

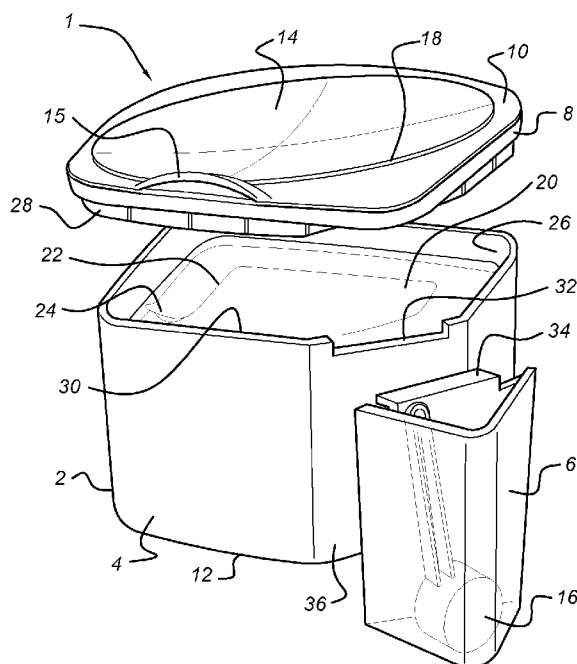


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[Continued on next page]

(54) **Title:** CONTAINER WITH ADDITIONAL SCOOP COMPARTMENT

Fig. 2



(57) **Abstract:** A container (2) for a powdered nutritional product has a product containing portion (4) and a scoop containing recess (6) for storing an elongate scoop (16), at least partially separated from the product containing portion by a separating wall (54). A circumferential rim (8) for connection to the product containing portion defines an access opening (38) to the product containing portion and is closed by a lid (10). The separating wall may serve to prevent powder dropping from the scoop during storage from falling into the product containing portion. The separate recess can receive the scoop prior to first use of the container and also thereafter



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CONTAINER WITH ADDITIONAL SCOOP COMPARTMENT

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

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.

10

2. Description of the Related Art

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. 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.

30 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.

The above described packages have comprised generally upright containers i.e. having a height greater than a width or breadth. Lid designs have attempted to provide a relatively large access opening to the container interior so that a user may easily remove all of the contents with the scoop provided. A large lid opening however imposes limitations on the lid construction if adequate sealing is to be achieved.

Furthermore increasing the width of the container with respect to the height would have led to significant dead volume. A fixed height head space is required within the container to locate the scoop above the product. A wider but shorter container would have relatively more dead volume.

Additionally, the position of the scoop within the lid cavity has been found inconvenient by some users. This is particularly the case where the scoop has become damp due to vapour on preparing the product or from washing, causing milk powder to stick to the scoop and subsequently drop back into the container.

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

According to the invention there is provided a container for a powdered nutritional product comprising a product containing portion having a depth dimension, a scoop containing recess for storing an elongate scoop, wherein the recess is at least partially separated from the product containing portion by a separating wall, a circumferential rim for connection to the product containing portion and defining an access opening to the product containing portion; and a lid for closing the access opening. The separating wall may serve to prevent powder dropping from the scoop during storage from falling into the product containing portion. Furthermore, the separate recess can receive the scoop prior to first use of the container and also thereafter.

Preferably, the container comprises a seal arranged to close the product containing portion prior to use. This may be in the form of a membrane or foil connected to an internal wall of the product containing portion or to a top edge of such a wall by heat, adhesive or the like. Alternatively, the seal may be provided on an intermediate member or may seal across the access opening of the circumferential rim.

Preferably the seal will be frangible or rupturable to facilitate removal and may be provided with a pull tab.

In a preferred embodiment, the recess is arranged alongside the product containing portion and has a length dimension substantially equal to and aligned with the depth dimension. It may thus be a separate compartment in which the scoop is inserted generally vertically with access from above. The length of the scoop can thus be at least as long as the container is deep, which is advantageous in reaching the bottom of the product containing portion.

