Sept. 3, 1968 R. R. KUNS ET AL 3,399,546

WET-ICE DISPLAY CONTAINER

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Fig. 1

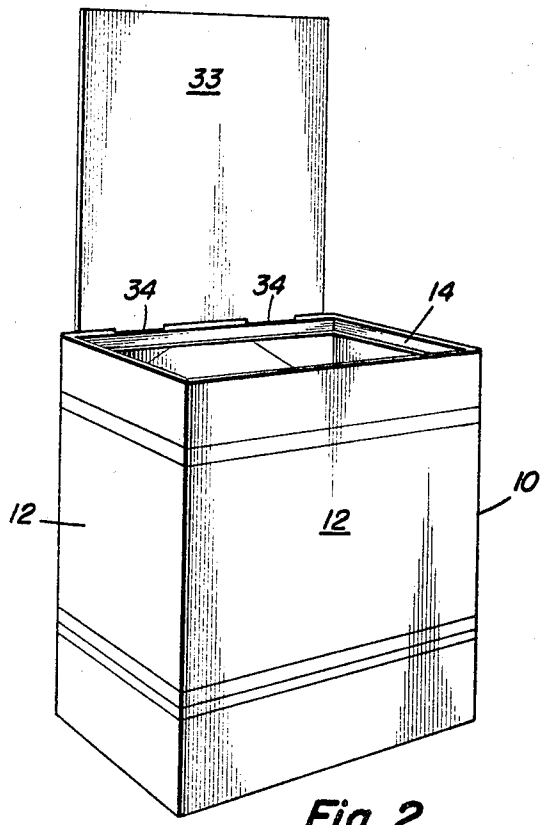


Fig. 3

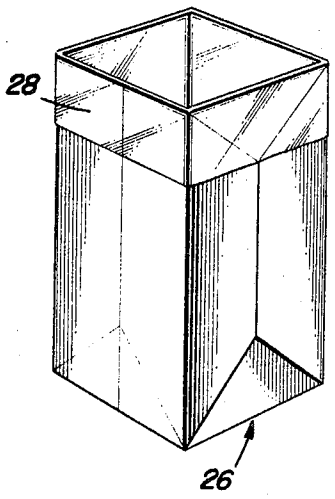
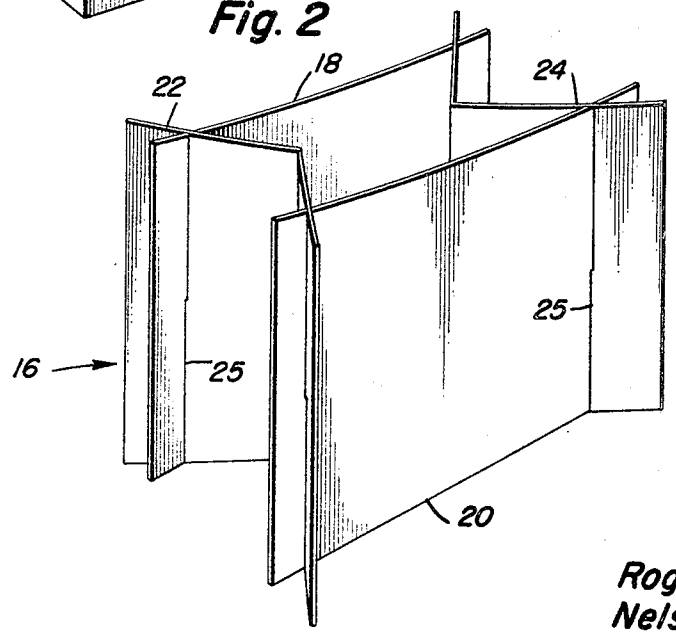


