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STACKABLE COOKIE PACKAGE AND TRAY

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2 Sheets-Sheet 1

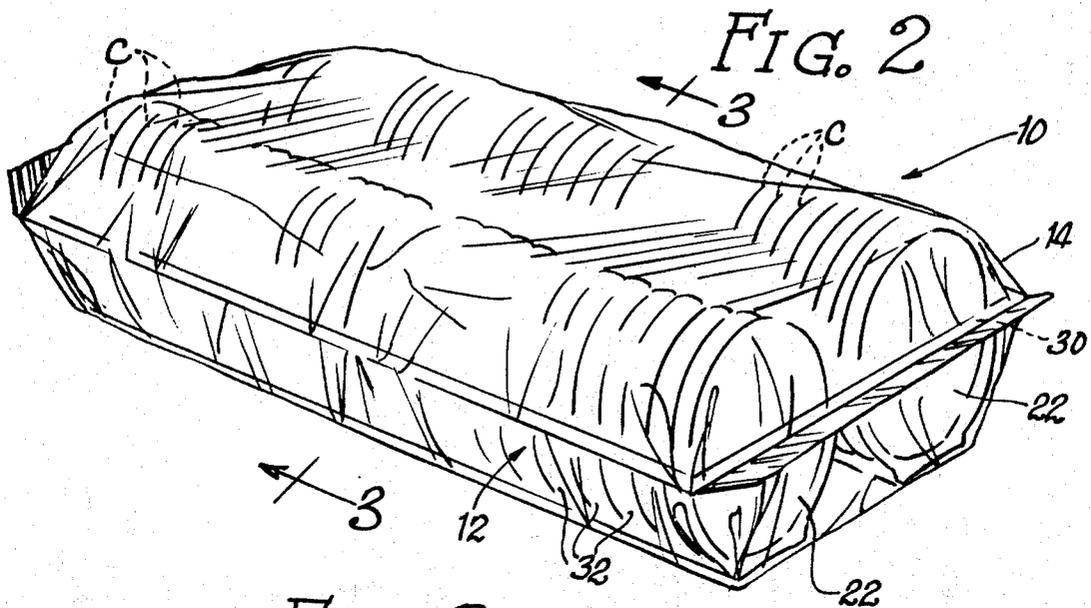


FIG. 3

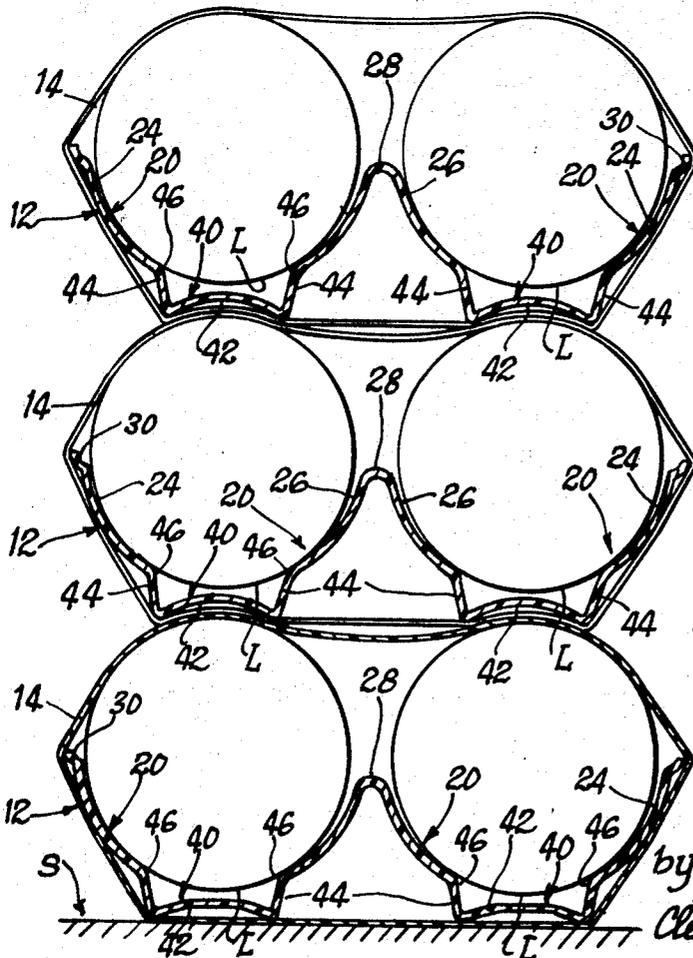
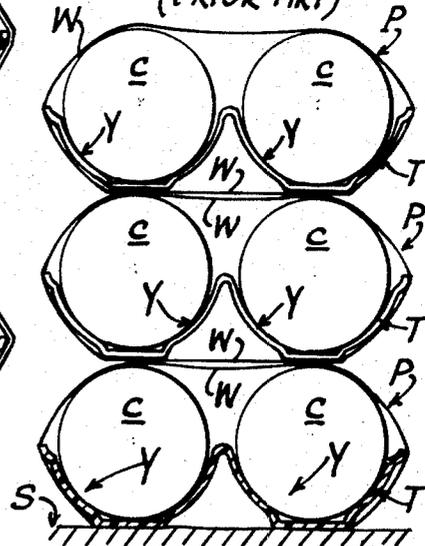