Depending upon the arrangement of the circumferential rim, the recess may be accessible via the access opening. Alternatively, the circumferential rim may define a separate scoop opening providing access to the recess independently of the access opening. If the recess lies within the access opening it can be closed and sealed by the lid. If the recess is independent of the access opening, it may be covered by the lid but not sealed. Alternatively, the lid may have additional sealing provisions for closing and sealing the recess thereby preventing the scoop from falling out should the container be tipped and preventing ingress of dirt. The skilled person will understand that the degree of sealing of the container after initial opening will depend on requirements.

According to one embodiment, the container may have a generally square or rectangular outer profile with rounded corners. The access opening can then be generally round or elliptical with the recess being formed in a corner region between the access opening and the outer profile. An elliptical access opening arranged on a diagonal of the container is most preferred as this provides two slightly larger corner regions, either or both of which are suitable for locating the recess.

In an alternative embodiment, the recess may be formed within the lid. By providing a separating wall within the lid, a pocket shaped recess may be formed for receiving the scoop. On opening the lid, any powder that has fallen from the scoop remains within the recess and is prevented from falling back into the container by the separating wall. If, as described above, the container has a generally rectangular outer profile and the access opening is generally elliptical, the recess may be arranged in the lid to receive a relatively longer scoop than would have been the case for a round opening. This may allow use of a scoop having a length at least equal to the depth dimension of the product containing portion. As will be understood, this makes access to the bottom of the product containing portion more convenient.

In one embodiment, the product containing portion and the recess may be present as a single body and may be integrally formed of polymeric material. This may be a thermoforming, blow moulding, deep drawing or injection moulding procedure and may use one or more polymer components. The skilled person will readily understand that in a two component moulding process two polymers having different characteristics may be simultaneously or successively applied to form a single integrally moulded product.

In an alternative arrangement, the recess or separating wall may be a separate component, connectable to the product containing portion, rim or lid by mechanical attachment, adhesive or the like. This connection may take place during manufacture of the container or after filling and sealing of the product containing portion.

In another alternative, the product containing portion may comprise a wall formed of a carton laminate material. 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 seal.

According to an advantageous embodiment the recess is at least partially transparent such that a scoop within the recess is visible from outside the container. Previous containers have provided a contour indicating the presence and location of a scoop within the container and such contour may also be present. Nevertheless, it is believed that actually seeing the scoop within the recess is considered desirable by certain users. The recess, if made as a separate element may be completely of transparent material. Alternatively, a viewing window may be provided. Preferably, the degree of transparency is partial such that powder from the scoop is not immediately visible. According to one preferred embodiment of the invention, the circumferential rim and the lid are integrally formed and hinged to one another e.g. at a living hinge. Such a construction has been found convenient from a manufacturing perspective in the past. Nevertheless, the skilled person will also understand that a two component lid, rim combination may be provided having an alternative hinge arrangement e.g. in the form

of pins and sockets. 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.

As mentioned above, the container is preferably dimensioned to provide easy access to the contents using the scoop. Preferably the overall dimensions of the container are such that it is relatively broad or wide and relatively shallow compared to previous designs. This allows the access opening to have a primary dimension that is greater than the depth dimension of the product containing portion. By locating the scoop in a side compartment rather than above the product, less initial head space is required either within the product containing portion or within the lid.

The lid or the rim may also be provided with tamper evident closure indication. These may be otherwise conventional engagement mechanisms between the lid and the rim which must be broken on first time opening of the container and which make such opening and breakage visually evident.

Preferably, the container has stacking provisions such that a number of like containers can be stacked on one another. The container may be defined to have an upper side which will generally be formed by the circumferential rim and the lid and a lower side being primarily a base of the product containing portion. The container preferably comprises stacking provisions on or at the upper side and complementary provisions at the base of the container. 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.

The invention also specifically relates to a package comprising a container as described above containing a quantity of powdered nutritional product sealed within a product containing portion and a scoop received within a recess, the product and scoop being separated from one another by a separating wall. 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.

