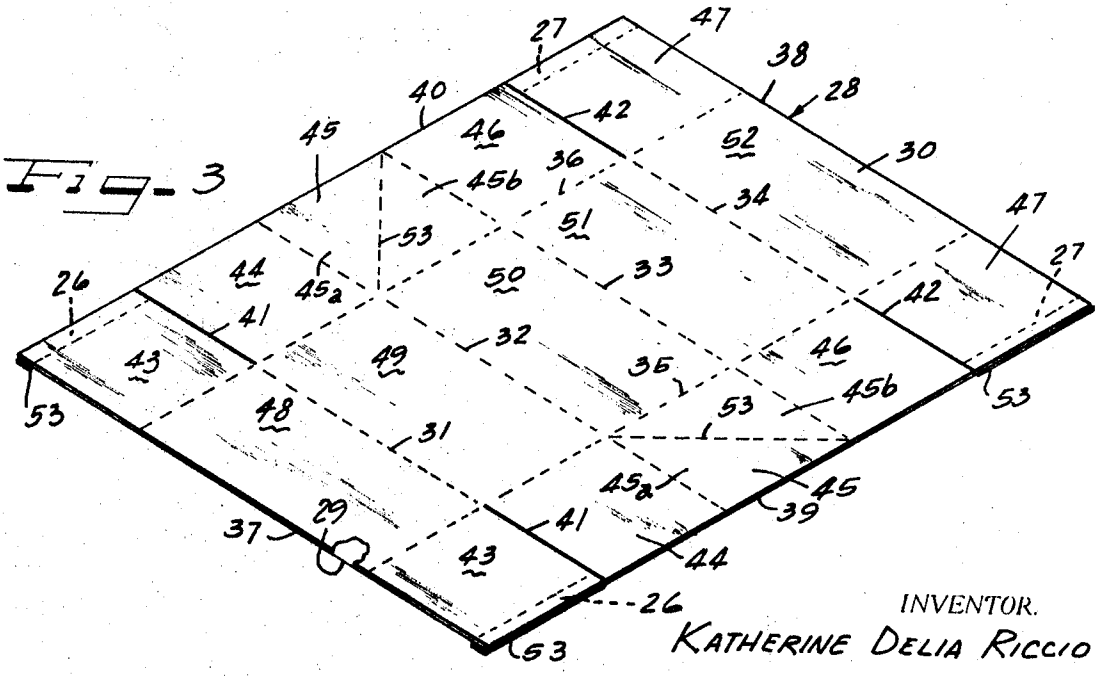


Fig. 2

Fig. 3



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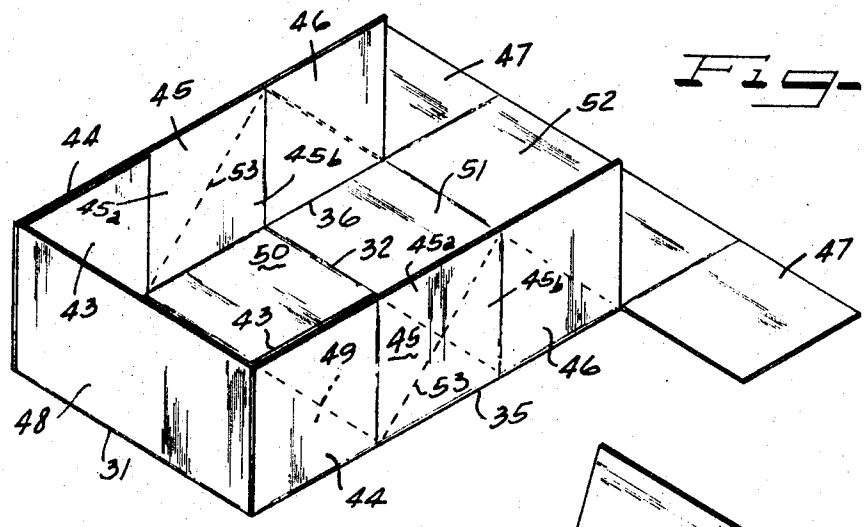


