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A. S. HOUSTON

3,072,250

INTERIOR PACKAGE

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FIG. 1

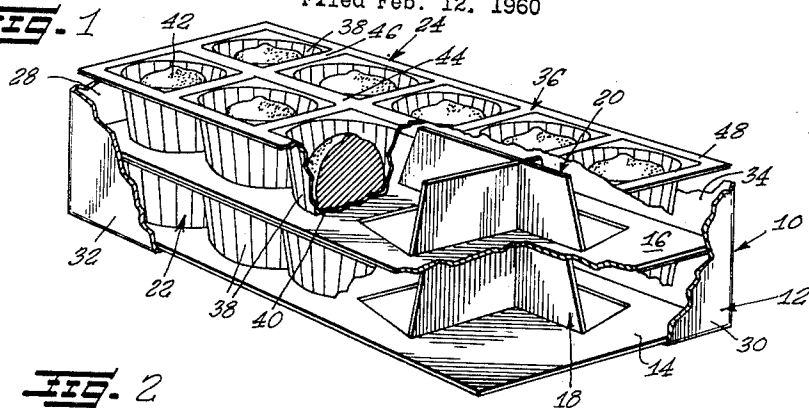


FIG. 2

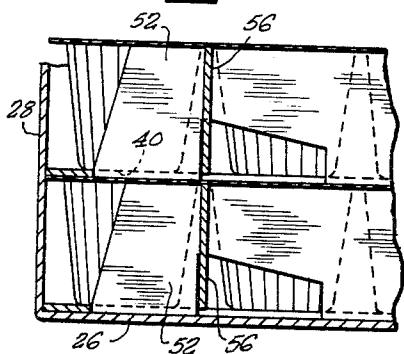


FIG. 3

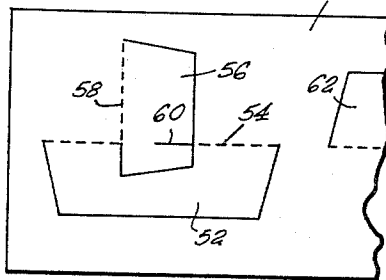


FIG. 4

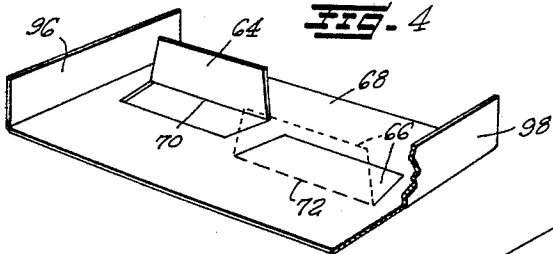


FIG. 5

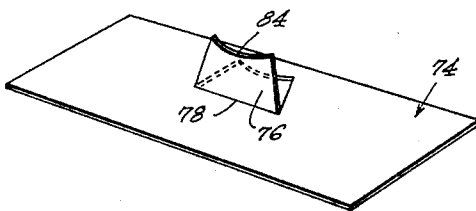
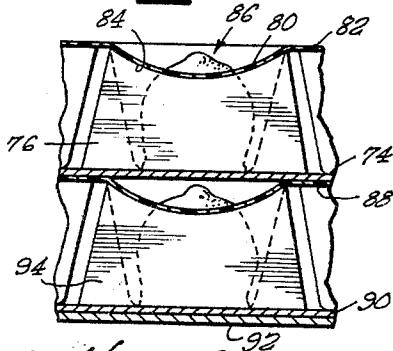


FIG. 6



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INTERIOR PACKAGE

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This invention relates to a package structure for use in shipping, storing and merchandising individual items such as candies, cookies or the like, and more particularly to an interior packaging construction for supporting such pieces in an attractive and secure manner.

Heretofore, it has been the usual practice to utilize individual pieces of paper or foil formed in a cup-like shape for the purpose of merchandising items such as candies in an attractive form. The pieces have been supported on the bottom wall of a box or other container, or, where multi-layer packaging was used, on an intermediate wall or divider.

This traditional method of packaging has been undesirable for the reason that the pieces were easily shifted about and became damaged in transport, or otherwise; but there has hitherto been no effective and inexpensive solution.

The present invention resolves these problems by means of a tray which defines integral receptacles therein for receiving individual pieces of merchandise, and which is desirably formed of a lightweight plastic material such as polystyrene, polyvinyl chloride, lineal polyethylene, aluminum foil or the like. The tray may be configured and dimensioned to fit snugly within a container, such as a candy box or the like, and thus provides an attractive frame for the items which also prevents damage during shipment. The bottoms of the receptacles form a suitable surface for supporting the tray, and in order to increase the strength of the tray and the security of the packaging, the invention provides a cooperative support structure comprising separator sheets or divider blanks defining integral support elements adapted to engage the upper surfaces of the tray in supporting and reinforcing relationship. Thus the receptacles in the tray are desirably spaced apart to a predetermined slight extent at their upper edges, and the interstitial horizontal partitions thus produced afford upper frame surfaces against which upstanding support elements on the dividers may engage.

