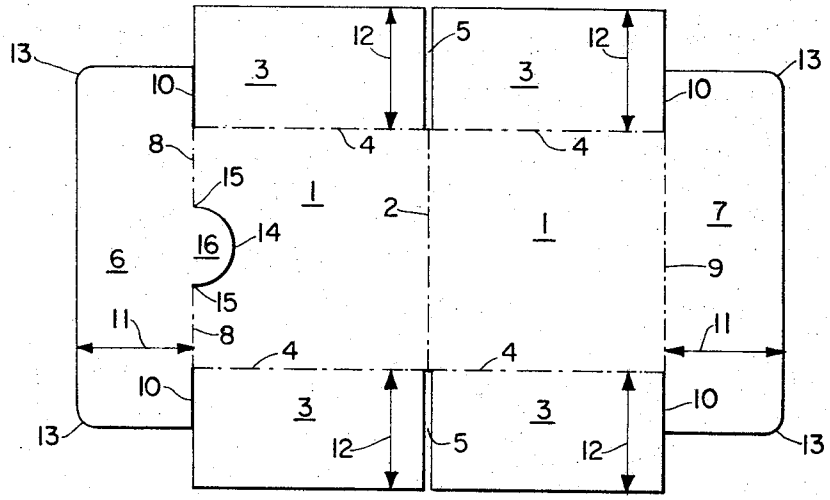
Jan. 23, 1968 S. R. M. SALOMONE 3,365,110

PACKAGE DIVIDER

Filed Dec. 7, 1966

Fig. 1



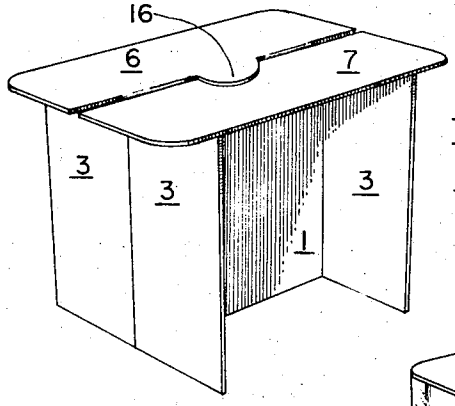


Fig. 2

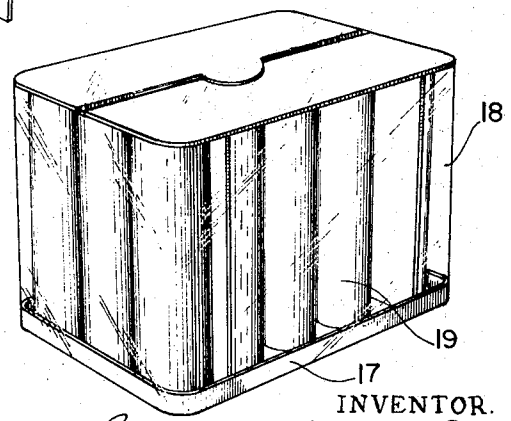


Fig. 3

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PACKAGE DIVIDER

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7 Claims. (Cl. 229—15)

ABSTRACT OF THE DISCLOSURE

A self-supporting package divider is formed from a suitably cut and scored unitary sheet of material which is folded to form a package insert having vertical compartments for separating articles placed therein and an integral top panel for preventing damage to the tops of the packaged articles. The divider is of non-interlocking construction to reduce cost.

Background of the invention

This invention relates to package dividers and, more particularly, to a self-supporting package divider formed from a unitary sheet of material to provide article-separating cells and an integral protective top panel.

Package dividers most usually used in the packaging of, for example, bottles, cans, or similar articles are generally made from a plurality of slotted sheets which are assembled in inter-locking fashion to form a plurality of article-receiving pockets which serve to isolate the individual articles from each other and protect them from damage caused by adjacent articles rubbing, scuffing, or impacting with each other. These dividers are difficult to assembly because the orientation of each slotted sheet to the remaining sheets must be correct or one or more sheets can be damaged. After assembly, the dividers present storage problems when in opened form and are non-uniform in thickness when in flat condition.

Additionally, a top or bottom protective sheet of similar material is frequently used in conjunction with the divider to prevent dust from coming into contact with the articles or to carry some of the stack load which would otherwise be imposed on the articles. The use of such separate protective sheets requires an additional operation to insert these into the package and necessitates stocking another package element.

It is an object of the present invention to obviate the above-mentioned difficulties.

Summary of the invention

Briefly stated, in accordance with one aspect of the present invention, a package divider formed from a unitary sheet of material is provided. The divider has a plurality of cells suitable for separating the articles to be packaged and a two-element top pad which is integral with the cells and which extends over the article receiving cells. The divider is frictionally held in position by means of a lip extending from one element of the top pad which frictionally contacts the surface of the other element of the top pad.

Brief description of the drawing

FIGURE 1 is a plan view of a unitary blank of fibreboard which has been cut, slotted, and creased to permit the formation of an insert according to this invention;

FIGURE 2 is a perspective view showing the blank of FIGURE 1 when erected for service as a divider insert; and

FIGURE 3 is a perspective view showing a package

in which the divider of FIGURE 2 is combined with a base tray and the combination overwrapped with a transparent, polymeric film.

Description of the preferred embodiments

As shown in FIGURE 1, the blank comprises a pair of rectangular main panels **1** which are hingedly connected at score line **2**. Hingedly attached to the colinear sides of main panels **1** at score lines **4** are four rectangular panels **3**. A pair of panels **3** extends from each of panels **1**. Adjacent panels **3** are separated from one another by slots (or cuts) **5**, each extending from the outer edge of panels **3** to their corresponding score lines **4**.