FIG. 1

(PRIOR ART)



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STACKABLE COOKIE PACKAGE AND TRAY

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ABSTRACT OF THE DISCLOSURE

A cookie package including an open-topped cookie tray defining parallel compartments each defining a floor section for spacing a stack of cookies in a said tray away from a stack of cookies in a like underlying tray. The tray provides support ribs effectively for contacting cookies at spaced points for so spacing the cookies, and for resiliently cushioning the cookies against shock and stacking loads. The floor section of a superposed tray nestingly receives cookies in an underlying tray to resist transverse sliding movement to stabilize unsupported stacks of such packages.

This invention relates to an improved cookie tray and package, and particularly to a package utilizing a thin-walled plastic tray.

Such trays and packages have been finding increased use for the packaging, shipping and displaying of cookies. Such trays currently provide two or three longitudinally extending compartments in which rows of cookies are stacked on edge. The lowermost edge portions of the cookies rest against the floors of the compartments, and the uppermost edge portions of the cookies project above the tray. The cookie filled trays are customarily enclosed in transparent flexible wrap, so that a customer may view the cookies in the package.

Packages of cookies of that type are usually stacked in shipping cartons, are shipped to retailers and are then removed from the carton and stacked on the retailers' shelves. When so stacked, the cookies in superposed packages are essentially in contact, i.e., they abut through the intermediate floor of the upper package and the flexible wrap. As such, the lowermost edge portions of cookies in an upper package substantially contact the upper edge portions of cookies in the next lower package, causing them to abrade during shipment and stacking, and causing them to break and crumble.

The result of such contact is that the cookies crumble and break filling the trays with crumbs and cookie pieces detracting from the appearance of the package, making trays of this type and packages utilizing them less attractive for use.

In accordance with this invention an improved cookie tray and an improved cookie package are provided. All of the advantages of prior art trays of the general type described may be retained, while the disadvantages resulting from the use of such trays which permit crushing contact of cookies during shipping and stacking of juxtaposed prior art packages incorporating such trays are avoided.

The tray of this invention is of a thin resiliently flexible plastic material. It includes a longitudinal cookie receiving compartment comprising sidewalls and a floor section, for nestingly receiving a stack of cookies positioned on edge therein. The floor section comprises a base and support means or ribs which together define a generally U-shaped channel. The cookies positioned in the compartment are supported therein so that when superposed wrapped packages incorporating such trays are stacked or are positioned on a horizontal support surface, the lowermost edges of the stack of cookies are spaced

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from an underlying stack of cookies or from the support surface.

To that end the support means serve to space the lowermost edges of the stack of cookies above the lowermost portion of the tray. In a preferred embodiment the stack of cookies in a tray is maintained in spaced relation to the floor or base of the tray and the floor and support means are resiliently flexible to cushion the cookies against vertical shock loads which might otherwise crush or crumble the cookies.

Preferably, the floor section is proportioned nestingly to receive the uppermost edges of an underlying stack of cookies, thereby to resist sidewise sliding movement to make an unsupported stack of packages much more stable than those utilizing known types of cookie trays of this general character.

