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(54) **CONTAINER**

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Description

Technical Field

[0001] This invention relates to a portable container for items for which thermal control is required. In particular, the invention relates to a container for food, beverages, medical products or similar consumables which may need to be either chilled, kept frozen or kept warm or hot.

Background Art

[0002] It is well known for containers to have insulation means to prevent heat exchange with the environment and hence maintain food or other like consumable products in the container at a substantially constant temperature for a period of time of the order of a few hours. Often a heat source/sink is placed in the container to assist in maintaining a satisfactory temperature.

[0003] Containers of this type typically utilise reflecting surfaces to avoid radiant heat transfer through the container walls, or utilise padding, either with or without inner air pockets, to reduce the efficiency of heat transfer through the container walls.

[0004] Another approach is to provide removable layers of a material which can be cooled in a freezer and placed inside the container walls as required. Similar such devices can also be heated and used to keep container contents warm for a period of time. While this method does permit a chosen temperature to be initially provided in a container, there is the disadvantage that components have to be separately heated or cooled before being reassembled in the container walls which is a time consuming process.

[0005] Australian Patent no. 200197223 discloses a collapsible container having a number of walls which are movable relative to one another between a collapsed configuration in which at least a major surface of at least two of the walls are in contact with each other, and an expanded configuration in which the walls define a cavity adapted to receive an article to be kept cool. The walls contain a casing containing saline water as a coolant, but neither the base nor the top flap contains a coolant. The container in its collapsed configuration is adapted to be placed in a freezer or refrigerator, and then removed when the coolant has been cooled to a desirable temperature, and the container erected into its expanded configuration.

[0006] US patent application no. 2005/0132741 discloses a thermal energy storage container in which thermal energy storage material is located in the walls and base in a space between two panels, the container having a separate thermal energy storage lid.

[0007] WO 2012/003543, discloses a thermally controlled container for holding consumable products, said container including: a body having one or more soft or flexible layers, the body configured to define a cavity for receiving said consumable products; a lid having one or more soft or flexible layers, the lid configured to co-operate with said body to close the cavity; and at least one packet member having thermally sensitive material retained therein; at least one of the body or lid including an outer layer of soft sheet material, an intermediate layer of flexible insulative material and an inner layer of soft sheet material; wherein a pocket is formed between the inner layer of soft sheet material and the intermediate layer of flexible insulative material, the pocket defining an enclosed space into which the at least one packet member is received.

[0008] WO 2010/124214 also discloses a thermally controlled container with packet members.

[0009] It is an object of this invention to improve upon or at least offer a useful alternative to the prior art by providing an insulating storage container device for food or similar consumable products which includes one or more layers of soft or flexible material and can be cooled or heated in a unitary fashion without dismantling and reassembling the device.

Summary of the Invention

[0010] In a first aspect, the invention provides a thermally controlled container for holding consumable products, said container including: a body having one or more soft or flexible layers, the body configured to define a cavity for receiving said consumable products; a lid having one or more soft or flexible layers, the lid configured to cooperate with said body to close the cavity; at least one packet member having thermally sensitive material retained therein; each of the body and lid including an outer layer of soft sheet material, an intermediate layer of flexible insulative material and an inner layer of soft sheet material; wherein a pocket is formed between the inner layer of soft sheet material and the intermediate layer of flexible insulative material, the pocket defining an enclosed space into which the at least one packet member is received; characterised in that: a border extends around at least part of the at least one packet member, the border being sewn or otherwise attached to the inner layer of soft material, the outer layer of soft sheet material, and/or the intermediate layer, to hold the at least one packet member in a position to provide effective thermal control during use and prevent movement of the at least one packet member within the pocket.

[0011] Preferably, the enclosed space is sufficient to accommodate the at least one packet member such that the intermediate layer of flexible insulative material and the inner layer of soft sheet material act to retain the packet member in position during use.

[0012] Preferably, the intermediate layer of flexible insulative material includes or comprises a layer of foil material.

[0013] Preferably, the intermediate layer of flexible insulative material further includes or comprises a foam material.

[0014] It is particularly preferred that the intermediate

layer of flexible insulative material includes a layer of foil material bonded to a foam material.

[0015] In some preferred forms of the invention, a layer of foil material faces the at least one packet member. Where the layer of foil material faces the at least one packet member and is located between the outer layer and the at least one packet member, insulative effects may be provided by the reflection of energy (e.g. radiant energy from the packet member, inner layer or consumable product) towards the at least one packet member and/or the interior of the container.

[0016] In some preferred forms of the invention, a layer of foil material faces the outer layer of soft sheet material. Where the layer of foil material faces the outer layer of soft sheet material and is located between the outer layer and the at least one packet member, insulative effects may be provided by the reflection of energy (e.g. radiant energy from sunlight or heat energy from the outer layer) away from the at least one packet member and/or the container.

[0017] In further preferred forms of the invention, the intermediate layer may comprise a single layer of foil, or the intermediate layer may include a layer of foam material with a layer of foil bonded to each side of the foam material, such that foil material faces both the at least one packet member and the outer layer of the soft sheet material. In these forms of the invention, insulative effects are provided by the reflection of energy towards the at least one packet member and/or the interior of the container, and by the reflection of energy away from the at least one packet member and/or the container.