Rectangular panels **6** and **7** and are each hingedly attached to the remaining free ends of panels **1** at score lines **8** and **9**, respectively, but extend beyond the ends of score lines **8** and **9** by a distance which can be equal to the diameter of the bottles to be placed in the divider. Panels **6** and **7** are separated from adjacent panels **3** by cuts (or slots) **10** extending to the ends of score lines **8** and **9**. The width **11** of panels **6** and **7** is equal to the width **12** of panels **3**, so that when the divider is assembled, panels **6** and **7** are supported near their ends across their full width by the edges of panels **3**, without panels **3** protruding beyond the outer edges of panels **6** and **7**. Corners **13** of panels **6** and **7** are preferably rounded, to avoid sharp edges.

Semi-circular cut **14** is made through the board in one of panels **1** and has its center at a point mid-way between the extreme ends of crease line **8**. Its diameter is determined by the amount of friction grip desired to retain panels **1** in contact when the insert is erected and is preferably one-third of the distance between the extreme ends of crease line **8**. The crease line **8** is interrupted for the full distance between points **15**, where cut **14** meets crease line **8**, so that the semi-circular piece of board **16** is an unhinged extension of panel **6**.

In FIGURE 2 the divider blank is shown assembled in erected condition and ready for use. Assembly is accomplished by folding the blank along score line **2**, until panels **1** are contiguous, simultaneously folding panels **6** and **7** along score lines **8** and **9** in a direction opposite to that in which panels **1** were folded so that extension **16** lies on top of panel **7**. Panels **3** are then folded along hinges **4** through 90° so that each supports the board near one end of panel **6** or panel **7**.

The erected divider can be employed to form the major structural element of a package as in FIGURE 3. The divider is combined with a flat base tray **17**, the latter preferably having an upstanding peripheral lip. The articles **19** are housed between the divider and the tray **17** and the assembly is then overwrapped with a transparent, polymeric film **18** to form an inexpensive package. Preferably, the film **18** can be heat shrinkable so that upon the application of heat thereto the completed package is tautly wrapped, thereby forming an easy to handle package.

The divider of the present invention can also be used in conjunction with a shipping container. In this configuration the divider functions as a combined article-separating member and a top pad to protect the contents of the container from damage caused by the imposition of stacking loads to the tops thereof. The container of this embodiment replaces the tray **17** and film overwrap **18** shown in FIGURE 3.

The material from which the divider of the present invention is made can be any substantially rigid fibreboard material which has the requisite strength in the vertical dimension of the erected divider. A double faced corrugated paperboard is preferred although other paperboards can also be used. When corrugated paperboard is used it is preferred that the corrugations be perpendicular to

score lines 2, 8 and 9 and parallel to score lines 4 in order to provide the greatest top to bottom compression resistance in the erected divider.

While particular embodiments of the invention have been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications can be made without departing from the spirit and scope of the invention and it is intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

I claim:

1. A unitary blank for forming a multiple compartment package divider from a scored and cut sheet of paperboard material, said blank comprising:
(a) two adjacent, geometrically equal, rectangular main panels hingedly connected along a common score line forming one boundary of each panel;
(b) four equally sized rectangular side panels, each of which is hingedly connected to a side of each of said main panels, said sides of said main panels being perpendicular to said common score line;
(c) a pair of rectangular end panels, each of which is hingedly connected to the remaining free edge of each of said main panels, said end panels having a length greater than that of said main panels.

2. The blank of claim 1 wherein the corrugations are perpendicular to the score line joining said main panels.

3. The blank of claim 1 wherein the widths of said side panels and said end panels are all substantially equal, as measured in directions perpendicular to the hinges joining said side panels and said end panels to said main panels.

4. The blank of claim 1 in which one of said end panels has an integral extension along the edge joining said end panel with a main panel, said extension formed by a cut made in said main panel and extending to the edge of said end panel, said cut forming a closed figure with said edge of said end panel.

5. A multiple compartment package divider formed from a unitary blank of cut and scored paperboard comprising:
(a) two adjacent, geometrically equal, rectangular main panels hingedly connected along a common score line forming one boundary of each panel;
(b) four equally sized rectangular side panels, each of which is hingedly connected to a side of each of said main panels, said sides of said main panels being perpendicular to said common score line; and
(c) a pair of rectangular end panels, each of which is hingedly connected to the remaining free edge of each of said main panels, said end panels having a length greater than that of said main panels; and

(d) said divider formed by folding said blank along said common score line separating said main panels until said main panels are contiguous, folding said side panels until each of said side panels is perpendicular to said main panels, and oppositely folding said end panels until they are perpendicular to said main panels.

6. A package comprising:
(a) a multiple compartment package divider formed from a unitary blank of cut and scored paperboard comprising two adjacent geometrically equal, rectangular main panels hingedly connected along a common score line forming one boundary of each panel; four equally sized rectangular side panels, each of which is hingedly connected to a side of each of said main panels, said sides of said main panels being perpendicular to said common score line; and a pair of rectangular end panels, each of which is hingedly connected to the remaining free edge of each of said main panels, said end panels having a length greater than that of said main panels;
(b) a rectangular paperboard tray;
(c) said divider positioned within said tray.

7. A package comprising:
(a) a multiple compartment package divider formed from a unitary blank of cut and scored paperboard comprising two adjacent, geometrically equal, rectangular main panels hingedly connected along a common score line forming one boundary of each panel; four equally sized rectangular side panels, each of which is hingedly connected to a side of each of said main panels, said sides of said main panels being perpendicular to said common score line; and a pair of rectangular end panels, each of which is hingedly connected to the remaining free edge of each of said main panels, said end panels having a length greater than that of said main panels;
(b) a paperboard tray;
(c) a polymeric film overwrap;
(d) said divider positioned on said tray to enclose the articles packaged therein, and said film overwrapping said divider and said tray to form an enclosed package.

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