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2,652,335

PACKAGE

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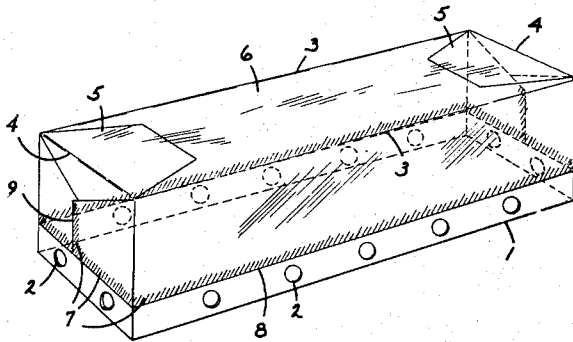


Fig. 1

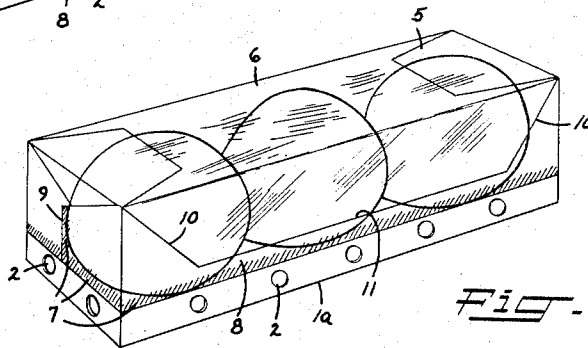


Fig. 2

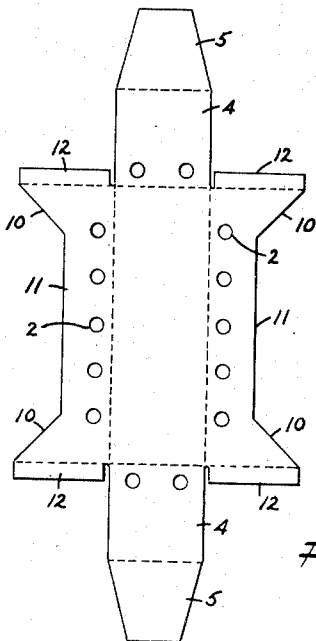


Fig. 4

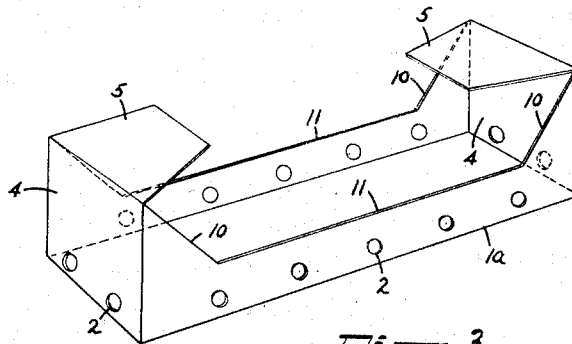


Fig. 3

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PACKAGE

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1 Claim. (Cl. 99—171)

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This invention relates to a new and improved package or carton and more particularly to a new and improved package for perishable foods such as fruits, vegetables, and other products which undergo a ripening process and are liable to rot.

In packaging fruits, vegetables, etc. for sale or shipment it is necessary that they be so packed as to permit the passage of air around them to prevent perishing or rotting. Also many fruits, that have to be shipped long distances before ultimate delivery to the consumer, are picked at such a state during their growth, or when green, that they will be passed on to the consumer in a ripened condition. Tomatoes are an example of such a vegetable.

It is the conventional practice to package tomatoes while green in an elongated trough-like carton, usually made of stiff cardboard, which in turn is completely enclosed with a transparent sheet of cellulose acetate so as to hermetically seal the package. Sometimes the top of the elongated trough-like cardboard carton is left open so that when wrapped with a sheet of cellulose acetate film, a package is produced having a transparent top, still hermetically sealed however. When attempts have been made to substitute cellophane for the cellulose acetate sheet in such a package, rotting frequently occurred before ripening of the tomatoes. This was explained by the fact that no air could get to the tomatoes which is necessary for proper ripening and is attributable to the fact that cellophane is impervious to the passage of air therethrough and also to moisture when coated cellophane is employed. This has led to the desire for a new package in which cellophane is employed in such a manner as to permit ripening of the fruit without rotting.

It is an object of the present invention to overcome the aforementioned difficulties and provide a package for fruits, vegetables, and the like, consisting of an elongated carton having a transparent face or top of a transparent flexible sheet material and so constructed as to permit the passage of air in and around the fruit, etc., in the package.

Other objects will appear hereinafter and be apparent from the following description.

The objects of the invention are accomplished by providing a carton of self-sustaining cardboard, i. e., cardboard which is sufficiently stiff so that it will maintain its shape when once folded, or any other suitable material, having a base, two ends and two sides, along the sides

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and/or ends of which there are provided suitable openings for the passage of air therethrough. A cellophane sheet is placed over the box in such a manner so that it does not cover the openings in the sides of the carton. The cellophane is suitably folded at the ends of the carton and is sealed to the carton on both sides and ends of the same along the lower edge of the cellophane sheet. Sealing is accomplished by means of heat and slight pressure being applied at the point or points where sealing is desired. Any suitable thermoplastic adhesive may be applied along the edges of the cellophane, or cellophane which has been previously coated with a transparent heat-sealing lacquer may be employed. (As an example of such a lacquer see U. S. Patent 2,394,009). The amount of heat and pressure necessary to apply the cellophane to the carton is not sufficient to damage the contents of the package due to the rigidity of the same in view of the stiff cardboard.

