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Amended claims in accordance with Rule 137(2) EPC.

(54) **Container with scoop recess**

(57) A package (1) for a powdered nutritional product has a container (2) and a scoop containing recess (6) for storing an elongate scoop (16). A circumferential rim (8) for connection to the container defines an access opening (22) and is closed by a lid (10). The recess is at one side of the access opening and has a length that is at least substantially equal to a minor dimension of the opening. It can receive the scoop prior to first use of the container and also thereafter

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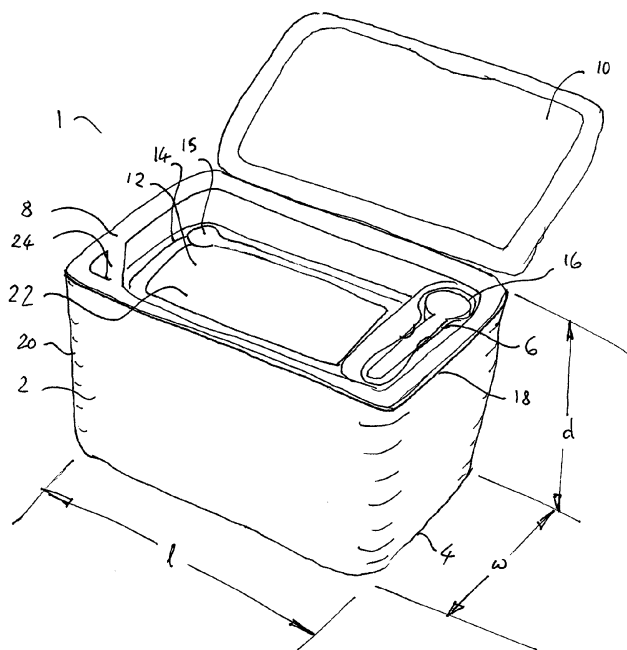


Fig. 1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to containers for the packaging of powder products, in particular for infant nutrition such as powdered or granulated milk formula. The invention further relates to a package comprising the combination of a container and measuring scoop together with a quantity of product.

2. Description of the Related Art

[0002] Infant milk formula has been sold in various forms of package for many years. Metal cans were initially the preferred container as they were relatively easy and cheap to produce and could be sealed for long term storage. The seal comprised an aluminium foil across the mouth of the container that was removed on first use. As a single container would be used for an extended period, the containers were provided with resealable plastic lids which gripped over the outer rim of the can. A measuring scoop was frequently included with the container, either packaged separately or within the can itself. Compared with modern materials, such cans are now considered relatively expensive and heavy. The inclusion of a scoop within the package itself on purchase is also less desirable from the point of view of good hygiene and ease of production.

[0003] More recently, alternative packaging forms have become available which improve on the existing cans. These include plastic and foil laminate container bodies and hinged lid assemblies having a facility to receive and retain a measuring scoop. One such package is described in US 2008041861, the contents of which are hereby incorporated by reference in their entirety. That package has a seal for initially closing the package and a space between the seal and an upper edge of the container for partially receiving the scoop prior to use. An elevation or cavity is also provided in the container lid and once the container is opened, the scoop may be retained at least partially within the lid. The relative sizes of the space and the cavity depend upon the form of the lid construction and the size of the scoop. These in turn are related to the stacking characteristics of the package, which is designed to stack with other similar packages e.g. on supermarket shelving. Further similar packages are shown in US2010236966 and WO2010071424 the contents of both of which are hereby incorporated by reference in their entirety.

[0004] The above described packages have comprised generally upright containers i.e. having a height greater than a width or breadth. In such designs, the scoop needs to be relatively long in order to reach to the bottom of the container and in their storage position generally lies across the full width or across a diagonal of

the container or its lid. Given the relative length of the scoop it is therefore not possible to provide it with a permanent location at a level above the package contents without at least partially obstructing access to the contents.

