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R. F. REIFERS
FOOD CONTAINER
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3,027,997

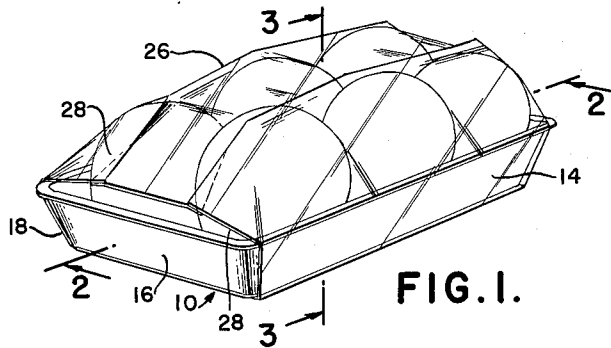


FIG. 1.



FIG. 6.

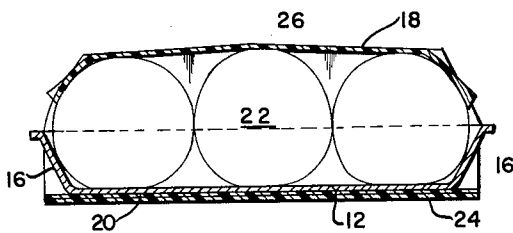


FIG. 2.

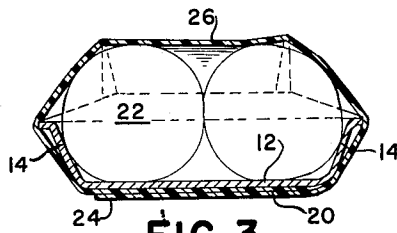


FIG. 3.

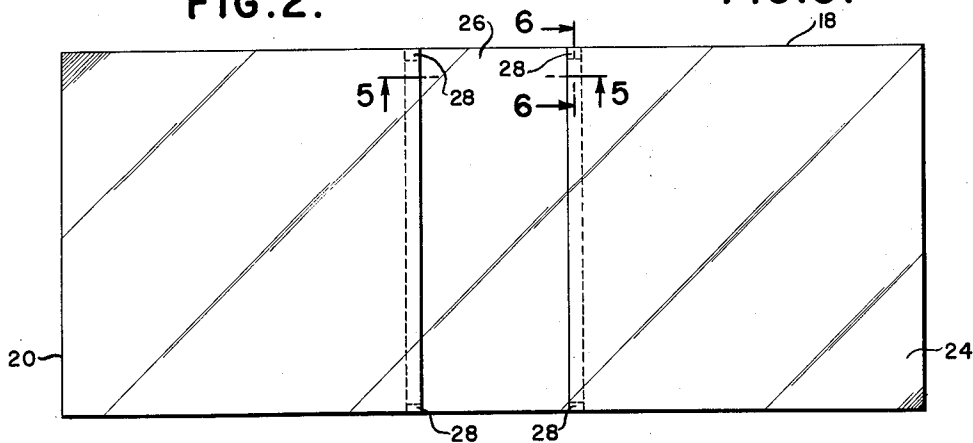


FIG. 4.

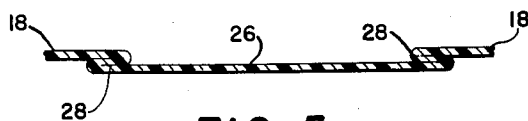


FIG. 5.

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FOOD CONTAINER

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9 Claims. (Cl. 206—45.33)

This invention relates to a container and has for one of its objects the provision of a container having a semi-rigid support for objects that are to form the contents of the container, and a flexible, transparent sheet or wrapper that is secured to the support as a unit therewith, and which transparent wrapper is so formed that it will conform to the shape of the objects packaged therein and yet will adhere closely to the edges of the support and may be secured to the support so as to enable securing the same to itself in enclosing or encircling relation to the support and its contents.