Accordingly, it is an object of the present invention to provide an interior packaging for individual items to be shipped in a box or other container or covering, wherein the items can be maintained in suitably aligned relationship and preserved against spoilage and breakage, as well as being displayed in an unusually attractive manner.

Another object of the invention is to provide a packaging construction as described wherein an interior tray is utilized to receive the individual items packaged, and coacting support means for the tray are formed integrally from the conventional dividers used with the previously available package constructions.

Another object of the invention is to provide a packaging device as described wherein the dividers are formed of a blank dimensioned to fit within the box, and are

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stamped or otherwise cut to define the support elements for engaging the tray.

Another object of the invention is to provide a packaging construction as described wherein the individual trays may be nested for shipment or storage, so that little space is required therefor, and wherein they may be reinforced without the provision of extraneous support means, by means of the dividers already in use in conventional packaging.

Other objects and advantages of the invention will become apparent as the description proceeds in accordance with the drawing in which:

On the drawings:

FIGURE 1 is an enlarged perspective view, partly broken away and in section, of a packaging construction according to the present invention;

FIGURE 2 is an enlarged fragmentary vertical sectional view of the structure shown in FIGURE 1;

FIGURE 3 is a top plan view, partly broken away, of a divider blank according to the present invention;

FIGURE 4 is a perspective view of another embodiment of a divider blank and tray reinforcing means according to the invention;

FIGURE 5 is yet another embodiment of the divider blank and reinforcing means according to the present invention; and

FIGURE 6 is a fragmentary vertical section of a packaging construction using the divider blank and reinforcing means shown in FIGURE 5.

As shown on the drawings:

Referring now to the drawings, and to FIGURES 1 through 3 in particular, a package 10 is shown in accordance with the present invention which comprises a box or casing 12, herein illustrated as being of a generally rectangular configuration, a pair of vertically spaced generally parallel divider and support members 14 and 16, individual supports and reinforcing structures such as indicated at 18 and 20 formed integrally with the dividers 14 and 16 and superposed trays 22 and 24 supported on the dividers 14 and 16 and reinforced by the support and reinforcing structure 18 and 20 as hereinafter further described.

The box or casing 12 may be of a relatively conventional type, although it will be understood that variations in this construction will be encompassed within the scope of the invention. Thus the box has a bottom wall 26, end walls 28 and 30 and side walls 32 and 34. A cover (not shown) may also be provided in accordance with the understanding of those skilled in the art.

The construction is shown with respect to a plurality of layers, although it will be understood that a single layer package could also be produced in accordance with the invention. The divider and support members 14 and 16 desirably are dimensioned and configured to be received in relatively snugly fitting relationship within the box 12, and are thus shown as having a rectangular outline corresponding to that of the said box. Likewise, the trays 22 and 24 are preferably formed with a similar dimensional outline and may include an upper surface 36 and a plurality of integrally formed recesses or receptacles 38 whose bottom surfaces 40 are adapted to rest on the respective layers or dividers 14 and 16. The trays 22 and 24 may be formed of a light plastic mate-

rial such as polystyrene, or other light and relatively inexpensive material and are molded to a predetermined, desirably relatively thin configuration as shown. For example, a thickness of about from 5 to 25 mills may be utilized for this purpose. The respective receptacles 38 are desirably spaced by portions of the upper surface 36 and in the form shown are arranged in a plurality of rows and columns so as to maintain an attractive appearance and keep individual pieces of candy 42 or the like in a desired position. Thus a central rib 44 is formed along the length of each of the trays and transverse ribs or surfaces 46 extend thereacross, with a marginal surface 48 surrounding the tray.

In order to maintain the respective trays 22 and 24 against buckling or deformation in transit or otherwise, the reinforcing structures 18 and 20 are designed to extend upwardly into engagement with the central, longitudinally extending rib 44 and one or more of the transversely extending ribs 46, with respect to each of the said trays. Thus, as seen in FIGURE 3, the reinforcing structures are formed directly from the dividers, which may be of a paper or cardboard material in accordance with the usual practice in packaging candies, fruits, nuts, etc. The pattern for the reinforcing structure is cut or stamped directly into the blank, which in FIGURE 3 is designated by reference numeral 50.

In the embodiment of FIGURES 1 through 3, the reinforcement means 18 and 20 include a first trapezoidal support element 52 having a scoring line or fold line 54 formed centrally of the blank 50 and adapted to be in register with the rib 44, and a second trapezoidal element 56 having a score line 58 adapted to be in register with one of the transverse ribs 46. The trapezoidal element 56 is in part stamped directly from the material forming the support element or buttress 52, and the element 56 is cut at 60 along a line coextensive with the score line 54. Thus, the support element 52 may be raised into a vertical position and the element 56 thereafter raised so that the slot or cut 60 receives the element 52 in interlocked relationship to provide a means for maintaining both the elements 52 and 56 in a vertical, mutually perpendicular alignment. In this position, the upper edges of the respective elements 52 and 56 engage the ribs 44 and 46 respectively as desired, and any tendency for the tray to buckle is eliminated thereby. Furthermore, the ribs cooperate with the support elements to prevent slidable movement of the tray itself.