Fig. 4

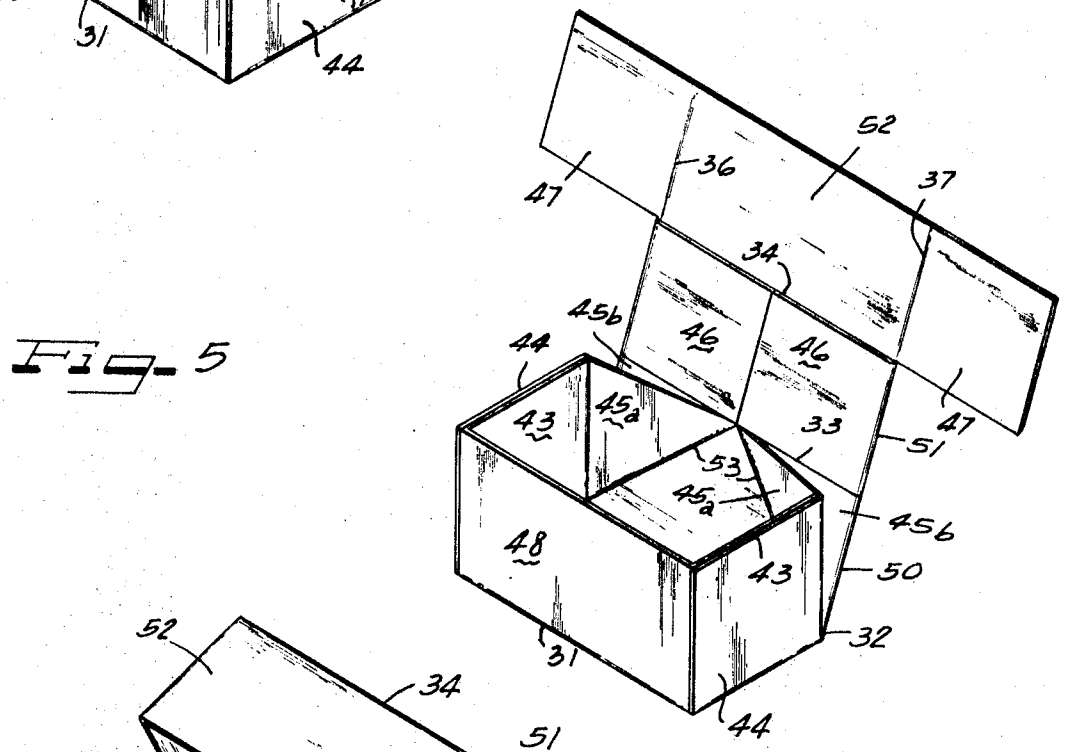


Fig. 5

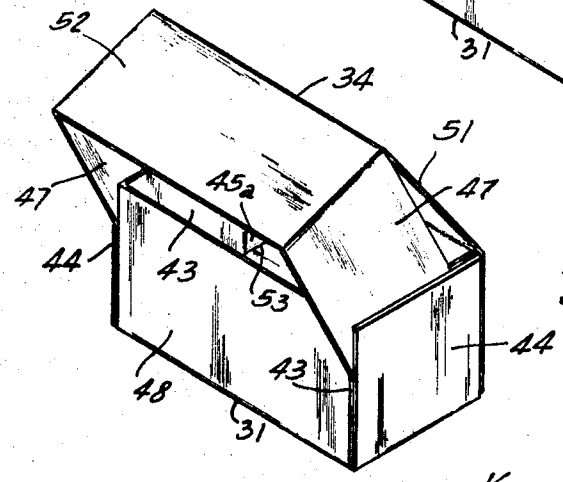


Fig. 6

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CONVERTIBLE PACKAGE

BACKGROUND OF THE INVENTION

I. Field of the Invention

This invention relates to the art of folded boxboard cartons, and particularly to cartons which are first folded into a small, compact, closed box form housing a product in as small a space as possible, and capable of being opened up to form a large pan providing a confined area for a bed of the product. The carton preferably contains a bag of dry, absorbent granular or powder material sufficient to cover the bottom of the opened-up pan to a sufficient depth for forming a commode area or toilet for cats and the like. The opened-up pan has upright sidewalls extending sufficiently above the bed of absorbent material to provide barriers for the bed material during scratching of the bed by the cat. The sidewalls are sealed together by adhesive provided thereon.