[0018] It is preferred that the body is configured to have a base and at least one side wall extending from the base to define said cavity.

[0019] Preferably, the lid is attachable to the or each side wall.

[0020] It is further preferred that the base includes one or more layers of a soft or flexible material.

[0021] It is further preferred that the pocket is formed in the base, the at least one side wall and the lid such that the cavity is substantially enclosed by said at least one packet member.

[0022] Preferably, the inner layer of soft sheet material is bonded to the intermediate layer of flexible insulative material by stitching to form the pocket.

[0023] Preferably, the border of the at least one packet member is able to be sewn or attached to the layer(s) of material to ensure that the at least one packet member does not sink, slide or significantly move around inside the pocket during use. Preferably, the border is an extension of, and is made from the same material as, the at least one packet member.

[0024] In a particularly preferred form, the border of the at least one packet member extends on at least two opposing sides of the packet member and at least part of said border on the at least two opposing sides is sewn or otherwise attached to the layer(s).

[0025] It is preferred that the at least one packet member is sewn or otherwise attached to the layer(s) substantially along a border on at least one side of the packet. For example, where the at least one packet member is located within a side wall, it may be sewn or otherwise attached substantially along the length of its upper side (and/or lower side) border adjacent a lid (or base).

[0026] It is preferred that the layer of foil material is a layer of aluminium foil.

[0027] It is also preferred that the temperature of said thermally sensitive material is able to be modified by cooling or heating.

[0028] It is preferred that the container is adapted to contain a standard tub of yoghurt in said cavity.

[0029] Preferably, the thermally sensitive material is a coolant which is adapted to chill to a specific temperature as determined by a freezer, refrigerator, or the like.

[0030] Preferably, the coolant is adapted to maintain temperatures well below the freezing point of water for a required time.

[0031] Preferably, the thermally sensitive material is a material able to be heated in a microwave oven or other such device.

[0032] In a further aspect, the invention provides a thermally controlled container for holding food or similar consumable products, said container including a base and at least one side wall defining a cavity for location of said food or similar consumable products, and a top adapted to co-operate with said or each side wall to seal said cavity, characterized in that at least one of said base, side wall and top contain thermally sensitive material.

[0033] Preferably, the thermally modifiable container of the present invention has a body including a base, top and sides at least one of which is provided with an inner layer of a thermally sensitive material the temperature of which can be modified by cooling or heating.

[0034] It is preferred that base, top and sides of the container are provided with an inner layer of thermally sensitive material.

[0035] It is further preferred that the container of the invention be provided with either soft sides or sides made from a combination of soft and hard materials which together may be flexible.

[0036] It is also preferred that the container top take the form of a lid attached or attachable to the remainder of the body.

[0037] It is preferred that for cooling purposes the thermally sensitive material be a coolant which is adapted to chill to a specific temperature as determined by a freezer or the like. It is further preferred that for some applications the coolant be able to maintain temperatures well below the freezing point of water for a required time. It is also preferred that the thermally sensitive material be associated with a material able to be heated in a microwave oven or other such device. The precise heating or cooling means used is not however restricted in the invention.

[0038] The invention in yet a further aspect provides a container having a body at least part of which is provided with an inner layer of a thermally sensitive material, the

temperature of which can be modified by cooling or heating, said body having an upper and a lower surface, either or both of which are open.

[0039] It is preferred that this embodiment of the invention include reusable sleeves or covers or casings, including soft materials such as soft shell covers, or a combination of soft and hard materials which together are flexible (e.g. made of various fabrics including nylon, PE, PU, various plastics, neoprene and so on, but not confined to these materials) having an outer and inner wall, the cavity being filled with a material having thermal properties for cooling/ warming.

[0040] It is preferred that the container of the invention includes an inner nylon wall and outer neoprene wall. It is further preferred that the outer walls are printed with logos or designs.

Brief Description of the Drawings

[0041] Possible and preferred features of the present invention will now be described with particular reference to the accompanying drawings. However, it is to be understood that the features illustrated in and described with reference to the drawings are not to be construed as limiting on the scope of the invention.

Fig. 1 is a perspective view of a first embodiment of a container according to the present invention, showing the container with its lid closed;

Fig. 2 is a perspective view of the container of Fig. 1, showing the container with its lid open; and

Fig. 3 is a cross-section along the lines 3-3 of Fig. 1.

Detailed Description of the Invention

[0042] The invention generally contemplates a container with a body having sides, a base and a top or lid, which container has at least one of these features being provided with a coolant.

[0043] In a preferred embodiment of the invention all sides and the top and base of the container are provided with inner layers of coolant although the invention is not restricted with respect to the number of surfaces associated with the coolant.

[0044] The material from which the exterior of the container is fabricated is preferably a good thermal insulator although the invention is not restricted to any particular material.

[0045] In one embodiment of the invention the container is manufactured of a soft material although combinations of soft and hard materials which together are flexible are within the scope of the invention.

[0046] Turning now to the embodiment of Figs. 1 to 3, there is shown a container 10 having a generally cuboidal shape. Of course, it is understood that the container 10 could be of any shape. For example, it could be a generally cylindrical shape. The container 10 has side walls 12, 14, 16 and 64, a base 18 and a lid 20. In a cylindrical version, there would only be one cylindrical side wall.