BRIEF DESCRIPTION OF THE DRAWINGS

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

- 5 Figure 1 shows a perspective view of a package according to a first embodiment of the present invention;
Figure 2 is a partially exploded view of the package of Figure 1;
Figure 3 shows part of the package of Figure 1;
Figure 4 is a perspective view of a package according to a second embodiment of the present invention;
10 Figure 5 is a partially exploded view of the package of Figure 4;
Figure 6 shows a perspective view of a package according to a third embodiment of the present invention;
Figure 7 is a partially exploded view of the package of Figure 6; and
15 Figure 8 shows part of the package of Figure 6;

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

- Figure 1 shows a perspective view of a package 1 according to a first embodiment of the invention comprising a container 2 having a product containing portion 4, a scoop
20 containing recess 6, a circumferential rim 8 and a lid 10. The container 2 has a lower side or base 12 and an upper side 14 forming a top surface of the lid 10. The distance from the base 12 to the upper side 14 defines a height dimension h of the container 2. The container also has a width dimension w and a breadth dimension b . A scoop 16 can be seen within the recess 6, which is partially transparent. An elevation 18 is formed on
25 the lid 10, the function of which will be described hereinafter. The lid 10 is also provided with a lip 15 to assist opening. The lip 15 may be engaged by tamper evident means (not shown) on the circumferential rim 8 to prevent or show unauthorised opening of the container 2.
- Figure 2 shows a partially exploded perspective view of the package 1 of Figure 1. The
30 circumferential rim 8 and lid 10 have been partially removed showing a foil 20 which seals the product containing portion 4. The foil 20 is provided with a line of weakness 22 and a pulling tab 24 and is sealed to an internal surface of wall 26 of the product

containing portion 4. On the underside of the rim 8, a downward extending web 26 can be seen. Product containing portion 4 has a top edge 30 and a flattened corner 36.

The top edge 30 at the corner 36 has an interruption 32. The recess 6 has a rear edge 34 which is sized to engage with the interruption 32.

- 5 The wall 26 of the product containing portion 4 is formed of a carton/foil/heat seal laminate as provided under the CekacanTM brand by A&R Carton. The recess 6 is formed of transparent polyethylene. The rim 8 and lid 10 are injection moulded in a single piece from coloured polyethylene. In the arrangement shown in Figure 2, the product containing portion 4 is previously filled with milk powder (not shown) and
- 10 sealed by heat sealing of the foil 20 to the wall 26. On assembly of the container 1, the recess 6 is glued to the corner 36 with the rear edge 34 engaged with the top edge 30. The rim 8 is then glued by its web 26 to the top edge 30. The rear edge 34 and corner 36 form a separating wall between the product containing portion 4 and the recess 6. Figure 3 shows the circumferential rim 8 and lid 10 in an open condition. The
- 15 circumferential rim 8 has an access opening 38 and a scoop opening 40. The lid 10 is attached to the circumferential rim 8 by a living hinge 42. On its lower surface, the lid 10 has a downwardly depending sealing flange 44. The sealing flange 44 is elliptical in shape and oriented diagonally across the lid. It corresponds in size to the scoop opening 40. On closing the lid 10, the sealing flange 44 engages in the access opening 38 to
- 20 effectively seal it against ingress of moisture, dirt and insects. It will be understood that this seal is merely mechanical and its effectiveness will depend upon the tolerances and materials chosen for the sealing flange 44 and circumferential rim 8. The lid 10 merely covers the scoop opening 40 without sealing it.

- In use, the package 1 is opened by hinging back the lid 10 to reveal the access opening
- 25 38. The pulling tab 24 may then be grasped in order to rupture the foil 20 along the line of weakness 22 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. Because no head space is required above the foil 20 to accommodate the scoop 16 beneath the lid 10, the product containing portion 4 may be
- 30 filled almost completely with the powder product. The lid/rim combination is also relatively low keeping the overall height h of the container 1 to a minimum. In the illustrated embodiment, the container has a height h of 150 mm, a width w of 190 mm

and a breadth b of 127 mm. The amount of milk powder contained in product containing portion 4 is around 800 gram.

Figure 4 shows in perspective view a second embodiment of the invention in which like elements are denoted by the same reference numeral. According to the second
5 embodiment, the package 1 comprises a container 2 having a circumferential rim 8 and a lid 10 with a lip 15. As in the first embodiment, a scoop 16 can be seen within a recess 6. Unlike the first embodiment, the scoop is visible through a window 50. Furthermore, in the second embodiment of Figure 4, the lid 10 is provided with a depression 52 on its upper side 14.