[0005] In many of the prior designs, the lid is provided with clips or other retaining elements to receive the scoop. This positioning of the scoop within the lid cavity has been found inconvenient by some users, requiring an unnatural or additional connection step in order to affix the scoop in position prior to closing the lid of the container. For a parent or carer preparing a feeding bottle with an infant under one arm, any additional actions are undesirable. Research with consumers has in fact shown that many users do not systematically make use of the clip and simply throw the scoop back into the powder after use. Additionally, locating the scoop under the lid can cause powder to fall from the scoop during closing of the lid. This powder may fall onto the rim or hinge area which is undesirable and often difficult to clean.

[0006] It would therefore be desirable to provide an alternative container construction that alleviated at least some of the perceived inconveniences of the prior art.

BRIEF SUMMARY OF THE INVENTION

[0007] According to the invention there is provided a package for a powdered nutritional product comprising a container for receiving the nutritional product, the container having a base and a peripheral wall and having a depth dimension, a circumferential rim for connection to the container and defining a wide access opening having a minor dimension and a major dimension, a scoop containing recess for storing an elongate scoop, wherein the recess is provided at one side of the access opening and extends substantially across the minor dimension, a lid, hingedly attached to the rim for reclosing the access opening and covering the scoop recess and a foil arranged to seal the container prior to use. By providing a scoop containing recess in this manner, the scoop may be placed horizontally into the recess without requiring careful alignment or connection with hooks or retention clips in a lid or the like. Furthermore, by providing the recess over the width of the access opening, the access to the interior of the container is not obstructed and a user can easily gain access to the contents.

[0008] The lid is intended to reclose the access opening to prevent escape of product once the foil has been removed after first use. It should also prevent ingress of moisture, dirt and other foreign objects. In particular the lid and rim should close sufficiently to prevent ingress of small insects and the like. A maximum opening of 70 microns in the closed state is generally considered sufficient to achieve this. It will be understood that any connection between the container and the rim should also be closed to the same tolerance.

[0009] Preferably, the container has a width dimension and a length dimension and at least the length dimension

is greater than the depth dimension. Such a low profile container ensures that a user can easily reach with the scoop to the bottom of the container to extract the last of the product. The package may also be dimensioned such that the recess has a length that is substantially equal to the depth dimension. It is then possible to provide a scoop which is at least almost as long as the container is deep without having to place it diagonally across the access opening. Preferably, the container has a generally square or rectangular outer profile with rounded corners. The access opening may also be generally of a similar shape but may be slightly more round or elliptical. In the case of a round opening it will be understood that the minor dimension and major dimension are equal. The recess may be located within the access opening or may be located in the rim alongside the access opening.

[0010] According to one preferred embodiment the recess may have a shape corresponding to a typical scoop i.e. it may have a bowl portion and a handle portion. It may also be provided with further regions to allow a user to easily grasp the scoop for removal from the recess and it may be provided with retention elements to grip the scoop or otherwise prevent it from being accidentally dislodged from the recess.

[0011] It will be understood that the recess may be a shallow shelf or closed form into which the scoop may be placed. Preferably however an underside of the recess is at least partially open to an interior of the container such that powder falling from the scoop will not collect in the recess but will instead fall back into the container.

[0012] Depending upon the manner in which the package is constructed the foil may be arranged in various different configurations. In one configuration, the foil may be connected to an inner surface of the peripheral wall, at a distance from a top edge of the container. Such an arrangement is especially convenient for carton or paperboard containers having a heat-sealable inner surface. Such carton laminates have been extensively employed for food packaging and in particular for infant formula such as described in the earlier mentioned WO2010071424. Preferable laminates comprise a layer of a relatively thin aluminium foil sandwiched between an outer carton/cardboard layer and an inner polymeric layer. The outer carton layer provides a good base for printing and an agreeable texture; the aluminium foil layer ensures excellent barrier properties for long term storage; the inner polymeric layer should be of food quality and may serve as a heat-sealable surface for connection to the foil seal.

[0013] In an alternative configuration, the foil may be sealed across a top edge of the container. Such an arrangement is convenient for containers having a flange at the top of the peripheral wall, in particular for thermoformed or blow moulded polymer containers. The container may also be a composite construction comprising an inner thin thermoformed or vacuum formed polymer container supported by a carton based sleeve. In another alternative configuration, the foil may be sealed to the

rim. The rim or the seal may in turn be sealed to the container.