[0047] The lid 20 may be removably secured to the side wells 12, 14, 16, 64 by means of a zip fastener 22, operable by a slider 24. Any other suitable means of reversibly attaching the lid 20 to the side walls 12, 14, 16, 64 may be utilised.

[0048] Side walls 12, 14, 16, 64 and base 18 define a cavity 28 which is adapted to contain an article such as a food, beverage, or similar consumable products. One particular food which container 10 is adapted to contain is a standard tub of yoghurt. For that application, a spoon 30 may be provided, removably attached to the underside of lid 20 by a strap 32.

[0049] In container 10 of Figs. 1 to 3, the external and internal surfaces of side walls 12, 14, 16, 64, base 18 and lid 20 are formed from a soft material, preferably a plastics material, more preferably a thermoplastics material such as polyester, polypropylene, polyethylene, PVC, nylon or the like. Internal surfaces or layers such as layers 38, 40, 42 and 44 are preferably formed from such a material which is non-toxic and food safe.

[0050] The various elements of side walls 12, 14, 16, 64, base 18 and lid 20 may be secured together by any suitable means. In Figs. 1 to 3, those elements are sewn, as shown by reference numeral 34.

[0051] Turning now to Fig. 3, it can be seen that each of side walls 12, 14, 16, 64, base 18 and lid 20 consist of an inner layer of sheet material and an outer layer of sheet material. Exemplary inner layers are shown in Fig. 3 as 38 for wall 12, 40 for wall 16, 42 for base 18 and 44 for lid 20. The detail of part of side wall 12, shown in Fig. 3, will now be described on the understanding that the structure described for wall 12 is the same for walls 14, 16, and 64, and for base 18 and lid 20.

[0052] On the inside of outer layer 54 of side wall 12 is an insulating layer, including a foam layer 52, and a layer of aluminium foil 50 on the inner face of foam layer 52, the aluminium foil layer 50 being bonded to the foam layer 52. The aluminium foil layer may alternatively be on the outer face of foam layer 52 and face the outer layer 54 of side wall 12. Alternative embodiments may include a foil layer as the insulating layer without any foam backing.

[0053] A pocket 48 is defined between the bonded layers 52, 50 and inner layer 38, in which may be located a thermally sensitive material, preferably in the form of a packet (referred to herein as a pack) 56, which may be a gel pack of a conventional nature or a crystal pack or the like. Similar packs of thermally sensitive material are located in pockets in the other side walls, one of which 56 is shown in Fig. 3 in a pocket in side wall 16. A further similar pack of thermally sensitive material 62 is located in a pocket in base 18, and another pack 60 in a pocket in lid 20, as shown in Fig. 3.

[0054] The packs 56, 58, 60, 62 are shown as being permanently located within the side walls 12, 14, 16, 64,

base 18 and lid 20, although the container may be so constructed to make one or more of the packs removable. In container 10, the packs 56, 58, 60, 62 are placed in what will become a pocket like pocket 48 in walls 12, 14, 16, 64, base 18 and lid 20, when the walls, base or lid are secured together, for example by being sewn together.

[0055] As shown in Fig. 3, a border extends around the periphery of the packs 56, 58, 60, 62 and is made from the same plastic material as the packs 56, 58, 60, 62. In this embodiment, the peripheral border is sewn into the container 10 by stitching 55 which is located substantially along the length of the border on two sides of each pack. The stitching 55 passes: (i) through the packs 56, 58, 62 and into each of the inner layer 38 of soft material, the outer layer of soft sheet material 54, and the intermediate foam/foil layer 52/50 near the intersection of the walls 12, 16 and the base 18; and (ii) through the pack 60 and into the inner layer 38 and intermediate later 52 in the lid 20. The stitching 55 (only some of which is identified by reference numerals in Fig. 3) ensures that the packs are retained in position in the pockets during use. The sewing of the peripheral border of the packs 56, 58, 60, 62 to the layers of material ensures that the packs do not slide, slump or significantly move around inside the pockets during use. In particular, said sewing or attaching of the border of the packs into the layer(s) ensures that the packs in the sides of the container are maintained in an upright position and provide effective thermal control during use.

[0056] The container is used as follows, in the example of keeping a tub of yoghurt below a preferred temperature such that the yoghurt in maintained in an acceptable condition for consumption. The container 10 is placed in a refrigerator, or preferably a freezer, for enough time for the thermally sensitive material in gel packs reaches a minimum temperature. When the container 10 is required, it is removed from the refrigerator or freezer, and a tub of yoghurt, which has preferably also been kept in a cool environment such as a refrigerator, placed in cavity 28. The slider 24 is then used to actuate the zip fastener 22 to seal the cavity 28.

[0057] As there are gel packs such as 56, 58, 60 and 62 in each of the side walls 12, 14, 16, 64, base 18 and lid 20, the tub of yoghurt is surrounded by coldness, and accordingly will be maintained for many hours in ambient temperatures, keeping the yoghurt in a fit state to be consumed. When it is desired to consume the yoghurt, the slider 24 is used to open zip 22. The tub of yoghurt (not shown) is removed, opened, and may be consumed with the spoon 30.

[0058] Of course, the food or similar consumables may include a range of products, and the present invention is not limited to keeping yoghurt cool. The container 10 may be used to keep food, beverages, or similar consumables warm.

