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(54) Display apparatus

(57) Display apparatus 1 for the display of consumable products comprises a plastics receptacle 4 received in a cardboard base 2 and a plastics insert 14 of mesh construction received in the receptacle 4. Prechilled gel bags 16 are positioned between the receptacle 4 and the insert 14 for cooling chocolate bars or similar products stored in the unit 1. The mesh construction of the insert 14 spaces the gel bags 16 from the chocolate bars, thereby preventing condensation deposition on the bars.

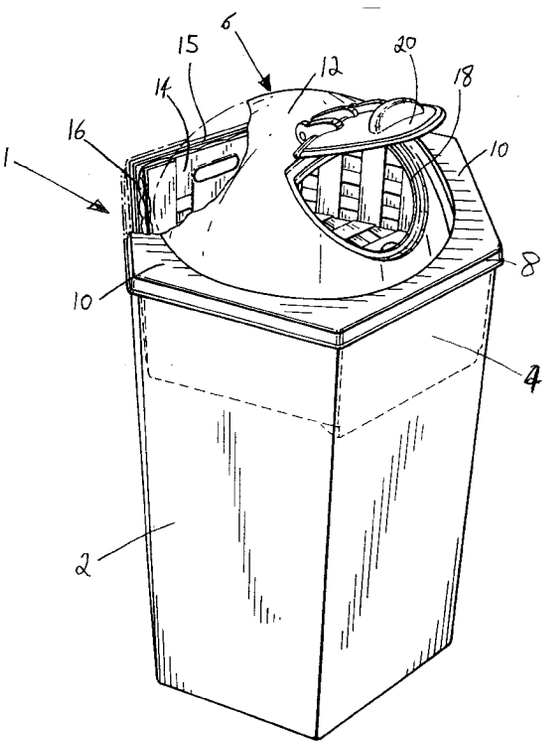


FIG.1.

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Description

The present invention relates to display apparatus for the display of consumable products, for example confectionery products.

It is known to provide a free-standing unit for the storage and display of packaged confectionery products in a retail outlet. Such units are generally constructed of cardboard to form a rigid unit which stands on the floor and has a receptacle portion at a height above the floor suitable for customers to easily remove products and for the products to be clearly visible to the customer. Such units are constructed from cardboard to maintain their production costs at a low level in view of the widespread distribution of the units that is generally required. In addition to their display and storage role, such units also provide side surfaces which may be used for the advertisement of the products contained in the unit.

A problem has been found with such units in that for the storage of perishable comestibles, and in particular products containing chocolate, it is desirable for the products to be kept cool to maintain the products in the optimum condition, for example to prevent the melting of the chocolate. This problem is particularly marked in summer when the ambient temperature is relatively high.

One solution to this problem might be to store confectionery products in refrigerators in the retail outlets. However, refrigerators are expensive to purchase, relative to the retail value of confectionery, and require the continuous provision of power which adds to their running costs. Furthermore, if a refrigerator is available for use in a retail outlet it is generally preferred to use it for the storage and display of beverages.

According to the present invention there is provided display apparatus for the display of consumable products, the apparatus comprising a receptacle portion provided with pre-chillable cooling means.

The pre-chillable cooling means has the advantage over known cooling systems that it can be relatively inexpensive to manufacture and requires no external constant power source. The cooling means may be chilled, for example overnight, in a freezer and then located in the receptacle portion. The retailer may already be in possession of a freezer, for example, for the display and storage of ice cream products. Thus, the pre-chilling of the cooling means may take advantage of the retailer's existing resources. It is not necessary for the cooling means to be chilled overnight however; for example, a plurality of cooling means may be provided such that while one cooling means is located in the receptacle portion of the display apparatus, other cooling means may be chilled, the cooling means being interchanged when the cooling means in the receptacle portion has warmed up.

Advantageously, the cooling means may be in the form of packs, preferably flexible packs, of a material having a high thermal capacity, such that a large amount of heat may be absorbed from the consumable products without a significant rise in the temperature of the cooling means. Such materials are commercially available in the form of gel bags, although solid materials would also be suitable.