Further objects, advantages and features of this invention will become apparent from the following description and drawings, of which:

FIG. 1 illustrates a stack of prior art cookie packages; FIG. 2 is a perspective view of an improved cookie package embodying the principles of this invention;

FIG. 3 is an enlarged cross-sectional view of a stack of cookie packages in accordance with FIG. 2, as though taken substantially along the line 3—3 of FIG. 2;

FIG. 4 is a bottom perspective view of a cookie tray of FIG. 2;

FIG. 5 is a view similar to FIG. 3 of a further embodiment of this invention;

FIG. 6 is a fragmentary view similar to FIG. 3 of another embodiment of this invention, as though taken substantially along the line 6—6 of FIG. 7;

FIG. 7 is a fragmentary side elevational view of a cookie tray of a package of FIG. 6; and

FIG. 8 is a view similar to FIG. 7 of a further embodiment of a cookie tray of this invention.

FIG. 1 illustrates a stack of packages exemplary of the prior art. Packages P each comprise a tray T defining a pair of elongate compartments Y nestingly accommodating longitudinal stacks of circular cookies C. Compartments Y comprise sidewalls and a floor contacted by the edges of the cookies. Each package is enclosed by transparent flexible wrap W. As will be seen in FIG. 1, a stack of packages P places the lower edges of the longitudinal stacks of cookies C against the floor of a tray T. The floor of the tray T bears directly against the next lower package of cookies C through the lightweight intermediate flexible wrap W. Any vertical pressure applied to the stack of packages P results in compression of the effectively contacting edges of superposed cookies C, tending to crumble and crush them. Furthermore, the generally flat bases of the compartments of the trays permit easy sidewise sliding of one package with respect to the next lower package, thereby resulting in a very unstable stack of packages. Freestanding stacks of packages P on a retailers' shelves frequently fall, further endangering the integrity of the cookies.

Referring to FIGS. 2 to 4, a cookie package 10 embodying the principles of this invention includes a thin, resiliently flexible transparent plastic tray 12, as of polystyrene, polypropylene or the like, containing longitudinal stacks or rows of generally circular, edge supported cookies C. The package is enclosed by transparent flexible wrap 14.

Cookie tray 12 is open-topped and defines a pair of longitudinal, parallel open-topped, closed-bottom cookie compartments 20. Each compartment 20 is defined by a pair of end walls 22 and a pair of concave sidewalls, including an outer sidewall 24 and an inner sidewall 26, for nestingly accommodating and receiving opposite side edge portions of cookies C. Inner sidewalls 26 merge up-

wardly in a longitudinal crest 28 which serves to space the compartments 20 and the stacks of cookies C from each other. The end walls 22 and outer sidewalls 24 terminate upwardly in a peripheral lip 30. The lip 30 and crest 28 all lie well below the upper edges of the cookies so that, as will appear, stacks of packages 10 will be effectively supported directly on upper edges of cookies in lower packages.

Sidewalls 24 and 26 preferably define a plurality of corrugations 32 to strengthen the sidewalls, and generally vertical ribs 34 may also be provided to strengthen end walls 22. Rigidifying ribs and struts, and denesting lugs (not illustrated) now known to the art may also be used.

In the embodiment of FIGS. 2 to 4, each compartment 20 terminates at its base in an integrally formed longitudinal, centrally located, downwardly projecting floor section 40. As best seen in FIG. 3, the floor section 40 comprises a wide floor or base 42 and spaced apart generally vertical support ribs 44 which together define a hollow longitudinal generally U-shaped channel opening upwardly into compartment 20 for receiving a lower edge portion of each cookie C in a stack. Ribs 44 cooperate with sidewalls 24, 26 of a compartment to space the lowermost edges of a stack of cookies above base 42 so that they will not bear against the upper edges of a stack of cookies directly beneath in a further, like package 10.

In FIG. 3, stacks of cookies C are illustrated substantially as being supported or suspended at a pair of spaced points in each compartment 20. The sidewalls 24, 26 merge into the downwardly projecting ribs 44 to provide longitudinal support edges 46 engaging cookies edges at spaced points straddling a lowermost edge portion, said points being spaced apart a distance less than the diameter of the cookies. Ribs 44 project vertically downwardly a sufficient distance so that the base 42 which extends between the lower extremities of the ribs 44 is spaced below the lowermost edge L of cookies C, even when a plurality of packages 10 are stacked on each other.

Preferably base 42 is formed to be slightly concave (when viewed from the bottom), thereby nestingly to receive the uppermost edge of a stack of cookies C in an underlying package. The interposed somewhat loose layers of very thin flexible wrap 14 do not interfere with such nesting nor with the action of the base and ribs 44. The width of base 42 is preferably such that it can flex inwardly to assume a greater degree of concavity when the weight of a stack of packages 10 tends to crush lower packages 10 of a stack.