[0059] In the embodiments of the invention described in this specification, the container 10 is preferably dimensioned to fit into conventional freezers for cooling, although any preferred size and shape of the container may be chosen.

[0060] While it is preferred that the top surface of the container 10 be a lid which is able to be fastened to the remainder of the container body any appropriate closure means can be used.

[0061] It is envisaged that a well insulated version of the container of the invention could be associated with a coolant capable of sustaining very low temperatures such that frozen products could remain frozen in it while non-frozen products would freeze.

[0062] A further embodiment of the invention contemplates an arrangement wherein the coolant has associated with it a material which is capable of being heated in a microwave oven or other such device. It is envisaged that this material could either be located with the coolant or located outside it within the container 10. In this embodiment the container 10 would be capable of keeping food or similar consumables warm or hot rather than acting as a cooler.

[0063] In a further embodiment of the invention at least one of the upper and lower surfaces of the container is open. The resultant container is either a sleeve or cover which is stored in a freezer until ready for use.

[0064] The food, drink or other consumable item (usually already cold) is then placed inside the sleeve so as to keep the food, drink or other consumable item cold for a specified period of time.

[0065] Examples of uses of this embodiment of the invention and the embodiments of Figs. 1 to 3 are use on food products (including cheese sticks, chocolate bars, sandwiches, yoghurts, ice cream and the like) and use around drink or water bottles, beverages (including non-alcoholic and alcoholic beverages, either cans or bottles) cups, glasses, wine glasses etc. Other products that may be placed inside the container and maintained within a temperature range include medical (e.g. vaccines) or health products (e.g. probiotics) which are sensitive to changes in temperature.

[0066] It is envisaged that this embodiment could also be used in the context of food containers, lunch boxes and the like.

[0067] Another embodiment of this invention contemplates a disposable sealed pouch which has a crystal or gel or liquid concealed inside. When the crystal or gel or liquid is activated (either by crushing together or other means) this has the effect of turning the sealed pouch into a temporary cooler/warmer for a specified time period. The pouch is then disposed of after the effects of the coolant/ warmer has worn off. This item can have the same uses as the reusable casing and can also be used on the same items as the reusable casings.

Interpretation

[0068] Reference to any background art or prior art in this specification is not an admission such background

art or prior art constitutes common general knowledge in the relevant field is otherwise admissible prior art in relation to the validity of the claims.

[0069] Throughout the specification and claims the word "comprise" and its derivatives are intended to have an inclusive rather than exclusive meaning unless the contrary is expressly stated or the context requires otherwise. That is, the word "comprise" and its derivatives will be taken to indicate the inclusion of not only the listed components, steps or features that it directly references, but also other components, steps or features not specifically listed, unless the contrary is expressly stated or the context requires otherwise.

[0070] In the present specification, terms such as "means", "device" or "member" may refer to singular or plural items and are terms intended to refer to a set of properties, functions or characteristics performed by one or more items having one or more parts. It is envisaged that where a "means", "device" or "member" or similar term is described as being a unitary object, then a functionally equivalent object having multiple components is considered to fall within the scope of the term, and similarly, where a "means", "device" or "member" is described as having multiple items, a functionally equivalent but unitary object is also considered to fall within the scope of the term, unless the contrary is expressly stated or the context requires otherwise.

[0071] The terms in the claims have the broadest scope of meaning they would have been given by a person of ordinary skill in the art as of the relevant date.

[0072] The terms "a" and "an" mean "one or more", unless expressly specified otherwise.

[0073] Neither the title nor the abstract of the present application is to be taken as limiting in any way as the scope of the claimed invention.

[0074] It will be appreciated by those skilled in the art that many modifications and variations may be made to the embodiments described herein without departing from the scope of the invention as described in the appended claims.

Claims

1. A thermally controlled container (10) for holding consumable products, said container including:

   a body having one or more soft or flexible layers (38, 40, 42, 44, 50, 52, 54) the body configured to define a cavity (28) for receiving said consumable products;
   a lid (20) having one or more soft or flexible layers, the lid configured to co-operate with said body to close the cavity (28); and at least one packet member (56, 58, 60, 62) having thermally sensitive material retained therein;
   wherein:
   each of the body and lid (20) includes an outer layer (54) of soft sheet material, an intermediate layer (50, 52) of flexible insulative material and an inner layer (38) of soft sheet material;
   wherein a pocket (48) is formed between the inner layer (38) of soft sheet material and the intermediate layer (50, 52) of flexible insulative material, the pocket (48) defining an enclosed space into which the at least one packet member (56) is received;
   wherein a border extends around at least part of the at least one packet member (56, 58, 60, 62), the border being sewn (55) or otherwise attached to the inner layer (38) of soft material, the outer layer (54) of soft sheet material, and/or the intermediate layer (50, 52), to hold the at least one packet member (56, 58, 60, 62) in a position to provide effective thermal control during use and prevent movement of the at least one packet member within the pocket (48).

2. The container of claim 1, wherein the border is sewn or otherwise attached to each of the inner layer (38) of soft material, the outer layer (54) of soft sheet material, and the intermediate layer (50, 52).

3. The container of claim 1 or claim 2, wherein the body is configured to have a base (18) and at least one side wall (12, 14, 16, 64) extending from the base (18) to define said cavity (28).