Condensation may tend to form on the cooling means and this may wet the consumable products. Whilst this may be acceptable for certain types of product, it is preferably avoided. In a preferred embodiment, therefore, separation means is provided for physically separating products in the receptacle portion from the cooling means. In this way, any condensation which forms on the cooling means will not contact products in the receptacle portion. If the products are e.g. chocolate products with paper packaging, it is particularly desirable to avoid moistening of the paper packaging.

The separation means may form a continuous barrier between the cooling means and the region of the receptacle portion where the products are to be displayed. Preferably, however, the separation means has apertures defined therein, for example being in the form of a mesh, such that the cooling means is physically separated from the interior of the receptacle portion, but thermal transfer can take place through the apertures. Moreover, because free movement of air can take place via the apertures, any condensation will tend to form preferentially on the cooling means, rather than on the consumable products.

The separation means may be permanently fixed to the rest of the display apparatus, with appropriate access being provided for insertion and removal of the cooling means. It is however preferred for the separation means to be in the form of a removable insert. It is then possible to arrange the consumable products in the insert at a convenient location separate from the rest of the display apparatus.

Preferably locating means is provided for correct location of the insert. This can be of assistance in ensuring that products arranged in the insert in a particular way for display purposes will be properly displayed when the insert is located in the display apparatus.

The separation means may take various configurations, for example defining different compartments within the receptacle portion. Preferably, the separation means defines an inner wall of the receptacle portion and the cooling means is received in a gap defined between the inner wall and an outer wall of the receptacle portion.

The cooling means may be located in the centre of the receptacle portion or may be dispersed throughout the volume of the receptacle portion. In a preferred embodiment the cooling means is provided in a floor region of the receptacle portion. If a removable insert is provided, for example, the base of the insert may act as a separation means between the consumable products and cooling means located below the insert.

Alternatively or additionally to floor level cooling means, cooling means may be provided around at least a part

of the periphery of the receptacle portion. This can improve the cooling effect.

The receptacle portion may be provided with a lid or cover, which is transparent, at least in part, and which is preferably of thermally insulating material. The cover may be removable as a whole to gain access to the receptacle portion but is preferably provided with an opening through which the consumable products may be removed. Advantageously, such an opening is kept relatively small to reduce the ingress of heat from the atmosphere into the cooled receptacle portion, although the opening will generally be sufficiently large to allow a customer easily to remove at least one product from the apparatus. Preferably the opening in the cover is provided with a closure, such as a flap or the like. Most preferably this closure is arranged to close automatically, for example by the action of gravity or by resilient means such as a spring. In this way, it is ensured that after a customer has accessed the contents of the receptacle portion, the closure closes automatically.

The receptacle portion may be provided on a stand that raises the receptacle portion to a convenient height above the floor for customers to access the products.

An embodiment of the invention will now be described by way of example only and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view, partly cut-away, of display apparatus according to the present invention; and

Figure 2 is an exploded view, partly cut-away, of some components of the display apparatus of Figure 1.

As shown in Figure 1, display apparatus 1 comprises a receptacle portion 4, supported by a stand 2, and a domed cover 6. The stand 2 is of a known, hexagonal section construction in corrugated cardboard. The stand 2 has an inner floor (not shown) which supports the bottom (shown in dashed lines) of the receptacle portion 4 at a level approximately two thirds of the height of the stand 2.

The receptacle portion 4 supported on the inner floor of the stand 2 fits into the stand such that their respective upper edges are flush. The domed cover 6, of transparent plastics material, fits over the receptacle portion 4 and has a downwardly directed peripheral flange 8 which fits over the upper edges of the receptacle portion 4 and the stand 2.

The cover 6 has horizontally extending flat flanks 10 extending between the base of a domed portion 12 and the peripheral flange 8. These flanks 10 provide a top closure for a lateral gap between an outer wall 15 of the receptacle portion 4 and an inner wall thereof provided by an insert 14, in which gap gel bags 16 are received. The gel bags 16 and insert 14 will be described in detail later with reference to Figure 2.

The domed portion 12 of the cover 6 has defined therein an opening 18 provided with a hinged flap 20. The action of gravity normally urges the flap 20 into a position in which it closes the opening 18. By opening the flap 20 a customer can gain access to the contents of the receptacle portion 4 through the opening 18.