10 Figure 5 shows the second embodiment of Figure 4 in exploded perspective view. In this view it can be seen that the product containing portion 4 and the scoop containing recess 6 are integrally formed as a single body 58 and separated from one another by a separating wall 54. Although they are integrally formed, recess 6 and product
15 containing portion 4 are of different compositions, in that recess 6 is partially transparent. They are preferably formed in a thermoforming process and are of relatively lightweight material.

Around the body 58 there is provided an outer sleeve 56 of carton in which the window 50 is formed. The sleeve 56 provides rigidity to the container 2 and can be easily printed as may be required. The body 58 has a top edge 30 that is slightly widened. An
20 intermediate member 60 fits within the top edge 30 and is adhesively connected thereto during manufacture. The intermediate member 60 has an access opening 38 and a scoop opening 40 surrounded by an outer rim 62. The access opening 38 is provided with a foil 20 for sealing prior to use. The foil 20 has pulling tab 24 that may be grasped in order to facilitate its removal.

25 The lid 10 and circumferential rim 8 are arranged to attach onto the body 58 to complete the package 1. To this end, the circumferential rim 8 fits over the top edge 30 and is retained by mechanical interaction (form fit). During manufacture, the product containing portion 4 may be filled with milk powder. The intermediate member 60 complete with foil 20 may then be adhesively connected to the top edge 30 to form a
30 hermetically sealed unit. In a final stage of production, the outer sleeve 56 may be added having the desired printing, a scoop 16 may be inserted in recess 6 and the lid 10 and circumferential rim 8 may be applied.

In the second embodiment of Figures 4 and 5, the base 12 of the container 2 has a profile (not shown) that is complementary to the depression 52 on the lid 10. During storage or display, packages may be stacked one upon the other whereby the base 12 of one container engages with the lid 10 of a container beneath.

- 5 On use, the user removes the foil 20 and uses the scoop 16 to dispense product. The lid subsequently serves to close both the access opening 38 and the scoop opening 40 together.

Figure 6 shows a perspective view of package 1 according to a third embodiment of the invention, in which similar features from the previous embodiments are designated by
10 like reference numerals. According to Figure 6, the container 2 comprises a product containing portion 4 formed of a similar carton laminate as described in relation to the first embodiment. The product containing portion 4 is closed by a circumferential rim 8 and lid 10 having a lip 15.

Unlike the previous embodiments a recess 6 is provided within the lid 10 for receipt of
15 a scoop 16. The lid 10 is partially transparent such that the scoop 16 is visible from outside the container 2 with the lid 10 closed. Additionally, the upper side 14 of the container is provided with cam elements 64 located on the circumferential rim 8. These cam elements 64 serve as stacking provisions and can engage with the base 12 of another similar container as described above.

20 Figure 7 shows a perspective view of the package 1 of Fig 6 in a partially exploded view. The product containing portion 4 is sealed by a foil 20 which is connected to an internal surface of wall 26 of the product containing portion 4. As in the first embodiment, the foil 20 is provided with a line of weakness 22 and a pulling tab 24. Unlike the first embodiment, the foil 20 is attached to wall 26 at a greater distance
25 below its top edge 30. This, to allow sufficient space for the recess 6 in which the scoop 16 is accommodated. The sealed product containing portion 4 may be substantially as described in the above-mentioned US2010236966.

Figure 8 shows a perspective view of the lid 10 and circumferential rim 8 of the third embodiment in their opened condition. The lid 10 and the circumferential rim 8 are
30 hinged together at a living hinge 42. The circumferential rim 8 defines an access opening 38 having a generally elliptical shape. The lid 10 is also generally elliptical and has a downwardly depending sealing flange 44 which engages in the access opening to reseal the container 2 on closing the lid 10.

Within the lid 10 there is a separating wall 54 which together with the lid 10 forms the recess 6 for receipt of scoop 16. The scoop 16 is retained in the recess 6 by the resilience of the materials used in a form fitting manner. It is also aligned with the major axis of the elliptically shaped lid 10 whereby its length may be maximised for a given package. Use of the package 1 of the third embodiment may be substantially as described above in the previous embodiments.

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. In particular, although the lid 10 of the third embodiment engages within the access opening 38, it may also engage over an upstanding flange formed around the access opening in the manner described in US2010236966. Furthermore, it will be understood that although the recess 6 of the third embodiment is shown to open in the direction of the hinge 42, the separating wall 54 may be arranged such that the recess 6 is open on the side of the lip 15.