2. Description of the Prior Art

Heretofore, ground clay to serve as a toilet bed for cats has been sold in bagged form. The buyer had to furnish a tray, box or pan on which a layer or bed of the material was deposited to form the toilet area for the pet. There was no correlation between the amount of the bagged product and the bed area of the pan or tray, thus frequently resulting in a bed of insufficient depth to afford proper absorption or, conversely, an unduly deep bed wasting the material and prone to free scattering by the cat. Pans or trays intended for reuse required distasteful cleaning chores, and randomly selected discarded market cartons were cumbersome and varied in size, and upset the toilet trained habits of the cat.

SUMMARY OF THE INVENTION

This invention now provides a carton having a compact, closed, six-sided configuration providing just enough space to house a bag of dry, ground absorbent clay in sufficient amounts to form a commode or toilet bed large enough and deep enough to accommodate even a large-sized cat. The carton easily unfolds into a large flat-bottomed, open-topped pan with vertical sidewalls extending sufficiently above the bed of the material deposited on the bottom from the bag housed by the carton to stop scattering of the clay even under violent scratching action by the cat. The upright sidewalls have their free ends secured together by pressure-sensitive adhesive provided on adjacent overlying flaps. The amount of clay housed by the compact carton is correlated with the size of the opened-up pan so that the bed covering the bottom of the pan will have a sufficient depth to ensure efficient absorption.

The carton material is preferably moistureproof although, if desired, a partially absorbent material can be used on the inner face forming the pan with a moisture-impervious outer cover or coating. The pressure-sensitive adhesive material provided on the overlapped flap is, likewise, moistureproof.

It is then an object of this invention to provide a carton having a compact product storage position and an enlarged product use position.

Another object of the invention is to provide a package for absorbent material which opens into an enlarged pan providing a container forming a bed of the material for a pet toilet area.

Another object of this invention is to provide a carton formed from a single sheet of fibrous board scored and slotted to fold into a six-sided closed compact box which is easily opened up into a greatly enlarged open-topped, closed-bottomed, vertical sidewalled pan.

A specific object of this invention is to provide a package for ground, dry, absorbent clay which has a compact position storing a predetermined amount of the clay, and an opened-up use position providing a walled tray for a bed of the packaged clay, with the compact position and opened position being correlated so that sufficient packaged clay is provided to form an efficient absorbent toilet area for cats.

Another object of the invention is to provide a carton from a single rectangular sheet of fibrous board material which is slotted and scored to fold into a small six-sided box having a wrapped-around cover with end flaps tucked between overlapped side flaps, and with a side panel having triangular-shaped overlapping flaps.

A specific object of the invention is to provide a package for material providing an absorbent bed, which package opens up to confine a bed area of the material.

Other objects, features and advantages of this invention will be readily apparent from the following description of the herein illustrated preferred embodiment thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the package or carton of this invention in its closed compact position;

FIG. 2 is a perspective view of the package or carton of FIG. 1 in its opened, expanded position;

FIG. 3 is a perspective view of a sheet of fiberboard cut and scored to fold into the packages of FIGS. 1 and 2;

FIG. 4 is a perspective view illustrating an initial folding of the blank board of FIG. 3 to form the package or carton of FIG. 1;

FIG. 5 is a view similar to FIG. 4, but showing a further folding of the blank;

FIG. 6 is a view similar to FIG. 5, but illustrates a final folding operation for forming the closed carton or package of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The carton or package 10 of this invention has a closed, compact box position 11 of FIG. 1 and an open enlarged or expanded tray or pan position 12 of FIG. 2. The box position 11 of FIG. 1 is six-sided with square end walls 13 and 14, rectangular top and bottom walls 15 and 16, and rectangular front and backwalls 17 and 18. The package thus has a closed end tubular configuration of square transverse cross section. The package is held in its closed position by adhesive tear tape or the like fasteners 19 and 20 connecting the end walls 13 and 14 with the front wall 17.