Figure 2 shows the receptacle portion 4 and insert 14 in more detail. The receptacle portion 4 of moulded plastics is hexagonal in plan view to correspond to the shape of the stand 2. The floor of the receptacle portion 4 has formed therein a recess 22 for receiving a bottom gel bag 16. The gel bags 16 are plastic packs containing gel material which has a high thermal capacity, such that when the gel bags 16 have been cooled they can absorb a large quantity of heat without a significant rise in their temperature. In addition to the gel bag 16 located in the floor recess 22, further gel bags 16 are located around the inside of the outer wall 15 of the receptacle portion 4. Each of the gel bags 16 is removably located in its respective position in the receptacle portion 4 such that it can be removed for cooling. The gel bags 16 are sized to occupy their locations in the receptacle portion.

The side walls and base of the insert 14 are of a mesh construction comprised of inner members 24 and outer members 26. The inner members 24 are formed such that they project into the interior of the insert 14, whereas the outer members 26, which run transversely to the inner members 24 project outwardly from the insert 14. However, the inner and outer members 24,26 are formed of relatively thin plastics materials, so that it is their U-shaped section that gives rise to the projecting effect. The projection of the inner and outer members 24,26 gives the walls and base of the insert 14 an effective thickness greater than that of the plastics material from which they are formed. The effective thickness between the inner face of the inner members 24 and the outer face of the outer members 26 spaces the contents of the receptacle portion 4 from the surface of the gel bags 16, so that any condensation on the gel bags will not contact those contents.

The insert 14 and the lower wall of receptacle portion 4 are provided with cooperating location members 28 for locating the insert 14 correctly relative to the rest of the receptacle portion 4. Two projecting locating members 28, only one of which is shown in Figure 2, are provided on the lower wall of the receptacle portion 4 in symmetrical positions. These projecting members 28 are received in corresponding recessed members 28 in the underside of the insert 14. The insert is also provided with handles 30.

In use, the display apparatus 1 is assembled as shown in Figure 1. The insert 14 is filled with confectionery products, such as chocolate bars, which are kept cool by the pre-chilled gel bags 16 and the insulating effect of the cover. Condensation is not transferred to the packaging of the products because they are spaced from the gel bags 16 by the inner and outer members 24,26 of the insert 14.

When the gel bags 16 have warmed up, for example

at the end of the trading day, the cover 6 is removed and the insert 14, containing any unsold chocolate bars, is lifted out of the apparatus 1 using handles 30. The gel bags 16 are then removed from the apparatus 1 and placed in a freezer or the like to be re-chilled. The insert 14 may then be replaced in the apparatus 1 and the cover 6 may be returned. The chocolate bars will generally not require cooling overnight, as the ambient temperature will not be as high as during daytime. At the start of the trading day, the insert 14 may be lifted from the apparatus 1, the pre-chilled gel bags may be replaced and the insert 14 re-introduced.

Thus, the display apparatus described herein provides a low-cost device for cooling or keeping cool chocolate bars or similar products which does not require a constant power supply.

Claims

1. Display apparatus for the display of consumable products, the apparatus comprising a receptacle portion provided with pre-chillable cooling means.

2. Display apparatus as claimed in claim 1, wherein separation means is provided for physically separating products in the receptacle portion from the cooling means.

3. Display apparatus as claimed in claim 2, wherein the separation means has apertures defined therein.

4. Display apparatus as claimed in claim 2 or 3, wherein the separation means is in the form of a removable insert.

5. Display apparatus as claimed in claim 4, comprising locating means to ensure correct location of the insert.

6. Display apparatus as claimed in any of claims 2 to 5, wherein the separation means defines an inner wall of the receptacle portion and wherein the cooling means is received in a gap defined between the inner wall and an outer wall of the receptacle portion.

7. Display apparatus as claimed in any preceding claim, wherein the cooling means is provided in a floor region of the receptacle portion.

8. Display apparatus as claimed in any preceding claim, wherein the cooling means is provided around at least a part of the periphery of the receptacle portion.

9. Display apparatus as claimed in any preceding claim, further comprising a cover, which is transparent, at least in part.