4. The container of any one of claims 1 to 3, wherein the intermediate layer (50, 52) of flexible insulative material includes or comprises a layer (50) of foil material.

5. The container of any one of the preceding claims, wherein the intermediate layer (50, 52) of flexible insulative material includes a foam material (52).

6. The container of any one of the preceding claims, wherein the intermediate layer (50, 52) of flexible insulative material includes a layer (50) of foil material bonded to a foam material (52).

7. The container of claim 4 or claim 6, wherein the layer (50) of foil material faces the at least one packet member (56, 58, 60, 62).

8. The container of any one of claims 4, 6 or 7, wherein the layer (50) of foil material faces the outer layer (54) of soft sheet material.

9. The container of any one of the preceding claims, wherein the intermediate layer (50, 52) comprises a single layer (50) of foil.

10. The container of any one of the preceding claims, wherein the intermediate layer (50, 52) includes a layer (52) of foam material with a layer of foil (50) bonded to each side of the foam material (52), such that foil material (50) faces both the at least one packet member (56, 58, 60, 62) and the outer layer (54) of the soft sheet material.

11. The container of claim 3, or any one of claims 4 to 10 when dependent on claim 3, wherein the lid (20) is attachable to the or each side wall (12, 14, 16, 64).

12. The container of any one of the preceding claims, wherein the pocket is formed in the base (18), the at least one side wall (12, 14, 16, 64) and the lid (20) such that the cavity (28) is substantially enclosed by said at least one packet member (56, 58, 60, 62).

13. The container of any one of the preceding claims, wherein the inner layer (38) of soft sheet material is bonded to the intermediate layer (50, 52) of flexible insulative material by stitching to form the pocket (48).

14. The container of claim 2 or any one of claims 3 to 13 when dependent on claim 2, wherein the border of the at least one packet member (56, 58, 60, 62) is sewn (55) or attached to the layer(s) of material to ensure that the at least one packet member does not sink, slide or significantly move around inside the pocket (48) during use.

15. The container of claim 2 or claim 14, or any one of claims 3 to 13 when dependent on claim 2, wherein the border is an extension of, and is made from the same material as, the at least one packet member (56, 58, 60, 62).

Patentansprüche

1. Wärmegeregelter Behälter (10) zum Halten von Verbrauchsprodukten, wobei der Behälter einschließt:

einen Körper, der eine oder mehrere weiche oder flexible Schichten (38, 40, 42, 44, 50, 52, 54) einschließt, wobei der Körper konfiguriert ist, um einen Hohlraum (28) zum Aufnehmen der Verbrauchsprodukte zu definieren;
einen Deckel (20), der eine oder mehrere weiche oder flexible Schichten aufweist, wobei der Deckel konfiguriert ist, um mit dem Körper zusammenzuwirken, um den Hohlraum (28) zu verschließen; und mindestens ein Paketelement (56, 58, 60, 62), das wärmeempfindliches Material darin gespeichert aufweist;
wobei:
der Körper und der Deckel (20) jeweils eine äußere Schicht (54) aus weichem Dünnschichtmaterial, eine Zwischenschicht (50, 52) aus flexiblem Isoliermaterial und eine innere Schicht (38) aus weichem Dünnschichtmaterial einschließen;
wobei eine Tasche (48) zwischen der inneren Schicht (38) aus weichem Dünnschichtmaterial und der Zwischenschicht (50, 52) aus flexiblem Isoliermaterial ausgebildet ist,
wobei die Tasche (48) einen umschlossenen Raum definiert, in dem das mindestens eine Paketelement (56) aufgenommen wird;
wobei ein Rand sich um mindestens einen Teil des mindestens einen Paketelements (56, 58, 60, 62) erstreckt, wobei der Rand an die innere Schicht (38) aus weichem Material, die äußere Schicht (54) aus weichem Dünnschichtmaterial und/oder die Zwischenschicht (50, 52) angenäht (55) oder anderweitig an diesen befestigt ist, um das mindestens eine Paketelement (56, 58, 60, 62) in einer Position zu halten, um während einer Verwendung eine wirksame Wärmeregelung bereitzustellen und eine Bewegung des mindestens einen Paketelements innerhalb der Tasche (48) zu verhindern.

2. Behälter nach Anspruch 1, wobei der Rand an jeder der inneren Schicht (38) aus weichem Material, der äußeren Schicht (54) aus weichem Dünnschichtmaterial und der Zwischenschicht (50, 52) angenäht oder anderweitig an diesen befestigt ist.

3. Behälter nach Anspruch 1 oder 2, wobei der Körper konfiguriert ist, um eine Basis (18) und mindestens eine Seitenwand (12, 14, 16, 64) aufzuweisen, die sich von der Basis (18) erstreckt, um den Hohlraum (28) zu definieren.

4. Behälter nach einem der Ansprüche 1 bis 3, wobei die Zwischenschicht (50, 52) aus flexiblem Isoliermaterial eine Schicht (50) aus Folienmaterial einschließt oder umfasst.

5. Behälter nach einem der vorstehenden Ansprüche, wobei die Zwischenschicht (50, 52) aus flexiblem Isoliermaterial ein Schaumstoffmaterial (52) einschließt.