Many modifications in addition to those described above may be made to the structures and techniques 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 container for a powdered nutritional product comprising:
 - a product containing portion having a depth dimension;
 - a scoop containing recess for storing an elongate scoop, wherein the recess
 - 5 is at least partially separated from the product containing portion by a separating wall such that powder dropping from the scoop during storage will not fall into the product containing portion;
 - a circumferential rim for connection to the product containing portion and defining an access opening to the product containing portion; and
 - 10 a lid for closing the access opening.
2. The container according to claim 1, further comprising a seal arranged to close the product containing portion prior to use.
3. The container according to claim 1 or claim 2, wherein the recess is arranged alongside the product containing portion and has a length dimension
- 15 substantially equal to and aligned with the depth dimension.
4. The container according to any preceding claim, wherein the recess is accessible via the access opening.
5. The container according to any of claims 1 to 3, wherein the circumferential rim further defines a scoop opening providing access to the recess independently of
- 20 the access opening.
6. The container according to any preceding claim, wherein the container has a generally square or rectangular outer profile and the access opening is generally round or elliptical, the recess being formed in a corner region between the access opening and the outer profile.
7. The container according to claim 1 or claim 2, wherein the recess is formed within the lid.
8. The container according to claim 7, wherein the container has a generally rectangular outer profile and the access opening is generally elliptical, the recess being arranged in the lid in alignment with the elliptical access opening
- 30 and being dimensioned to receive a scoop having a length at least equal to the depth dimension of the product containing portion.
9. The container according to any of claims 1 to 6, wherein the product containing portion and the recess are integrally formed of polymeric material.

10. The container according to any of claims 1 to 8, wherein the recess or separating wall is a separate component, connectable to the product containing portion, rim or lid by mechanical attachment, adhesive or the like.
- 5 11. The container according to any of claims 1 to 8 or 10, wherein the product containing portion comprises a wall formed of a carton laminate material, preferably comprising a heat-sealable polymeric inner surface.
12. The container according to any preceding claim, wherein the recess is at least partially transparent such that a scoop within the recess is visible from outside the container.
- 10 13. The container according to any preceding claim, wherein the rim and the lid are integrally formed and hinged to one another.
14. The container according to any preceding claim, wherein the lid or the rim are provided with tamper evident closure indication.
- 15 15. The container according to any preceding claim, wherein the access opening has a primary dimension that is greater than the depth dimension of the product containing portion.
- 20 16. The container according to any preceding claim, further comprising stacking provisions at an upper side of the container and complementary provisions at a lower side of the container such that a number of like containers can be stacked on one another.
17. A package comprising a container according to any preceding claim, a quantity of powdered nutritional product sealed within the product containing portion and a scoop received within the recess.
- 25 18. The package of claim 17, wherein the nutritional product comprises infant milk formula.