The use of thermosealing plastic material such as regenerated cellulose, cellophane, polyethylene, chlorinated rubber and rubber hydrochloride, in the packaging of goods is popular for the reason that the plastic material is transparent, thus enabling the contents of the package to be seen and at the same time protecting said contents. Where rigid or semi-rigid containers or supports for the objects to be packaged have been used, the usual method of enclosing the container and its contents where the thermosealing material is used, has been to provide a strip of said material which is wrapped thereabout to totally enclose the container and its contents and the thermosealing material is heat sealed onto itself on the bottom of the container.

This structure obviously has its limitations, especially when packaging produce, and an improvement has been suggested wherein the flexible sheet and the container are provided as a unit with one end thereof attached to the bottom of the container. Once the container is filled, the sheet is merely swung over the contents and thence under the container to overlap the one end and is secured thereto.

This structure also has its limitations in that when the width of the sheet and the container are the same and when the sheet is wrapped about the produce, there is a gap between the unattached sides of the sheet and the container. This gap is troublesome in that the produce can fall out of the gap when the package is inverted. When the wrapper is pulled more tightly around the container to lessen the gaps, the sheet which is susceptible to tearing is often split with the result that the produce is lost or damaged and the package rendered useless.

It is therefore an object of the present invention to provide an improved container for rapidly and efficiently forming into a package that encloses and securely holds the contents on a semi-rigid support having a transparent and flexible cover.

Another object of the present invention is to provide an improved container having a transparent and flexible wrapper adapted to encircle a semi-rigid support holding the contents in such a manner that the wrapper closely follows the contour of the support and contents without forming large gaps at the unattached edges.

A still further object of the invention is to provide an improved wrapper adapted to encircle a container and its contents and which closely follows the contour of the contents without forming large gaps at the unattached edges.

Another object of the present invention is to provide an improved package including a container its contents extending thereabove, and a wrapper adapted to closely follow the contour of the contents without forming large gaps at the unattached edges.

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Other objects and advantages will appear in the drawings and in the description.

In the drawings:

FIG. 1 is a perspective view of the container and contents;

FIG. 2 is a cross-sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view taken along the line 3—3 of FIG. 1;

FIG. 4 is a top plan view of the wrapper before it is attached to the container;

FIG. 5 is a cross-sectional view along the line 5—5 of FIG. 4; and

FIG. 6 is a cross-sectional view along the line 6—6 of FIG. 4.

In accordance with this invention, the wrapper is so arranged as to reduce the dimension of the outer edges thereof in the intermediate portion thereof with respect to the central portion of the wrapper so that in encircling the container and produce contained therein the wrapper will give a contoured or covered wagon effect. In this manner the wrapper will adhere closely to the produce being packaged without excessive wrinkling in the central areas and yet will approach the container on each side to prevent the large gaps that would otherwise occur.

Referring to the drawings, the container illustrated in FIG. 1 consists of a semi-rigid support generally designated 10, having a bottom wall 12, side walls 14, end walls 16 and an open top. This support may be used for the packaging of various food products and is especially suitable for packaging produce.

The wrapper 18 used for encircling the container and the produce contained therein is made of a transparent, thermoplastic, thin, flexible sheet material, such as cellophane, polyethylene and the like. One end thereof 20 is secured to and underlies the bottom wall 12 of the support 10. This end portion that so underlies the bottom wall 12 of the support may be cemented, glued or otherwise suitably secured to the support, and while the latter is usually made of cardboard or molded from paper pulp, it may be of any suitable material, such as wooden or plastic berry boxes. The support 10 and the wrapper 18 may be secured together as a unit for shipping, handling, filling and closing purposes.

The remainder of the wrapper 18 that projects from the bottom extends away from one of the sidewalls 14, and the width of the strip is preferably substantially equal to the distance between the end walls 16, hence none of the wrapper projects outwardly of the end walls of the support.