6. Behälter nach einem der vorstehenden Ansprüche, wobei die Zwischenschicht (50, 52) aus flexiblem Isoliermaterial eine Schicht (50) aus Folienmaterial einschließt, die mit einem Schaumstoffmaterial (52) verbunden ist.

7. Behälter nach Anspruch 4 oder 6, wobei die Schicht

(50) aus Folienmaterial dem mindestens einen Paketelement (56, 58, 60, 62) zugewandt ist.

8. Behälter nach einem der Ansprüche 4, 6 oder 7, wobei die Schicht (50) aus Folienmaterial der äußeren Schicht (54) aus weichem Dünnschichtmaterial zugewandt ist.

9. Behälter nach einem der vorstehenden Ansprüche, wobei die Zwischenschicht (50, 52) eine einzelne Folienschicht (50) umfasst.

10. Behälter nach einem der vorstehenden Ansprüche, wobei die Zwischenschicht (50, 52) eine Schicht (52) aus Schaumstoffmaterial mit einer Folienschicht (50) umfasst, die auf jeder Seite des Schaumstoffmaterials (52) derart verbunden ist, dass das Folienmaterial (50) sowohl dem mindestens einen Paketelement (56, 58, 60, 62) als auch der äußeren Schicht (54) aus dem weichen Dünnschichtmaterial zugewandt ist.

11. Behälter nach Anspruch 3 oder einem der Ansprüche 4 bis 10, wenn abhängig von Anspruch 3, wobei der Deckel (20) an der oder jeder Seitenwand (12, 14, 16, 64) befestigbar ist.

12. Behälter nach einem der vorstehenden Ansprüche, wobei die Tasche in der Basis (18), der mindestens einen Seitenwand (12, 14, 16, 64) und dem Deckel (20) derart ausgebildet ist, dass der Hohlraum (28) im Wesentlichen durch das mindestens eine Paketelement (56, 58, 60, 62) umschlossen ist.

13. Behälter nach einem der vorstehenden Ansprüche, wobei die innere Schicht (38) aus weichem Dünnschichtmaterial durch Steppen mit der Zwischenschicht (50, 52) aus flexiblem Isoliermaterial verbunden ist, um die Tasche (48) auszubilden.

14. Behälter nach Anspruch 2 oder einem der Ansprüche 3 bis 13, wenn abhängig von Anspruch 2, wobei der Rand des mindestens einen Paketelements (56, 58, 60, 62) an die Materialschicht(en) angenäht (55) oder an dieser/diesen befestigt ist, um sicherzustellen, dass das mindestens eine Paketelement während der Verwendung nicht in der Tasche (48) einsinkt, rutscht oder sich wesentlich bewegt.

15. Behälter nach Anspruch 2 oder 14 oder einem der Ansprüche 3 bis 13, wenn abhängig von Anspruch 2, wobei der Rand eine Verlängerung des mindestens einen Paketelements (56, 58, 60, 62) ist und aus dem gleichen Material wie dieses hergestellt ist.

Revendications

1. Contenant à régulation thermique (10) permettant de maintenir des produits consommables, ledit contenant comportant :

un corps ayant une ou plusieurs couches souples ou flexibles (38, 40, 42, 44, 50, 52, 54) le corps étant conçu pour définir une cavité (28) permettant de recevoir lesdits produits consommables ;
un couvercle (20) ayant une ou plusieurs couches souples ou flexibles, le couvercle étant conçu pour coopérer avec ledit corps pour fermer la cavité (28) ; et au moins un élément paquet (56, 58, 60, 62) ayant un matériau thermiquement sensible retenu à l'intérieur de celui-ci ; dans lequel :

chacun parmi le corps et le couvercle (20) comporte une couche externe (54) de matériau en feuille souple, une couche intermédiaire (50, 52) de matériau isolant flexible et une couche interne (38) de matériau en feuille souple ;
dans lequel une poche (48) est formée entre la couche interne (38) de matériau en feuille souple et la couche intermédiaire (50, 52) de matériau isolant flexible, la poche (48) définissant un espace fermé dans lequel l'au moins un élément paquet (56) est reçu ;
dans lequel une bordure s'étend autour d'au moins une partie de l'au moins un élément paquet (56, 58, 60, 62), la bordure étant cousue (55) ou autrement fixée à la couche interne (38) de matériau souple, à la couche externe (54) de matériau en feuille souple et/ou à la couche intermédiaire (50, 52), pour maintenir l'au moins un élément paquet (56, 58, 60, 62) dans une position permettant de fournir une régulation thermique efficace pendant l'utilisation et d'empêcher un mouvement de l'au moins un élément paquet au sein de la poche (48).

2. Contenant selon la revendication 1, dans lequel la bordure est cousue ou autrement fixée à chacune parmi la couche interne (38) de matériau souple, la couche externe (54) de matériau en feuille souple et la couche intermédiaire (50, 52).

3. Contenant selon la revendication 1 ou la revendication 2, dans lequel le corps est conçu pour avoir une base (18) et au moins une paroi latérale (12, 14, 16, 64) s'étendant à partir de la base (18) pour définir ladite cavité (28).

4. Contenant selon l'une quelconque des revendica-

tions 1 à 3, dans lequel la couche intermédiaire (50, 52) de matériau isolant flexible comporte ou comprend une couche (50) de matériau pelliculaire.