Ribs 44 not only cooperate with the sidewalls effectively to suspend the cookies above the base or a support surface S, also cooperate with base 42 resiliently to cushion shock loads. The trays are quite thin, such as several mils thick, and are resiliently flexible. The initial concavity of base 42 is not as great as the degree of curvature of the underlying cookies. As such, base 42 can resiliently flex to a greater degree of concavity under vertical shock loads. Because ribs 44 incline slightly toward base 42, shock forces exerted against the cookies, hence against sidewalls 24, 26 and support edges 46, will tend resiliently to spring ribs 44 outwardly. This tends to cushion cookies against damage and crumbling contact with a lower stack or with surface 3.

The nesting relationship of the concave base 42 and the convex upper edge of the cookies C in a lower package serves to resist relative sidewise sliding movement when the cookie packages are in a free-standing stack. If the base of the tray was effectively flat, as with typical prior art trays, then the packages could easily slide sidewise, causing such stacks to tumble and the cookies to be damaged.

It is apparent that the cookies do not physically contact each other, or a support surface S, because of the interposed wrap 14 and base 42. However, when those simply lie, as between upper and lower cookies in the manner of the prior art, the cookies are in effective con-

tact and hence may be crushed and crumbled under shock and stacking loads.

Referring now to FIG. 5, packages 10' are essentially identical to those of the embodiment of FIGS. 2 to 4, except that the base 42' of tray 12' is formed to be substantially flat (as seen in the lowermost package 10'). The thin-walled resilient plastic material of which tray 12' is formed is sufficiently flexible so that when the flat compartment bases 42' are superposed with respect to a next lower package 10' the weight of the superposed packages will tend to deform the bases 42' into concave configurations, thereby nestingly to receive the uppermost edge of a stack of cookies in an underlying package, substantially in the manner of the embodiment of FIGS. 2 to 4, and with substantially the same results. The other advantages and features described in connection with FIGS. 2 to 4 inhere in the embodiment of FIG. 5.

Referring now to FIGS. 6 and 7, cookie packages 100 each include a transparent tray 112 containing longitudinal stacks of generally circular cookies C. Each package 100 is enclosed by transparent flexible wrap 114. Like the tray described in connection with FIGS. 2 to 5, cookie tray 112 is open-topped and defines at least a pair of longitudinal parallel cookie compartments 120. Each compartment 120 is open-topped and is defined by a pair of end walls 122 and a pair of concave sidewalls 124 for nestingly accommodating side edge portions of cookies C. Inner sidewalls 124 merge upwardly into an elongate longitudinal crest 128. A peripheral lip 130 circumscribes package 100. The sidewalls may be suitably corrugated and tray 112 may incorporate rigidifying ribs and struts, denesting lugs, and the like. Crest 128 and lip 130 terminate well below the upper edges of the cookies so that stacks of cookies in superposed packages will bear directly against a next adjacent package.

Each compartment 120 terminates in a centrally located floor section 140. As best seen in FIG. 6, floor section 140 comprises an integral base 142 and support means including spaced apart generally vertical continuous elongate support ribs 144. Support ribs 144 and base 142 define a hollow longitudinal channel opening downwardly for nestingly receiving an upper edge portion of cookies C in an underlying package 100. The lowermost edges of the cookies in the package 100 are supported on base 142, but are spaced above the plane defined by the lowermost support edges 146 of support ribs 144.

Ribs 144 resiliently support a package 100 against the upper edges of a stack of cookies in an underlying package, or against a support surface S, and project vertically downwardly sufficiently far so that the lower edges of an upper stack of cookies is always spaced from the upper edge of an overlying stack of cookies by a distance greater than the thickness of the interposed layers of flexible wrap 114 and base 142, even when a plurality of such packages are stacked upon each other.

This spacing and arrangement of the ribs 144 and base 142 defining the hollow channel also serves nestingly to receive the uppermost edge of a stack of cookies in an underlying package, thereby to resist relative sidewise sliding movement, for the purposes expressed in connection with the embodiment of FIGS. 2 to 4. Further, the rib means 144, because of the thin material of which they are formed, are capable of flexing outwardly, thereby to cushion the effect of shock loads generally in the manner described above.