The wrapper 18 is of sufficient length to extend completely around the support 10 and any products or objects to be packaged therein, such as, for example, tomatoes, lemons, oranges, or any other fruits or vegetables 22. The end portion 24 of the wrapper 18 that is opposite the end portion 20 is adapted to overlap the latter to a more or less degree according to the size of the objects 22, hence the end portions 20 and 24 can be heat sealed together after wrapping the wrapper around the support 10 and the objects 22.

The central portion 26 of the wrapper 18 intermediate the end portions 20 and 24, is so shaped as to provide a covered wagon effect in the portion of the wrapper adjacent to the objects 22. This is accomplished by reducing the length of the wrapper adjacent the end walls 16 with respect to the length of the wrapper in the central portion along the intermediate portion of the wrapper. As illustrated in the drawings, this can be accomplished by forming a plurality of pleats 28 along each edge of the wrapper adjacent to the end walls 16. These pleats may be formed by heat sealing the folds of the pleat together for a short distance inwardly from the edges of the

wrapper, with the intermediate portions unsealed. Thus, the wrapper will remain flat until used. When the wrapper is wrapped tightly over the support and the objects packaged therein, the intermediate portion of the wrapper will open up to follow the contour of the objects while the outer pleated edges will follow the top surface of the end walls 16 making only a small gap at the sides which will not permit removal of the contents.

It is contemplated that other methods of reducing the dimension on the outer edges of the wrapper can be utilized. For example, by chemical treatment, using a volatile solvent, the edges of the wrapper could be caused to shrink in dimension either by an overall smooth shrinkage or puckering. The edges could be reduced in dimension by use of a hemming or gathering device utilizing heat, for example. This would yield a very uniform mechanical shrinkage along the edges. It is also contemplated that portions along the edge could be die cut and then joined together. Conversely, the intermediate portion of the wrapper could be expanded by heat or vacuum to yield the same effect of lesser dimensions along the two edges than along the intermediate portion.

Thus, it is seen that by reducing the dimension of the wrapper on the outer edges so as to create a covered wagon effect in the overwrapping of the support and objects, a greater protection is given to prevent the objects from falling out of the supports.

As illustrated, the intermediate portion of each wrapper is provided with two pleats, the folds of which extend across the entire width of the wrapper but which are heat sealed together only at the two outer edges of the sheet. The central portion of each pleat thus is unsealed and remains flattened until ready for use. It is contemplated that a roll of the wrapper material can be made with the pleats at the proper spacing therein, and the wrappers of the proper length can be cut therefrom as they are attached to the bottom surface of the container.

Although FIG. 4 of the drawings shows a wrapper with two pleats at each edge, it should be understood that a larger number of pleats could be used, or even a single pleat, and that the pleats can be staggered along opposite sides of the sheet if desired.

It will be obvious to those skilled in the art that various changes may be made without departing from the spirit of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A package comprising a support having a horizontal bottom wall and upstanding side walls and end walls integral with said bottom wall and an open upper side, said side walls, end walls and bottom wall being of semi-rigid material, objects to be packaged resting on said bottom wall, said objects extending above the height of the side walls and end wall of said support, a rectangular thin flexible sheet of wrapping material having a width substantially the same as the width of said bottom wall and a length sufficient to extend across the bottom wall, over the side walls, across the open upper side including the packaged material, and again across the bottom wall, said wrapping material being secured at one end thereof to the underside of said bottom wall, wrapped around said holder and contents, and secured at its other end into underlying lapping relation to said one end, the intermediate portion of said sheet which extends over the open upper side of said support and the objects extending upwardly therefrom having its outer edges adjacent the end walls reduced in dimension with respect to the central portion between said edges to form a covered wagon effect over the objects in the support extending from one edge of the sheet adjacent to one end wall of the support to the other edge of the sheet adjacent to the other end wall of the support.

2. A package in accordance with claim 1 wherein said outer edges of the intermediate portion of said sheet are reduced in dimension by the formation of at least one pleat in each outer edge the folds of which are secured together only at the outer edge and which are unsecured in the central portion thereof.