5. Contenant selon l'une quelconque des revendications précédentes, dans lequel la couche intermédiaire (50, 52) de matériau isolant flexible comporte un matériau en mousse (52).

6. Contenant selon l'une quelconque des revendications précédentes, dans lequel la couche intermédiaire (50, 52) de matériau isolant flexible comporte une couche (50) de matériau pelliculaire liée à un matériau en mousse (52).

7. Contenant selon la revendication 4 ou la revendication 6, dans lequel la couche (50) de matériau pelliculaire fait face vers l'au moins un élément paquet (56, 58, 60, 62).

8. Contenant selon l'une quelconque des revendications 4, 6 ou 7, dans lequel la couche (50) de matériau pelliculaire fait face vers la couche externe (54) de matériau en feuille souple.

9. Contenant selon l'une quelconque des revendications précédentes, dans lequel la couche intermédiaire (50, 52) comprend une couche unique (50) de pellicule.

10. Contenant selon l'une quelconque des revendications précédentes, dans lequel la couche intermédiaire (50, 52) comporte une couche (52) de matériau en mousse avec une couche de pellicule (50) liée à chaque côté du matériau en mousse (52), de telle sorte que le matériau pelliculaire (50) fait face à la fois vers l'au moins un élément paquet (56, 58, 60, 62) et vers la couche externe (54) du matériau en feuille souple.

11. Contenant selon la revendication 3, ou l'une quelconque des revendications 4 à 10 prise en dépendance de la revendication 3, dans lequel le couvercle (20) peut être fixé à la, ou à chaque, paroi latérale (12, 14, 16, 64).

12. Contenant selon l'une quelconque des revendications précédentes, dans lequel la poche est formée dans la base (18), l'au moins une paroi latérale (12, 14, 16, 64) et le couvercle (20) de telle sorte que la cavité (28) est sensiblement enfermée par ledit au moins un élément paquet (56, 58, 60, 62).

13. Contenant selon l'une quelconque des revendications précédentes, dans lequel la couche interne (38) de matériau en feuille souple est liée à la couche intermédiaire (50, 52) de matériau isolant flexible par piqûre pour former la poche (48).

14. Contenant selon la revendication 2 ou l'une quelconque des revendications 3 à 13 prise en dépendance de la revendication 2, dans lequel la bordure de l'au moins un élément paquet (56, 58, 60, 62) est cousue (55) ou fixée à la ou aux couche(s) de matériau pour garantir que l'au moins un élément paquet ne s'enfonce pas, ne glisse pas ou ne bouge pas de manière significative à l'intérieur de la poche (48) pendant l'utilisation.

15. Contenant selon la revendication 2 ou la revendication 14, ou l'une quelconque des revendications 3 à 13 prise en dépendance de la revendication 2, dans lequel la bordure est une extension de, et est fabriquée à partir du même matériau que, l'au moins un élément paquet (56, 58, 60, 62).