Although the present invention is described with particular reference to tomatoes and cellophane, this is intended to be merely illustrative and not limitative. Any perishable fruit or vegetable, and the like may be packed in the package described herein. The transparent flexible cover may be a sheet of regenerated cellulose, cellulose ethers, cellulose esters, resinous films such as vinyl resin and the like, etc.

Preferred embodiments of the invention are shown in the accompanying drawings, in which Fig. 1 is a perspective view of one embodiment of the invention,

Fig. 2 is a perspective view of another embodiment of the package with the cellophane cover applied and packed with fruit,

Fig. 3 is a view of the assembled trough-like cardboard container shown in Fig. 2, and

Fig. 4 is a plan view of the cut cardboard blank before assemblage into a container.

Referring to the drawing in detail and particularly to Fig. 1 it can be seen that the package comprises a trough-like cardboard container or carton 1 having spaced openings 2 in the side and endwalls of the carton and preferably near the base thereof. The sidewalls 3 are of the same height as the endwalls 4. Extending inwardly of the trough-like carton from the upper edges of the endwalls 4 are cardboard flaps 5. The purpose of the flaps is to lend support to the flexible cover of cellophane 6, particularly at the corners where tearing is first likely to occur. If desired, the flaps may be omitted in this particular embodiment of the invention. Also the openings in the endwalls may be omitted.

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The rectangular cellophane cover, having an adhesive layer 7 along all four of its edges, is placed over the box in such a manner that its lower edge 8 is spaced above the sidewall and endwall openings 2. The cellophane cover is sealed to the sidewall of the carton by means of heat and slight pressure. The portion of the cellophane cover extending beyond the ends of the trough-like cardboard carton are folded down in conventional manner against the endwalls of the carton, as shown at 9, and its edges 7 sealed to each other and against the endwalls of the carton by means of heat and slight pressure.

The green tomatoes, or other fruit or vegetable, are placed in the trough-like cardboard carton before the application of the transparent cellophane cover. The heat and pressure employed in sealing the cellophane cover to the cardboard carton are not sufficient to damage the fruit, etc., contained in the carton.

Fig. 2 illustrates another and preferred embodiment of the invention where the package comprises a trough-like cardboard container or carton 1a having spaced openings 2 in the side and endwalls preferably near the base of the carton. The upper edge 11 of the cardboard sidewall slopes upwardly at 10 to form deeper endwalls from the top of which cardboard flaps 5 extend inwardly of the trough-like carton. The purpose of the flaps in this preferred embodiment is the same as that described in connection with the embodiment shown in Fig. 1 with one exception, namely, the flaps cannot conveniently be omitted here. It should be pointed out that the openings in the endwalls may be omitted in the embodiment shown in Fig. 2.

In Fig. 3 there is shown in detail the assembled trough-like cardboard container such as employed in the preferred embodiment of the invention shown in Fig. 2.

In Fig. 4, which shows a plan view of the trough-like container of Fig. 3 laid out flat before assembly, the dotted lines signify the points at which the cardboard is folded. A suitable adhesive is applied to the flaps 12 which in turn are fastened to the endwalls 4. If desired these flaps may be fastened to the endwalls by means of metal clips or the like.

There are numerous advantages in the present invention principal among which is the fact that impervious cellophane is capable of being used in a package for perishable foods while still permitting the admission of air to the package to prevent deterioration of the packaged foods. This is further accomplished with an integral sheet or covering, i. e. without having to cut openings in the cellophane sheet which would tend to weaken the same. By this is meant that tears will start at the point where the cellophane is cut. This is characteristic of most non-fibrous sheet materials.

The cellophane top, being transparent, permits inspection of the food by the consumer before purchase as well as providing an attractive package thus enhancing the salable quality

of the goods contained therein. The transparent wrapper or section permits inspection without undesirable handling of the merchandise. It prevents dust, dirt, and foreign material from coming in contact with the food in the package. If desired, a cellophane sheet which has been dyed may be employed. In this way many desirable color combinations may be attained thus presenting a more beautiful package for the prospective buyer and still keeping the package cover sufficiently transparent to allow inspection of the contents of the package.

In the case of former hermetically sealed packages of the present type when placed in a cool place, such as a refrigerator, the moisture in the air in the sealed package would condense on the inner surface of the transparent cover thus rendering the cover no longer transparent. This difficulty is alleviated by means of the present invention since the openings allow for free passage of cool air into the package and quickly enough to prevent undesirable moisture condensation.

There are many advantages to the new and improved package of the present invention and the same will be obvious to those skilled in the art.

It is to be understood that the description above is merely illustrative and that changes and variations may be made without departing from the spirit and scope of the invention as defined in the appended claim.

I claim:

A new and improved package of fruit, vegetables and other plant products which undergo a ripening process and are liable to rot comprising an elongated trough-like paper carton having a base, sidewalls, endwalls, and an open top, a plant product of the aforesaid type resting on the base and confined thereon between the endwalls and sidewalls of the carton, spaced ventilating openings in the sidewalls and endwalls, said openings being near the base, flaps extending inwardly from the upper edge of the endwalls, and a flexible transparent integral covering consisting of a single rectangular sheet of cellophane having straight edges, said covering extending over the open top and sealed to the outside of the upper portions only of the sidewalls and endwalls with an adhesive layer along all four of its edges, the lower marginal edges of said covering defining an unbroken line lying in a plane above said openings, substantially parallel to the base and spaced therefrom.

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