Fig. 2



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Fig. 4

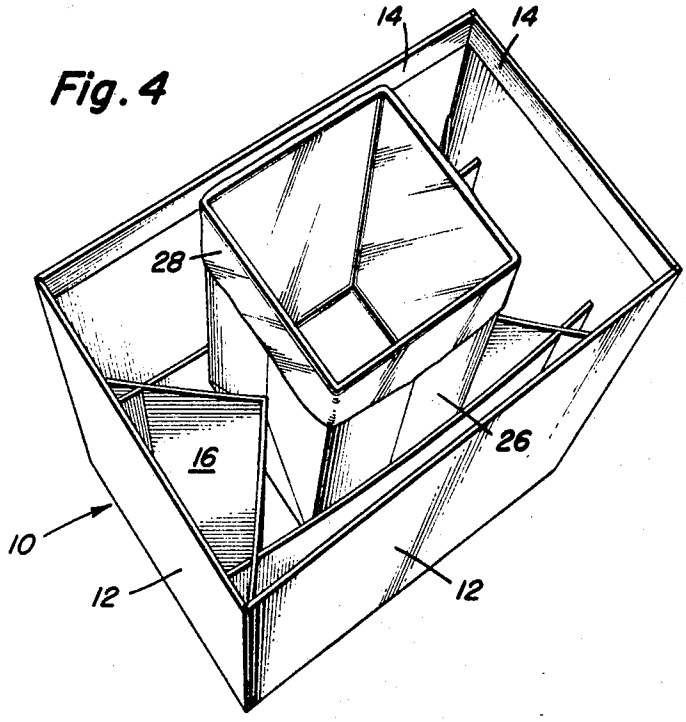
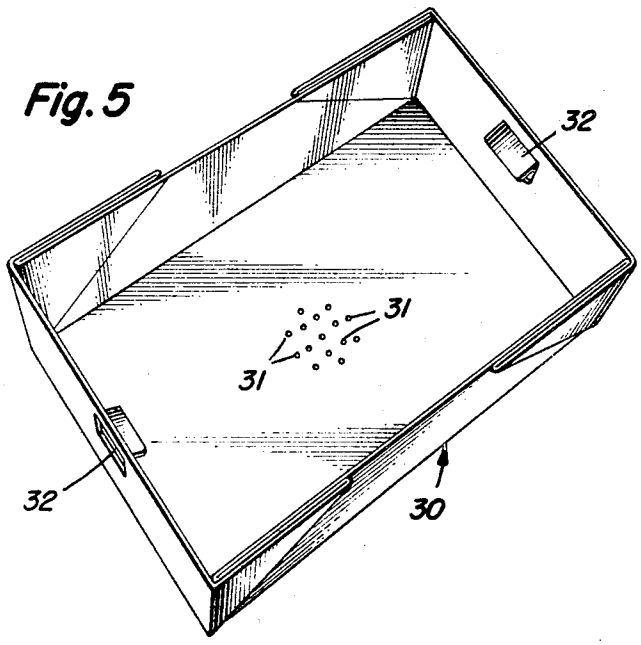


Fig. 5



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WET-ICE DISPLAY CONTAINER

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ABSTRACT OF THE DISCLOSURE

A portable refrigerating display container is presented which employs as separate and distinct elements, a combination product and refrigerant tray; a water box for catching and retaining the refrigerant effluent; a base member for surrounding the various elements; and, a partition element which gives the base integrity, supports the product and refrigerant tray, and locates the water box.

This invention relates to a display device and has to do with a portable container for displaying for sale refrigerated products away from the typical dairy case.

It is well known to provide in stores or markets dealing in comestibles, open top refrigerated containers for the display and sale of foods. Such containers, however, are usually permanently installed at predetermined locations, are connected to stationary refrigeration means, and are of substantial weight. In many food stores it frequently is desirable to promote a certain refrigerated article either by means of a special display or special sale. It is important, then, in order to carry out the purpose, that the article being promoted be placed in a strategic location while being effectively refrigerated to maintain it in a wholesome and attractive condition. The presently known refrigerated containers are obviously not readily portable and are not suitable for special display purposes at different selected locations. Our invention therefore is designed to overcome the above deficiencies and to provide a display cabinet for comestible articles which is atractive in appearance, of comparatively light weight, is effectively refrigerated and requires a minimum amount of attention. The display container of our invention is constructed of corrugated paperboard with resultant low cost and light weight, and possesses adequate mechanical strength for its intended use. The elements of the container are so constructed and arranged that they can be set up or assembled with expedition and facility and as readily disassembled and, when disassembled, can be folded flat so as to occupy but little space, for shipment or storage.