In the opened position 12 of FIG. 2 the package or carton 10 has a flat, rectangular bottom 21, vertical end walls 22 and 23, and vertical sidewalls 24 and 25. As shown in broken-away portions, overlapped panels forming the sidewalls 24 and 25 are adhesively united by strips of pressure-sensitive adhesive applied to one or both mating faces of the panels at 26 and 27. As illustrated in dotted lines, a bed B of absorbent granular or powdered clay covers the bottom 21 to a level about one-third the height of the side and end walls. This bed B is composed of the material housed in a bag (not shown) snugly fitting in the container in its closed position 11. The size of the closed position 11 is correlated with the size of the open position 12 so that the fully filled closed carton may contain sufficient ground clay to form the bed B covering the entire bottom 21 of the carton in its open position 12 to a level about one-third the height of the side and end walls. This bed B is composed of the material housed in a bag (not shown) snugly fitting in the container in its closed position 11. The size of the closed position 11 is correlated with the size of the open position 12 so that the fully filled closed carton may contain sufficient ground clay to form the bed B covering the entire bottom 21 of the carton in its open position 12 to a level about one-third the height of the upstanding end and sidewalls of the opened-up carton in the position 12 of FIG. 2.

The carton 10 of this invention is formed from a single sheet or blank of fibrous material 28 shown in FIG. 3. The blank 28 may be composed of corrugated boxboard, plain cardboard, or any suitable carton-forming foldable material. It is desired that at least one face of the blank 28 be moistureproof such as, for example, the bottom face 29 which is to form the outside of the carton, thereby leaving an absorbent top or inner face

30 augmenting the absorbing action of the clay forming the bed B.

The blank 28 has four equally spaced transverse score lines 31, 32, 33 and 34. Two longitudinal score lines 35 and 36 are provided. The end transverse score line 31 is spaced inwardly from and parallel to the front end edge 37 of the blank, while the score line 34 is spaced inwardly from and parallel to the rear end edge 38 of the blank. The score line 35 is spaced inwardly from and parallel to the front side edge 39 of the blank, while the score line 36 is spaced inwardly from and parallel to the rear end edge 40 of the blank.

The score lines 31 and 34 are cut through or slotted at their outer ends beyond the longitudinal score lines 35 and 36, as illustrated at 41 and 42 respectively.

Five square front end panels 43, 44, 45, 46 and 47 are thereby provided. Identical rear end square panels 43—47 are also provided. In addition, five rectangular panels 48, 49, 50, 51 and 52 are provided between the square panels.

Diagonal score lines 53 bisect the panels 45, forming triangular panel sections 45*a* and 45*b*.

To form the closed carton or package position 11, the blank 28 is first folded as shown in FIG. 4. As therein shown, the end rectangular panel 48 is bent vertically upward about the score line 31. The square end panels 43 on the upright panel 48 are then bent about the score lines 35 and 36 to overlie the adjacent rectangular panel 49 remaining flat. Next, the intermediate end panels 44, 45 and 46 are bent upwardly about the score lines 35 and 36, with the panels 44 overlying the panels 43. The panels 47 and 52 remain flat and extend beyond the upright panels 46.

Next, as shown in FIG. 5, the panels 45 are folded inwardly about their score lines 53, and the panel 50 is bent upwardly about score line 32 to abut the rear edges of the panels 44. In this position the panel sections 45*a* are in overlapped relation to the panel sections 45*b*, which in turn are overlapped by the panel 50. The forming of the triangular panels 45*a* and 45*b* by creasing the square panels 45 about their score lines 53 also overlap the adjacent panels 46 on the panel 51. The panels 46, of course, are free to fold relative to the panels 47 because of the slots 42.