[0014] In a preferred embodiment of the invention, the seal is rupturable or frangible and may comprise a weakened tear line and a pull tab. In this manner, the seal may be removed without necessarily disrupting the connection between the seal and the container or rim. An edge of the seal may thus remain permanently connected to the container or rim - this is particularly convenient in cases where this edge remains sandwiched between the container and the rim.

[0015] The scoop may be located within the recess prior to opening the seal. Alternatively, it may be supplied as a separate component that is inserted into the recess after a first use.

[0016] According to a preferred embodiment of the invention, the rim and the lid are integrally formed together of polymeric material. A preferred material for the lid and rim is polyethylene (PE) although the skilled person will be familiar with various alternatives which could provide similar engineering properties. The hinged connection may be formed as a living hinge. An alternative two piece construction may also be envisaged. It is also conceivable that the scoop is integrally formed with the lid construction and separated at first use. Nevertheless, a separate scoop has certain advantages since a change in scoop size can more easily be realised without redesigning the mould for forming the lid and rim.

[0017] In general, the recess will be integrally formed as part of the rim. Nevertheless, it may also be formed separately from and connectable to the rim. This may have advantages in that different sized recesses may be provided and may be attached at either a right side or a left side of the container for left- or right-handed use.

[0018] In a preferred embodiment of the invention, the lid or the rim are provided with tamper evident closure indication. This may be provided in the manner of a pull-tab that can be removed on first use. Additional child resistant closures may be provided as required in order to avoid accidental opening by an infant.

[0019] In a further preferred embodiment, the package comprises stacking provisions on the base of the container and complementary provisions on the lid or rim such that a number of like containers can be stacked on one another in a stable manner. Such provisions may comprise cams, grooves, protrusions, flanges and the like which serve to locate one container with respect to another, in particular by preventing relative lateral movement. In particular, the base of the container may be hollow having a downwardly extending peripheral flange

[0020] The invention also encompasses a package as described above including a quantity of powdered nutritional product sealed within the container. It will be understood that in this context powdered nutritional product can include powders, granules, pellets and the like and that nutritional product may be given its broadest possible meaning. Nevertheless, the invention is most specifically directed to baby or infant nutritional products such as

milk formula.

[0021] According to a still further aspect of the invention there is also disclosed a method of manufacturing a package for a powdered nutritional product comprising providing a container for receiving the nutritional product, the container having a base and a peripheral wall; providing a circumferential rim defining a wide access opening having a minor dimension and a major dimension, providing a scoop containing recess for storing an elongate scoop, wherein the recess is provided at one side of the access opening and extends substantially across the minor dimension and providing a lid, hingedly attached to the rim for reclosing the access opening and covering the scoop recess. The method further comprises filling the container with the product and sealing the product within the container by means of a foil and connecting the rim to the container. In one particular form of the method the rim is connected to the container after sealing the product within the container.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] The features and advantages of the invention will be appreciated upon reference to the following drawings of a number of exemplary embodiments, in which:

[0023] Figure 1 shows a perspective view of a package according to a first embodiment of the present invention;

[0024] Figure 2 is a cross-section of the package of Figure 1;

[0025] Figure 3 shows a cross-section of a package according to a second embodiment of the invention;

[0026] Figure 4 shows a cross-section of a package according to a third embodiment of the invention;

[0027] Figure 5 is a plan view of the package of Figure 1; and

[0028] Figure 6 is a plan view of an alternative package according to the invention.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0029] Figure 1 shows a perspective view of a package 1 according to a first embodiment of the invention comprising a container 2 having a scoop containing recess 6, a circumferential rim 8 and a lid 10. The container 2 has a depth dimension d , measured from its base 4 to a top edge 18 of its peripheral wall 20. It also has a width dimension w and a length dimension l . A scoop 16 can be seen within the recess 6.

[0030] The rim 8 forms an access opening 22 providing access to the interior of the container 2. Within the container 2 there is provided a foil 12 having a tear line 14 and a pull-tab 15. The foil 12 is connected to an inner surface of the peripheral wall 20 at a distance below the top edge 18 by heat-sealing. At one corner of the access opening 22 there is provided a leveller 24 which can be used to level-off a scoop during use.