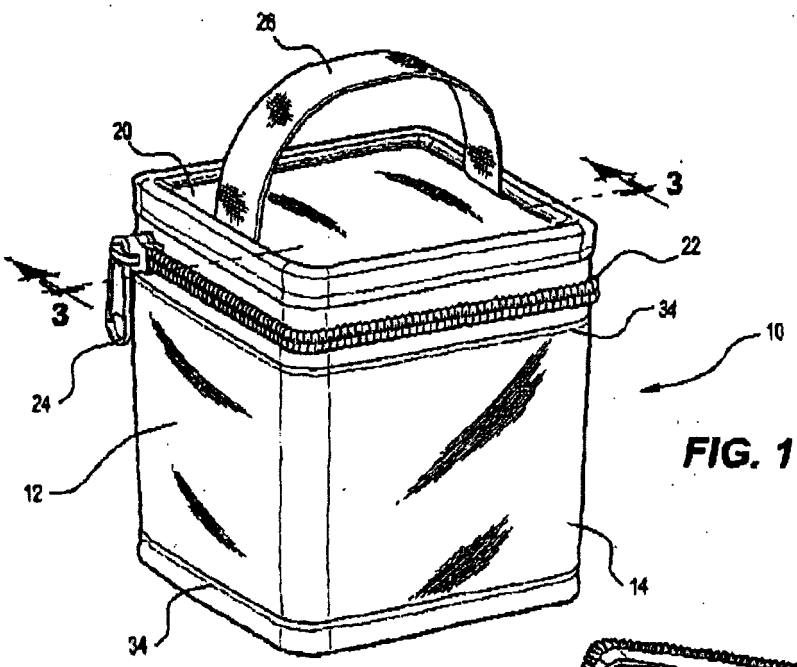

FIG. 1

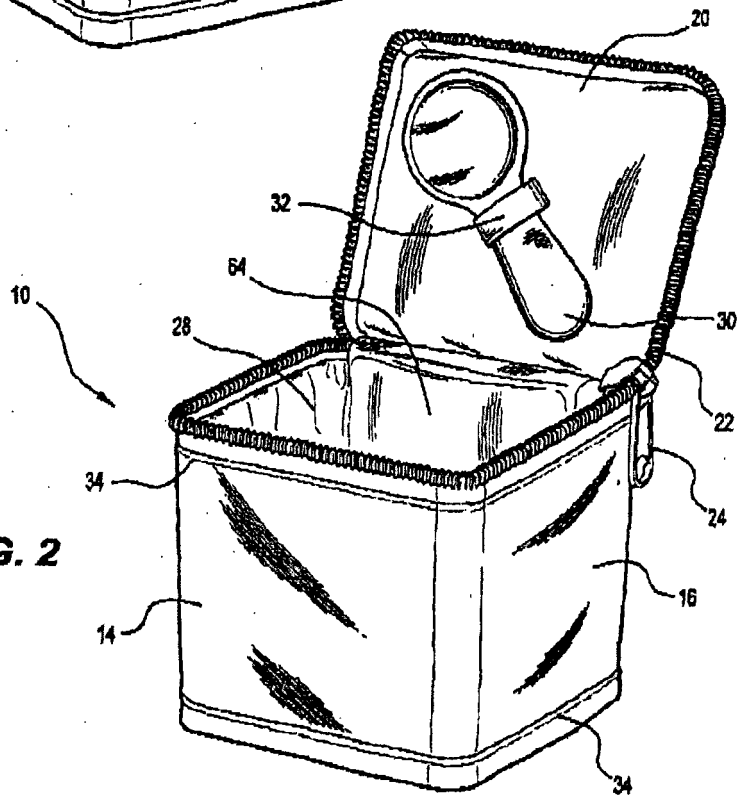

FIG. 2

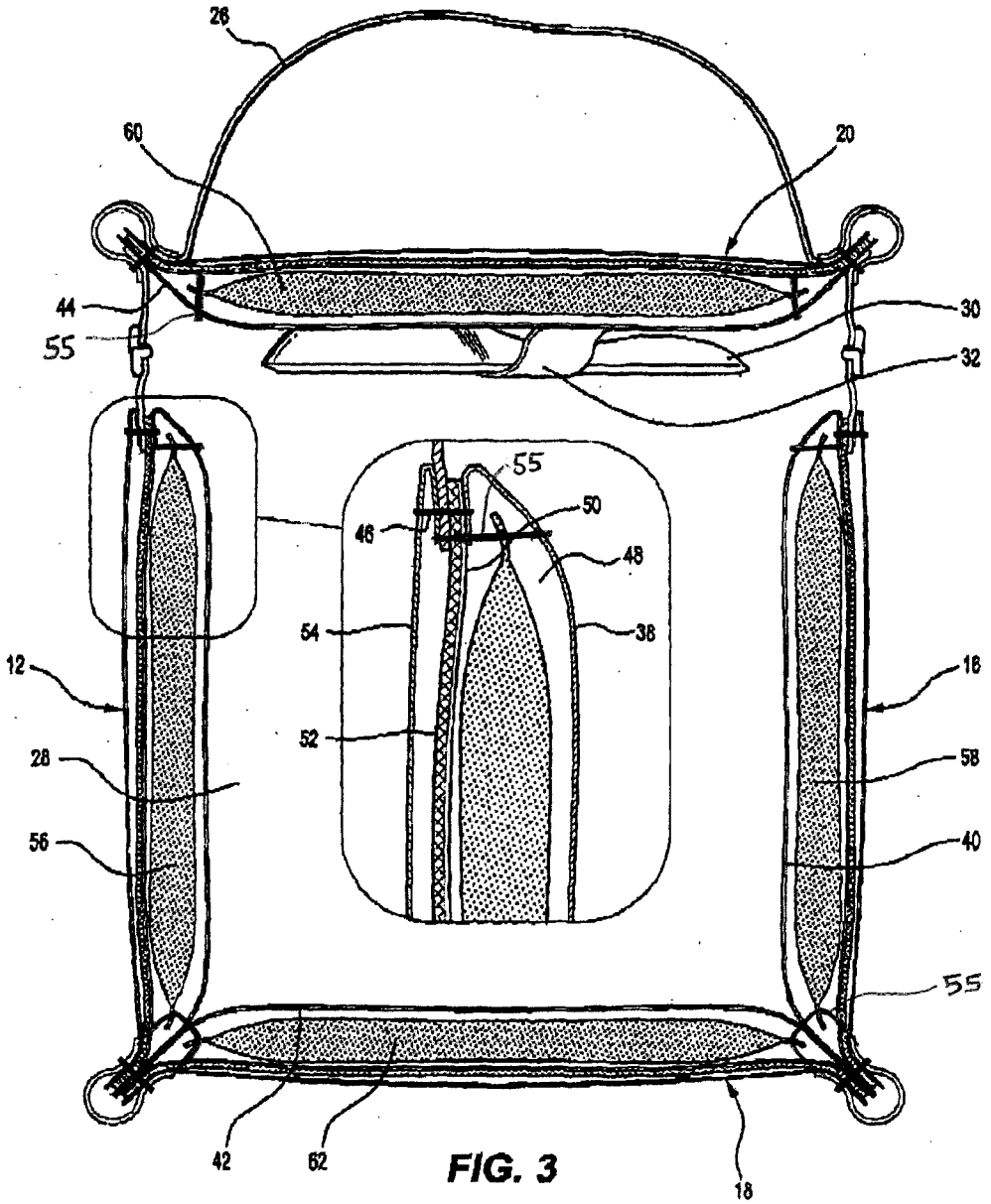

FIG. 3

REFERENCES CITED IN THE DESCRIPTION

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