The next folding operation illustrated in FIG. 6 involves bending the flaps composed of panel sections 51 and 46 about the score line 33, bending the panel section 52 about the score line 34, and tucking the end panels 37 between the overlapped panels 43 and 44. Thus the panel sections 51 and 52 are wrapped around the open-topped box portions shown in FIG. 5 to form the closed top and the overlying front wall of the compact package.

To open up the compact package from the position 11 of FIG. 1 to the position 12 of FIG. 2, it is only necessary to unfold the carton through the steps illustrated in FIGS. 6, 5 and 4, with the final step of underlapping the panels 43 with the panels 44, and the panels 47 with the panels 46, exposing the adhesive strips 26 and 27 on the outer faces of the underlapped panels 43 and 47, and pressing the adhesive against the adjacent panel faces to form an effective seal.

As shown in FIG. 3, the pressure-sensitive adhesive zones 26 and 27 can be covered with tear strips 53 on the bottom or outer face 29 of the blank 28. When these strips are removed, the adhesive is exposed, forming the seals in the opened-up position 12 of the carton shown in FIG. 2.

From the above descriptions it will therefore be understood that this invention provides a very convenient package or carton having the dual function of storing absorbent granular material or powder in a compact condition, and then capable of being opened up into an enlarged pan or tray in which the material can form a bed protected by upstanding sidewalls and creating a sanitary commode or toilet area for pets.

I claim as my invention:

1. A carton having a compact six-sided closed storage position and an enlarged open pan use position formed from a flat rectangular blank of carton forming board having transverse and longitudinal score lines defining five central panels and a row of end panels on both ends of the central panels, diagonal score lines dividing the middle end panels into a plurality of triangular subpanels, said blank being folded about said score lines with the triangular subpanels overlapped against one of the adjacent central panels, with the end panels on one side of the triangular subpanels underlapped against the next adjacent central panel and with the end panels on the central panel adjoining said end panel underlapped central panel having the end panels thereon tucked between the remaining end panels to provide a six-sided closed carton adapted to be unfolded into an open-topped closed-bottomed pan with vertical sidewalls surrounding the bottom and having corner end panels in overlapped relation with adjacent panels and means for uniting the overlapped panels for maintaining the sidewalls in said vertical position.

2. A folding carton having a compact, six-sided closed position and an enlarged open-topped closed-bottom position with upstanding sidewalls defining a use area, said carton formed from a flat rectangular blank of carton forming board having transverse and longitudinal score lines defining five central panels, each with end panels on both ends thereof, slots separating the corner end panels from the next adjacent end panels, diagonal score lines dividing the middle end panels into two triangular subpanels, said carton forming board being folded with the triangular subpanels in overlapped relation, the corner end panels on one end of the board inserted between the end panels on the next adjacent central panel, the end panels on the central panel next adjacent the overlapped triangular subpanels being folded into underlapped relation with said next adjacent central panel to provide a double thickness cover for the carton, and the remaining corner end panels being tucked between the other corner end panels and the end panels overlying said other corner end panels, pressure sensitive adhesive on the corner end panels for uniting them to the next adjacent end panels in the open use position of the carton, and removable protective tapes covering said adhesive.

3. A carton which comprises a six-sided box formed from a flat sheet of fibrous board material having transverse and longitudinal score lines defining five central panels, each with end panels on both ends thereof, slots separating the corner end panels from the next adjacent end panels and diagonal score lines dividing the middle end panels into two triangular subpanels, said sheet being folded about said score lines into said six-sided box, said box being openable from said six-sided position into an open topped closed bottom pan position with vertical walls surrounding the bottom and with the corner panels lapping the next adjacent end panels, pressure sensitive adhesive on the free ends of the corner panels, and protective tapes covering said adhesive to be stripped from said adhesive in the open pan position of the carton to expose the adhesive for uniting and sealing the overlapped end panels.

4. The carton of claim 3 wherein the score lines for forming the closed and opened box shape include five transverse score lines parallel with the end edges of the blank and two longitudinal score lines parallel with the side edges of the blank, said diagonal score lines bisecting the middle end panels formed by the transverse and longitudinal score lines.

5. The carton of claim 3 wherein the sheet material has a moisture-impervious cover.