10. Display apparatus as claimed in claim 9, wherein an opening is provided in the cover, the opening being closable by a closure which is arranged to close automatically.

11. Display apparatus as claimed in claim 10, wherein the closure is arranged to close automatically by the action of gravity alone.

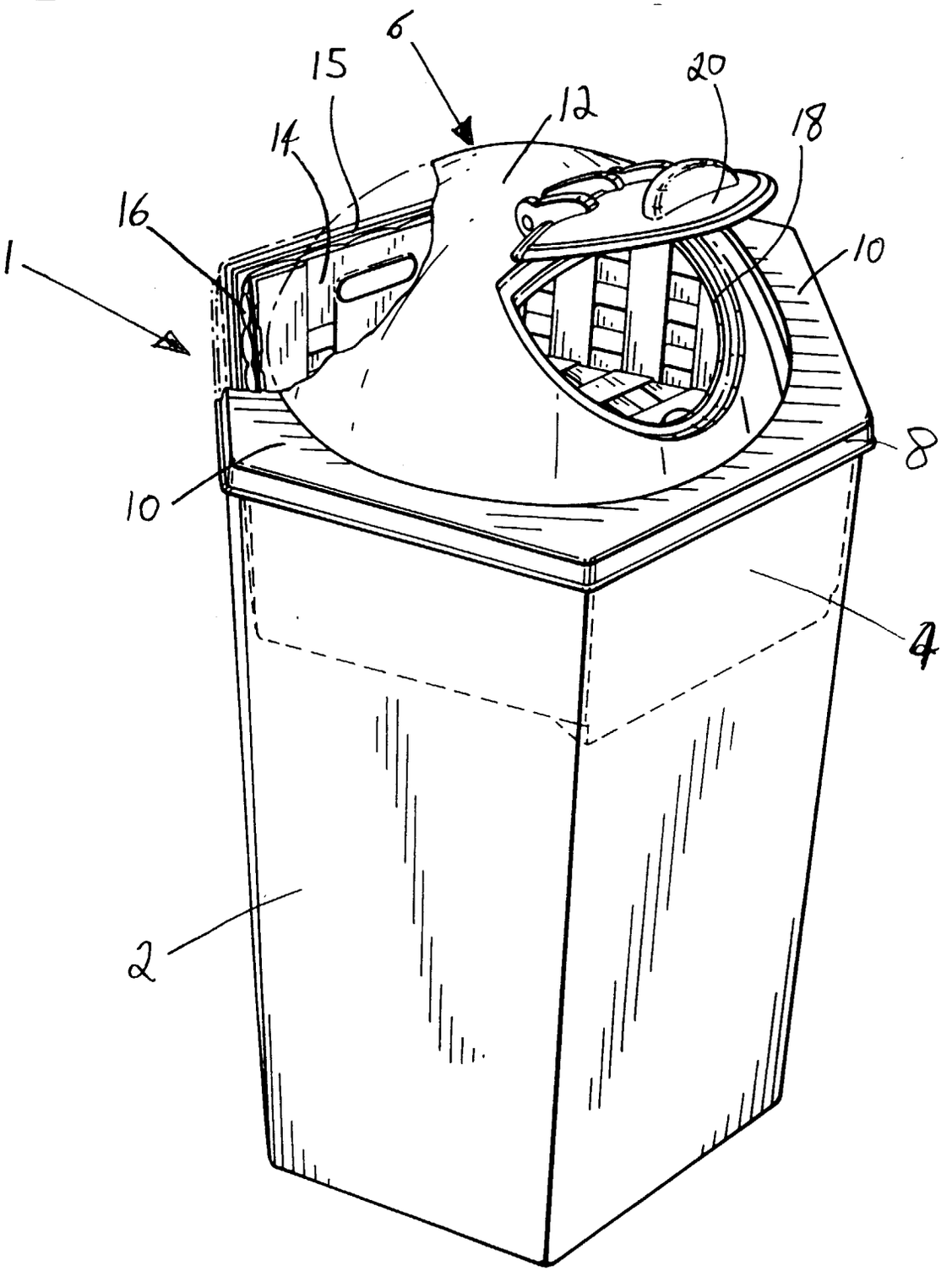


FIG.1.

FIG.2.