The display container specifically employs the use of wet ice refrigerant and comprises five basic elements. The outer part of the container is in the form of an open top base member into which is inserted a suitable partition element designed to maintain the integrity of the container in the assembled condition and support the product tray. The display container further comprises a plastic lined water box adapted to fit inside the partition element beneath the product tray and collect the water runoff from the wet ice refrigerant. The other elements of the container are the product tray itself which houses both the wet ice refrigerant and the product, and a riser card which is secured to the base element and provides space for advertisements or the like.

The description will be more readily understood by referring to the accompanying drawings and more detailed description.

In the drawings:

FIGURE 1 is a perspective view of the assembled display container;

FIGURE 2 is a perspective view of the partition element to be placed in the base member;

FIGURE 3 is a detail view of the plastic lined water box;

FIGURE 4 is a perspective view of the water box partially assembled between the partition; and

FIGURE 5 is a detail of the product tray.

The container of our invention includes a body or open top corrugated base member **10** which comprises four side panels **12** and a bottom formed from four flaps. The base member is erected by folding the four bottom flaps inward to a squared position, and then fixing the top of the base by folding over small lip elements **14** provided therefor to give the open top a smooth upper edge. The riser card **11** is shown attached at the upper edge of base member **10**. In the preferred embodiment the base member **10** is cut, scored and pre-formed prior to shipment to the user. It is shipped in a folded condition which then requires only the simple steps outlined above for assembly.

The partition element generally designated **16** and shown assembled in FIGURE 2 includes two straight pieces of corrugated board **18, 20** which extend from one side of the base member to the other, and two V shaped pieces **22, 24** which interlock by means of complementing cuts along line **25** with the straight pieces **18, 20** to form a unitary partition element in the assembled condition. The respective pieces are shipped to the user in a flattened and inerlocked condition for assembly at the point of us. After assembly of the partition element **16**, it is placed inside the base member in such a manner that the curved upper edges of each piece of corrugated board is located at the top of the base. This feature allows the bottom of the product tray to assume a dished configuration when loaded to enhance the run-off of the refrigerant effluent. The various pieces of corrugated board forming the partition element **16** are pre-cut and scored for easy assembly and are of an overall height which is less than the height of the base member which allows space at the top of the base member for the placement of the product tray. As shown in FIGURE 2, the partition element **16** is arranged in its erected condition so as to provide a space in the center of the partition into which the plastic lined water box is inserted. With the partition element **16** thus assembled and placed in the base member **10**, a structure is realized which keeps the base member in an extended position.

Water box **26**, illustrated in FIGURE 3, is preferably a wax-impregnated corrugated box which is shipped to the user in a folded, flat condition. The water box is pre-cut, formed and scored to allow easy assembly at the point of use. It is erected by pushing down at its center until the bottom is flat. The water box is shipped to the user pre-lined with a plastic bag **28** and when assembled is placed into the center of the partition element where it is securely held as shown in FIGURE 4. The water box **26** and partition element **16** are of the same height so that space remains inside the base at the top for the product tray, and the water box is accordingly positioned to catch and retain the effluent from the refrigerant in the product tray.

FIGURE 5 shows in detail the construction of the refrigerant housing and product tray. This element **30** is also preferably a wax-impregnated corrugated construction which is pre-cut, formed and scored at the factory and shipped to the user in a flattened form. Drain holes **31** are provided in the bottom center of the product tray to allow run-off of the refrigerant effluent and hand hole cut-outs **32** are located in each side panel to enable the product tray **30** to be removed from the display when the water box **26** requires emptying. In actual practice the product tray **30** may be kept full of ice without emptying the water from the water box **26** for up to one week. Since the ice is generally separated from the water the ice lasts longer.