[0031] Figure 2 shows a partial cross-section through the package of Fig. 1 taken along line 2-2. As can be

seen, rim 8 is partially inserted within the peripheral wall 20 of container 2 and connected thereto by appropriate adhesive. The peripheral wall 20 is formed of a carton/foil/heat seal laminate as provided under the Cekacan™ brand by A&R Carton. Foil 12 is connected at a distance below the top edge 18 and also below the level of the recess 6 containing scoop 16. Also as may be seen in Fig 2, the underside 26 of the recess 6 has an opening 28.

[0032] In use, the package 1 is opened by hinging back the lid 10 to reveal the access opening 22. The pulling tab 15 may then be grasped in order to rupture the foil 20 along the line of weakness 14 exposing the powder. The scoop 16 is initially located in the recess 6 and may be removed to perform dosing of the powder. After use it is returned to the recess 6 and the lid 10 is closed. In the illustrated embodiment, the container has a depth d of 150 mm, a length w of 190 mm and a width w of 127 mm. The amount of milk powder contained in the container 2 is around 800 gram.

[0033] Figure 3 shows a view of a second embodiment of the invention in a similar cross-sectional view to that of Fig. 2. In this embodiment, the peripheral wall 20 comprises a thermo-formed inner liner 201 and a cardboard outer sleeve 202. The liner 201 has a top flange 181 onto which the foil 12 is connected by welding. Unlike Fig. 2, the rim 8 and recess 6 in Fig. 3 are raised above the top flange 181.

[0034] Fig. 4 shows a third embodiment of the invention in a similar cross-section to that of Fig. 2. In this embodiment the peripheral wall 20 is formed by blow-moulding and has a top flange 181 which is integrally formed with the recess 6. In this embodiment, the foil 12 covers the recess 6 whereby the scoop 16 is sealed within the container 2 prior to removal of the foil 12.

[0035] Fig. 5 is a plan view of the package 1 of Fig. 2 with the lid removed for the sake of clarity. Rim 8 surrounds access opening 22 which has a major dimension M and a minor dimension m . The recess 6 is located at one side of the opening 22 and aligned across the minor dimension m or width w of the container. The scoop 16 has almost the same length as the opening 22 is wide. In this embodiment, the recess 6 is formed as a separate element which is received within the access opening 22. Retention elements 30 are provided within the recess 6 to engage the scoop and prevent it from being dislodged.

[0036] Fig. 6 shows a plan view of an alternative form of package 1 having a substantially square cross section. The rim 8 defines an access opening 22 having a major dimension M and a minor dimension m . Recess 6 is formed on part of rim 8 and in this embodiment extends over the almost the major dimension M .

[0037] Thus, the invention has been described by reference to certain embodiments discussed above. It will be recognized that these embodiments are susceptible to various modifications and alternative forms well known to those of skill in the art.

[0038] Many modifications in addition to those described above may be made to the structures and tech-

niques described herein without departing from the spirit and scope of the invention. Accordingly, although specific embodiments have been described, these are examples only and are not limiting upon the scope of the invention.

Claims

1. A package for a powdered nutritional product comprising:

a container for receiving the nutritional product, the container having a base and a peripheral wall and having a depth dimension;
a circumferential rim for connection to the container and defining a wide access opening having a minor dimension and a major dimension;
a scoop containing recess for storing an elongate scoop, wherein the recess is provided at one side of the access opening and has a length that is at least substantially equal to the minor dimension;
a lid, hingedly attached to the rim for reclosing the access opening and covering the scoop recess; and
a foil arranged to seal the container prior to use.

2. The package according to claim 1, wherein the container has a width dimension and a length dimension and at least the length dimension is greater than the depth dimension.
3. The package according to claim 1 or claim 2, wherein the recess has a bowl portion and a handle portion.
4. The package according to any preceding claim, wherein an underside of the recess is at least partially open to an interior of the container.
5. The package according to any preceding claim, wherein the foil is connected to an inner surface of the peripheral wall, at a distance from a top edge of the container.
6. The package according to any of claims 1 to 4, wherein the foil is sealed across a top edge of the container.
7. The package according to any of claims 1 to 4, wherein the foil is sealed to the rim.
8. The package of any preceding claim, wherein the seal comprises a weakened tear line and a pull tab.
9. The package according to any preceding claim, further comprising a scoop located within the recess prior to opening the seal.