3. A package in accordance with claim 1 wherein said outer edges of the intermediate portion of said sheet have been reduced in dimension by the shrinkage of the edge portions with respect to the central portion thereof which remains unshrunk.

4. A container adapted for the packaging of objects comprising a support having a horizontal bottom wall and upstanding side walls, and end walls integral with said bottom wall and an open upper side, said side walls, end walls and bottom wall being of semi-rigid material, a rectangular thin flexible sheet of wrapping material having a width substantially the same as the width of said bottom wall and a length sufficient to extend across the bottom wall, over the side walls, across the open upper side including the objects to be packed in said support, and again across the bottom wall, said wrapping material being secured at one end thereof to the underside of said bottom wall to fixedly hold said sheet on said support in a predetermined position for wrapping about said support and its contents, the intermediate portion of said sheet which is adapted to extend over the open upper side of said support and the objects therein having its outer edges which will lie adjacent the end walls reduced in dimension with respect to the central portion between said outer edges to form a covered wagon effect in the intermediate portion of said sheet when the sheet is wrapped tightly around the support and its contents with the edges of the sheet being positioned adjacent to the upper surfaces of the end walls of the support to prevent removal of the contents.

5. A container in accordance with claim 4 wherein said outer edges of the intermediate portion of said sheet are reduced in dimension by the formation of at least one pleat in each outer edge the folds of which are secured together only at the outer edge and which are unsecured in the central portion thereof.

6. A container in accordance with claim 4 wherein said outer edges of the intermediate portion of said sheet have been reduced in dimension by the shrinkage of the edge portions with respect to the central portion thereof which remains unshrunk.

7. A wrapper which is adapted for encircling an open top container having articles packaged therein extending above the height of the side and end walls of said container, comprising a rectangular, thin, flexible sheet of wrapping material, said sheet having a width substantially the same as the length of the side walls of the container and a length sufficient to encircle the container and its contents and to overlap a distance sufficient for sealing, the intermediate portion of said sheet which is adapted to extend over the open top of said container having its outer edges which are adapted to lie adjacent the end walls of the container reduced in dimension with respect to the central part thereof, between said outer edges whereby a covered wagon effect over the articles in the container will be obtained when the wrapper is applied to the container.

8. A wrapper which is adapted for encircling an open top container having articles therein extending above the height of the side and end walls of said container, comprising a rectangular thin, flexible sheet of wrapping material, said sheet having a width substantially the same as the length of the side walls of the container and a length sufficient to encircle the container and its contents and to overlap a distance sufficient for sealing, the intermediate portion of said sheet having at least one pleat extending across the width thereof, the folds of each pleat being secured together at each edge but unsecured at the central portion thereof, whereby a flat wrapper is obtained yet when pressure is applied across the central portion of

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the intermediate part when using said wrapper the sheet will extend to yield a covered wagon effect over the articles in the container.

9. A wrapper which is adapted for encircling an open top container having articles packaged therein extending above the height of the side and end walls of said container, comprising a rectangular, thin, flexible sheet of wrapping material, said sheet having a width substantially the same as the length of the side walls of the container and a length sufficient to encircle the container and its contents and to overlap a distance sufficient for sealing, the intermediate portion of said sheet having its outer edges reduced in dimension by shrinkage of the edge portions with respect to the central portion thereof.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,789,699	Durham	Jan. 20, 1931
1,933,516	Rosen	Oct. 31, 1933
2,130,445	Bemiss	Sept. 20, 1938
2,281,165	Miller	Apr. 28, 1942
2,705,104	Vogt	Mar. 29, 1955
2,708,028	Murphy et al.	May 10, 1955
2,763,422	Oakes	Sept. 18, 1956
2,780,401	Stevens	Feb. 5, 1957

FOREIGN PATENTS

24,546	Great Britain	1898
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