It will be noted that a second set of reinforcing structures is provided in the blank 50, and the cuts therefor may be made in a reverse direction laterally with respect to the cuts forming the pieces 52 and 54. Thus the element 62 is shown as extending in a direction opposite to the element 52 in the blank. However, any other suitable arrangement for the pieces may also be provided in accordance with the invention.

As seen in FIGURE 4, a second embodiment of the invention is illustrated which may be effectively used for trays having three or more sets of columns, as contrasted with the two columns provided in the structure of FIGURE 1, although it will, of course, be understood that the embodiment of FIGURES 1 through 3 could also be utilized for this purpose. In this form of the invention individual pieces 64 and 66 are cut from a blank 68, preferably also in a trapezoidal form, and to a height such that when elevated to the vertical position as indicated with respect to the element 64, the upper edges of the said elements will come into engagement with upper surfaces of a tray structure corresponding to the trays 22 and 24. Again, each of the elements 64 and 66 is formed along a score line indicated by reference numerals 70 and 72 such as to bring the pieces in their vertical position into registered alignment with interstitial ribs at the upper surfaces of the trays. Thus, the blank of FIGURE 4 when positioned as a divider beneath the individual tray associated therewith (not shown) may be interposed be-

tween individual sets of receptacles corresponding to the receptacles 38.

Referring now to FIGURES 5 and 6, another embodiment of the invention is illustrated wherein a blank 74 may be formed with but a single upright reinforcing buttressing element 76. The element 76 is formed on a score line 78 which is adapted to be disposed in register beneath a rib or upper surface 80 in a tray 82. In this form of the invention, however, the rib or upper surface 80 is downwardly bowed for a predetermined distance and the upper edge 84 of the tab or reinforcing element 76 is correspondingly recessed in a complementary arcuate or bowed configuration such as to afford engagement in mating relationship with the bowed portion 80. Thereby, the tray 82 is maintained against longitudinal slidable movement as well as against transverse movement without the need for further supports. The blank 74 is illustrated in FIGURE 6 as being used with a double layered package, designated by reference numeral 86, with the blank resting upon a second lower tray 88, which in turn is supported on a divider 90 corresponding to the divider 74 in essential details and resting upon a bottom wall 92 for the box. It will be seen that the individual reinforcing elements or tabs such as the tabs 76 and 94 for the dividers 74 and 90 assist in rigidifying and stabilizing the box as a whole, and that the lower tabs, such as the tab 94, are effective in supporting the upper layer of the device so that individual pieces are not crushed by the weight of the structure as in previous packages. To augment this relationship, the ends of an individual divider may be turned upwardly as shown in the embodiment of FIGURE 4 at 96 and 98.

Accordingly, there has been provided a package which is extremely effective for use in the merchandizing, shipping and storing of easily spoiled or damaged comestibles such as candy, nuts, fruits, or the like, and which also has application in a wide variety of situations where the integrity of the package is important, and the attractiveness of the display is a desideratum.

The packaging structure of the invention is both simple and economical, and is also exceptionally strong as a result of the reinforcing provided therein and is easy to assemble by automated equipment. Thus the support elements in individual dividers or blanks may be formed without the need for artificial connections, joints or the like, from the material of the blanks. The support elements may be arranged in any desired relation and configuration to coact with the trays held and reinforced thereby. Thus the support elements not only retain the tray in position but also prevent it from becoming bent or otherwise damaged and provide an auxiliary buffer for the individual receptacles in the tray.

Although I have herein set forth and described my invention with respect to certain specific principles and details thereof, it will be understood by those skilled in the art that these may be varied without departing from the spirit and scope of the invention as set forth in the hereto appended claims.

I claim as my invention:

1. A package for packaging candies or the like comprising a tray of thin sheet material, a box receiving the tray in snugly fitted relationship, a plurality of receptacles spaced apart in rows formed integrally in the tray, a divider and support sheet of relatively rigid material beneath the tray, and a relatively rigid tab extending upwardly between adjacent rows of the receptacles into supporting engagement with the surface of the tray between the receptacles and a relatively rigid tab formed at right angles thereto and intersecting therewith engaging the surface of the tray between columns formed by the rows, said tabs forming an integral part of the divider and support sheet.

2. In a package for shipping or storing merchandise, a container having a bottom and side walls, a support sheet of relatively rigid material resting on said bottom of said

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container, an upstanding support formed integrally with said sheet, a tray in said container having an upper surface and a plurality of integrally formed receptacles depending from said upper surface and spaced apart thereby, said support of said support sheet having an upper edge in abutting supporting complementary relation to said upper surface of said tray whereby said tray is supported in said container, a second support sheet of relatively rigid material resting on said upper surface of said tray, an upstanding support formed integrally with said second support sheet, and a second tray having an upper support surface and a plurality of integrally formed receptacles depending therefrom and spaced apart thereby, said support on said second support sheet having an upper

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edge engaging said upper surface of said second tray whereby said second tray is supported similarly to said first mentioned tray.

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