10. The package according to any preceding claim, wherein the rim and the lid are integrally formed of polymeric material.

11. The package according to any preceding claim, wherein the peripheral wall comprises a carton laminate material, preferably comprising a heat-sealable polymeric inner surface.

12. The package according to any preceding claim, wherein the recess has retention elements to prevent a scoop being dislodged from the recess.

13. The package according to any preceding claim, wherein recess is separately formed from and connectable to the rim.

14. The package according to any preceding claim, wherein the lid or the rim are provided with tamper evident closure indication.

15. The package according to any preceding claim, wherein the recess has a length that is substantially equal to the depth dimension.

16. The package according to any preceding claim, further comprising stacking provisions on the base of the container and complementary provisions on the lid or rim such that a number of like containers can be stacked on one another.

17. A package according to any preceding claim, further comprising a quantity of powdered nutritional product sealed within the container.

18. The package of claim 17, wherein the nutritional product comprises infant milk formula.

19. A method of manufacturing a package for a powdered nutritional product comprising:

providing a container for receiving the nutritional product, the container having a base and a peripheral wall;
providing a circumferential rim defining a wide access opening having a minor dimension and a major dimension, a scoop containing recess for storing an elongate scoop, wherein the recess is provided at one side of the access opening and extends substantially across the minor dimension and a lid, hingedly attached to the rim for reclosing the access opening and covering the scoop recess;
filling the container with the product;
sealing the product within the container by means of a foil; and
connecting the rim to the container.

20. The method of claim 19, wherein the rim is connected to the container after sealing the product within the container.

Amended claims in accordance with Rule 137(2) EPC.

1. A package (1) for a powdered nutritional product comprising:

a container (2) for receiving the nutritional product, the container having a base (4) and a peripheral wall (20) and having a depth dimension (d);

a circumferential rim (8) for connection to the container and defining a wide access opening (22) having a minor dimension (m) and a major dimension (M);

a scoop containing recess (6) for storing an elongate scoop (16), wherein the recess is provided at one side of the access opening and has a length that is at least substantially equal to the minor dimension;

a lid (10), hingedly attached to the rim for reclosing the access opening and covering the scoop recess; and

a foil (12) arranged to seal the container prior to use,

characterized in that an underside (26) of the recess is at least partially open to an interior of the container.

2. The package according to claim 1, wherein the container has a width dimension (w) and a length dimension (l) and at least the length dimension is greater than the depth dimension.

3. The package according to claim 1 or claim 2, wherein the recess has a bowl portion and a handle portion.

4. The package according to any preceding claim, wherein the foil is connected to an inner surface of the peripheral wall, at a distance from a top edge (18) of the container.

5. The package according to any of claims 1 to 3, wherein the foil is sealed across a top edge of the container.

6. The package according to any of claims 1 to 3, wherein the foil is sealed to the rim.

7. The package of any preceding claim, wherein the seal comprises a weakened tear line (14) and a pull tab (15).

8. The package according to any preceding claim, further comprising a scoop (16) located within the recess prior to opening the seal.

9. The package according to any preceding claim, wherein the rim and the lid are integrally formed of polymeric material.

10. The package according to any preceding claim, wherein the peripheral wall comprises a carton laminate material, preferably comprising a heat-sealable polymeric inner surface.

11. The package according to any preceding claim, wherein the recess has retention elements (30) to prevent a scoop being dislodged from the recess.

12. The package according to any preceding claim, wherein recess is separately formed from and connectable to the rim.

13. The package according to any preceding claim, wherein the lid or the rim are provided with tamper evident closure indication.

14. The package according to any preceding claim, wherein the recess has a length that is substantially equal to the depth dimension.

15. The package according to any preceding claim, further comprising stacking provisions on the base of the container and complementary provisions on the lid or rim such that a number of like containers can be stacked on one another.