The display is designed to maintain the product at 40 to 53 degrees Fahrenheit for approximately six days. A preferred embodiment of the display includes a base member **10** measuring 26 x 18 inches, thus giving a compact yet efficient display which should result in more volume and profit for the user. A unit of the size mentioned above can hold as much as 20 pounds of ice and the plastic bag **28** can hold more water than would be generated during a six day period. It should be noted that the wet-ice display requires neither electricity nor constant attention. Only daily servicing with ice being necessary.

As a final step in the assembly of the display container of our invention, the riser card **33** shown in FIGURE 1 is attached to the base member in any well known manner. Preferably the riser card is shipped to the user with pre-cut tongue members at its bottom to enable quick and easy assembly with cooperating slots **34** in the base member **10**.

It will be appreciated, then, by one skilled in the art, that we have invented a new and unique corrugated point of purchase display which uses wet ice as its refrigerant. The display increases the opportunity for tying in displays of dairy items with products usually merchandised away from the typical dairy case.

As previously noted, the partition element **16** (FIGURE 2), water box **26** and product tray effectively maintain the base member **10** of the container in its extended set up condition. The partition element and water box when assembled fit completely inside the base member leaving space at the top thereof for placement of the product tray. In that manner the product tray rests squarely on the partition element and water box, the perforations in the product tray being oriented directly over the plastic lined water box. The display container is accordingly well suited for supporting heavy loads. Further by transmitting the load directly to the base member, the latter is stabilized by the load so as to reduce the possibility of tipping over the cabinet in the event of its being knocked against inadvertently.

It will be clear, from what has been said, that the various elements of the display container, including the base member, may all be folded flatwise so as to occupy but little space for convenience in either storage or for shipment. The complete display container when disassembled and folded, may readily be shipped in an appropriate container of moderate size and, being formed of corrugated paperboard, is comparatively light and well suited for shipment. The various parts of the display container are not permanently secured together, but on the contrary, are held in position by frictional engagement, and, in general, may readily be set up and assembled to produce the complete display container, and as readily disassembled and folded flatwise for storage or shipment.

The specific details of construction may be considerably varied from those herein shown and described without involving any departure from the principle of the invention or sacrificing any of the advantages inherent therein. Hence, the present embodiment is to be considered merely illustrative and not restrictive, the scope of the invention being indicated by the appended claims.

We claim:

1. A portable refrigerating display container comprising, an open top base member, a corrugated board partition element for retaining said base extended in an assembled condition, a combination product and refrigerant tray assembled in the upper part of said base member for housing a product and refrigerant, and a separate box means for catching and storing the refrigerant effluent assembled in the lower part of said base member.

2. The display container of claim **1** wherein said partition element comprises two V-shaped pieces of corrugated board and two straight pieces of corrugated board frictionally interlocked together by means of complementing cuts to support the said product and refrigerant tray and locate the refrigerant effluent storing means.

3. The display container of claim **2** wherein said combination product and refrigerant tray comprises a wax-impregnated corrugated structure which rests on top of said partition element.

4. The display container of claim **3** wherein said combination product and refrigerant tray further has drain holes in the bottom thereof and contains hand hole cutouts in the side panels thereof.

5. The display container of claim **2** wherein said pieces of corrugated board each have a curved upper edge which allows the bottom of said product and refrigerant tray to assume a dished configuration to enhance the run-off of the refrigerant effluent.

6. The display container of claim **2** wherein said separate box means for catching and storing the refrigerant effluent is wax-impregnated and is securely held in position inside said partition element.

7. The display container of claim **6** further comprising a plastic bag for lining the inside of said refrigerant effluent catching and storing means.

8. A portable refrigerating display container comprising:

(a) an open top corrugated board base member;

(b) a partition element formed from frictionally interlocked pieces of corrugated board and placed inside said base member;

(c) a product and refrigerant tray including wet ice refrigerant and drain holes located inside said base member to rest on said partition element, and

(d) a plastic lined water box positioned beneath said refrigerant trap inside said base member to catch and store the wet ice refrigerant run-off.

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