Structurally, the embodiment of FIG. 8 is the same as that of FIG. 7, except that the support ribs are segmental rather than continuous. Support rib segments 144' are spaced close enough together to prevent collapse of a tray 112' when filled and stacked in the manner described in connection with the embodiment of FIGS. 6 and 7, and serve to perform all of the functions of ribs 144.

In all of the embodiments it will be seen that generally vertically oriented support means serve to resilient-

ly space the lower edge of cookies in a tray from the upper edge of cookies in an underlying tray or from an underlying flat support surface. In the case of curvilinear cookies, such as circular cookies, the base of a tray and the support means define a longitudinal hollow channel for receiving the free edges of a stack of cookies and for spacing those free edges from vertically confronting cookie edges by a distance substantially greater than the thickness of the tray base and interposed flexible wrap.

It is intended that this invention shall not be limited to the specific embodiments illustrated and described since the foregoing description and drawings will suggest to those skilled in the art further modifications which are within the spirit and purview of this invention.

What is claimed is:

1. A stackable cookie package, comprising a thin resiliently flexible plastic tray defining at least two parallel open-topped longitudinally extending compartments, each of said compartments containing a longitudinal stack of cookies of uniform size and shape standing on the edge therein and projecting upwardly beyond said plastic tray, said tray and cookies being enclosed in a flexible plastic wrapper, each of said compartments comprising longitudinal sidewalls terminating at their lower edges in an elongate centrally located floor section, said floor section being proportioned stably to support a said package on a horizontal support surface, said sidewalls nestingly accommodating side edge portions of a longitudinal stack of cookies, said floor section comprising a base and spaced apart elongate longitudinal support means for spacing the lowermost edges of a longitudinal stack of cookies in a first upper package from the uppermost edge of cookies in a like lower package.

2. A stackable cookie package in accordance with claim 1, wherein said cookies define a curvilinear edge and said sidewalls are concave.

3. A stackable cookie package in accordance with claim 2, wherein support means project upwardly from said base and said lowermost edges are spaced above said base.

4. A stackable cookie package in accordance with claim 2, wherein said cookies are circular and said support means and sidewalls engage said stack of cookies to suspend said stack above said base.

5. A stackable cookie package in accordance with claim 4 in which said cookies are circular and said floor section is wide, and said floor section nestingly receives uppermost edges of cookies in a like lower package to resist transverse sliding movement of said packages.

6. A stackable cookie package in accordance with claim 4, wherein said support means are elongate ribs

projecting downwardly from said sidewalls and terminating in said base, said base and said ribs defining a generally U-shaped channel into which the lowermost edges of said cookies depend.

7. A stackable cookie package in accordance with claim 6, wherein said base is concave to nestingly receive the uppermost edges of cookies in a like lower package to resist transverse sliding movement of said stackable cookie package.

8. A stackable cookie package, comprising a thin resiliently flexible plastic tray defining at least two parallel open-topped longitudinal cookie compartments, each of said compartments containing a row of generally circular cookies of a generally uniform diameter standing on edge therein, and projecting upwardly beyond said tray, and a wrapper enclosing said cookies and tray, each said compartment comprising arcuate sidewalls and a base, and rib means associated with said sidewalls for suspending said row of cookies above said base, said rib means and said base together defining a channel opening upwardly into said compartment for receiving lower edge portions of said cookies in spaced relation to said base, whereby when a plurality of said packages are stacked, the said ribs and base of each package resiliently cushion said cookies against crushing and crumbling contact with cookies in a like package directly beneath.

9. A stackable cookie package in accordance with claim 8, wherein said sidewalls merge into said rib means and there define longitudinal edges spaced apart a distance less than the diameter of the cookies for suspending the cookies above the base of the tray.

10. A stackable cookie package in accordance with claim 9 wherein said base is flexible and is proportioned to nestingly receive upper edge portions of a stack of cookies in a like package therebeneath, thereby to resist transverse sliding movement of a stack of said packages.

11. A stackable cookie package in accordance with claim 10, and wherein said base is concave.

References Cited

UNITED STATES PATENTS

3,234,030	2/1966	Knirim	229—2.5 X
3,493,164	2/1970	Edwards	229—2.5
3,349,943	10/1967	Box	220—97 R X
3,372,812	3/1968	Parcels	211—126 X
3,212,907	10/1965	Caprioli	99—171 CT

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