16. A package according to any preceding claim, further comprising a quantity of powdered nutritional product sealed within the container.

17. The package of claim 16, wherein the nutritional product comprises infant milk formula.

18. A method of manufacturing a package (1) for a powdered nutritional product comprising:

providing a container (2) for receiving the nutritional product, the container having a base (4) and a peripheral wall (20);

providing a circumferential rim (8) defining a wide access opening (22) having a minor dimension (m) and a major dimension (M), a scoop containing recess (6) for storing an elongate scoop (16), wherein the recess is provided at one side of the access opening and extends substantially across the minor dimension, and a lid (10), hingedly attached to the rim for reclosing the access opening and covering the scoop recess, wherein an underside (26) of the recess

is at least partially open to an interior of the container;
filling the container with the product;
scaling the product within the container by means of a foil (12); and
connecting the rim to the container.

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19. The method of claim 18, wherein the rim is connected to the container after sealing the product within the container.

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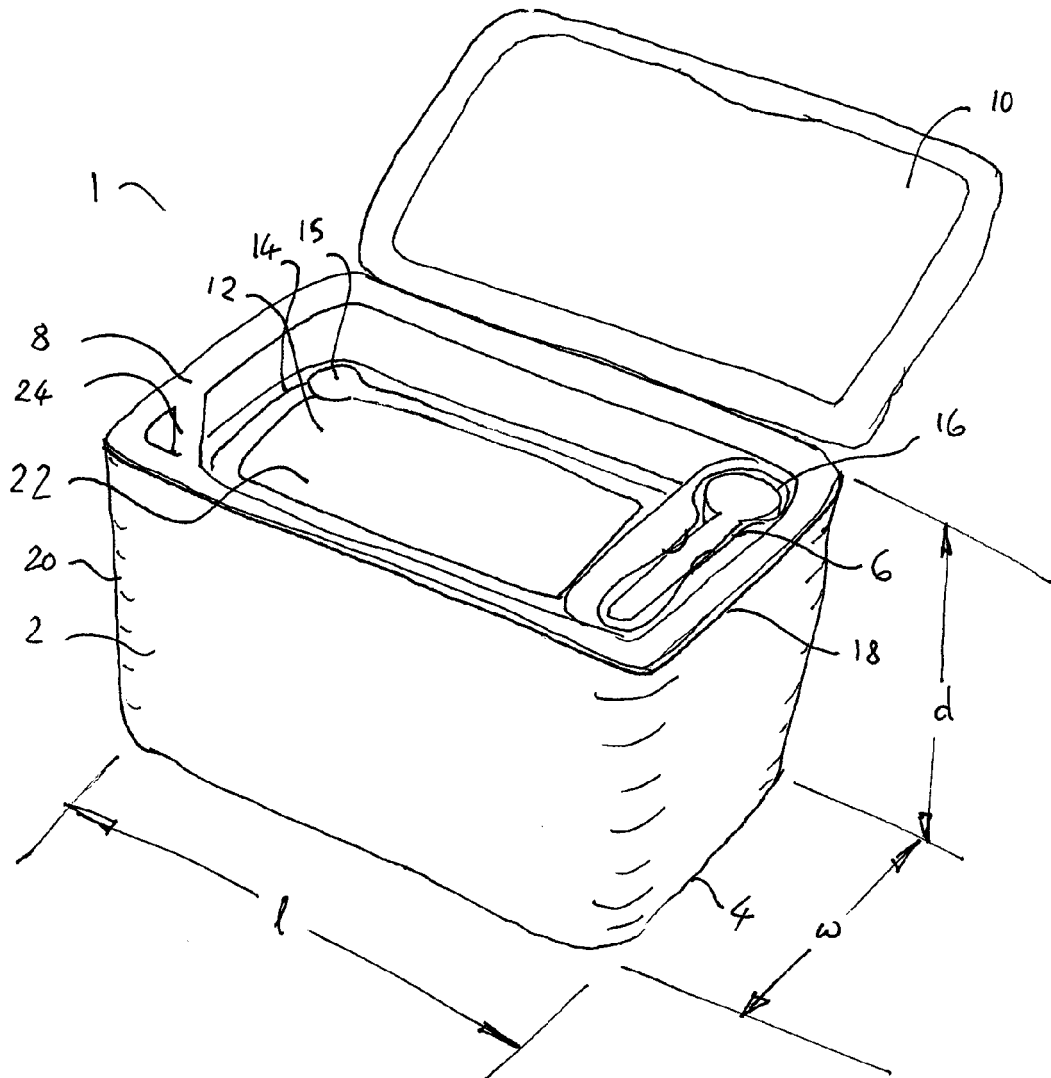


Fig. 1

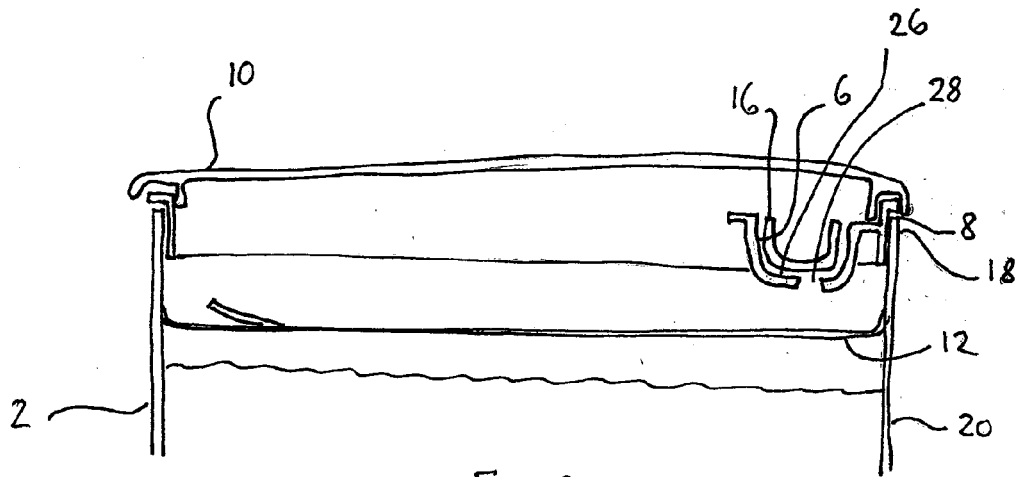


Fig. 2

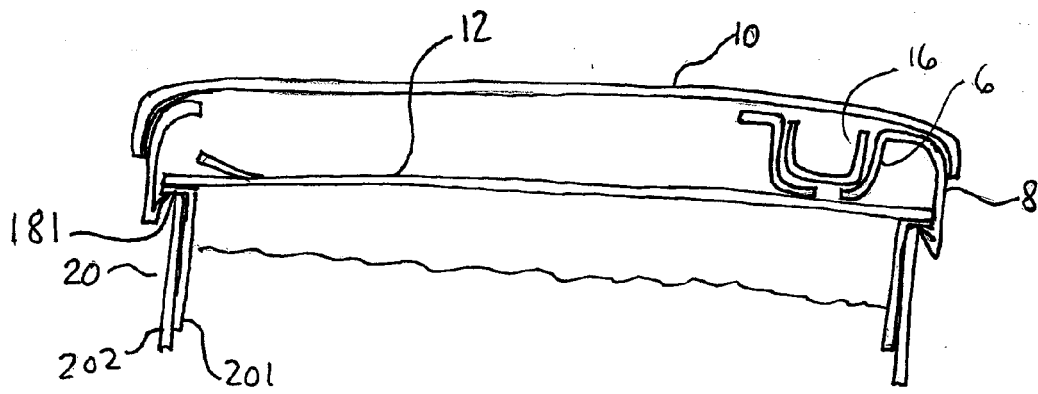


Fig. 3

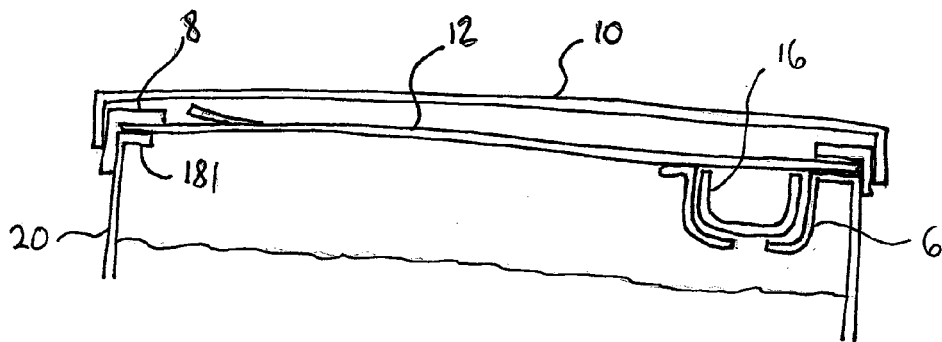


Fig. 4

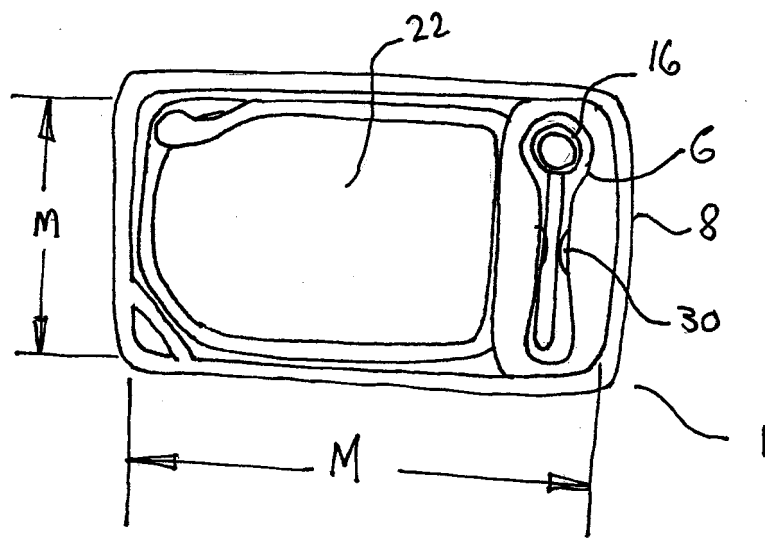


Fig. 5

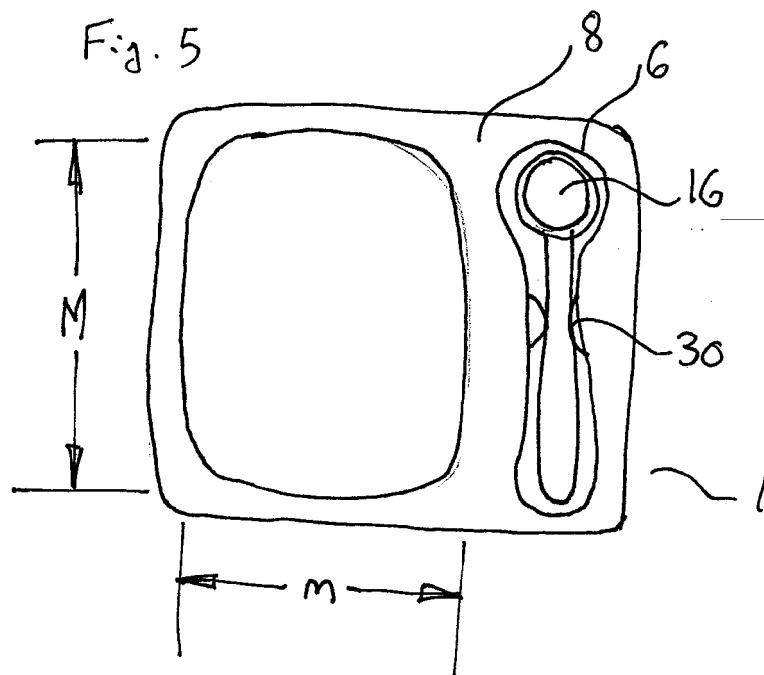


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 11 18 7718

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 March 2012	Examiner Jervelund, Niels
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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