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Fig. 1

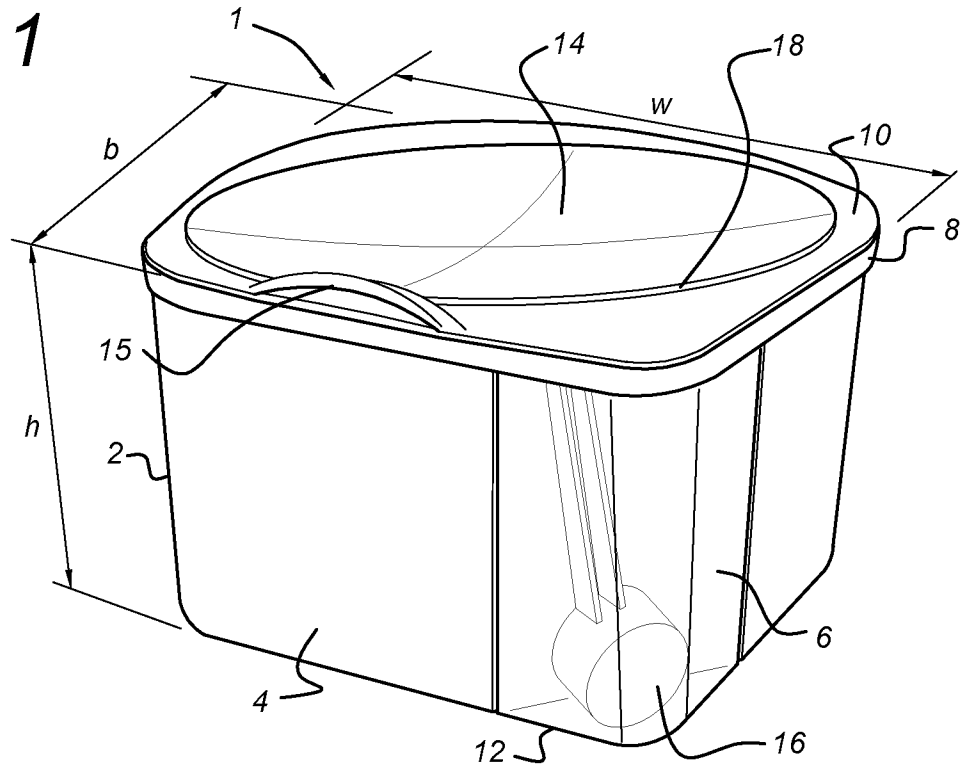


Fig. 2

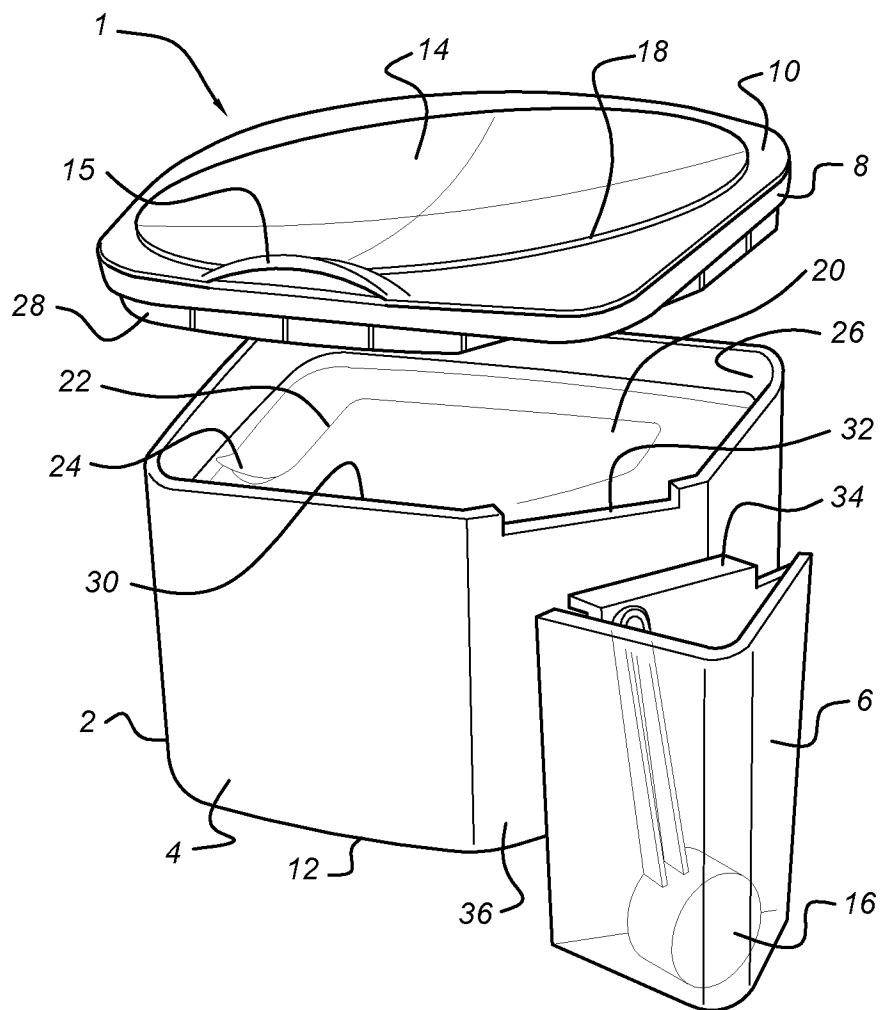


Fig. 3

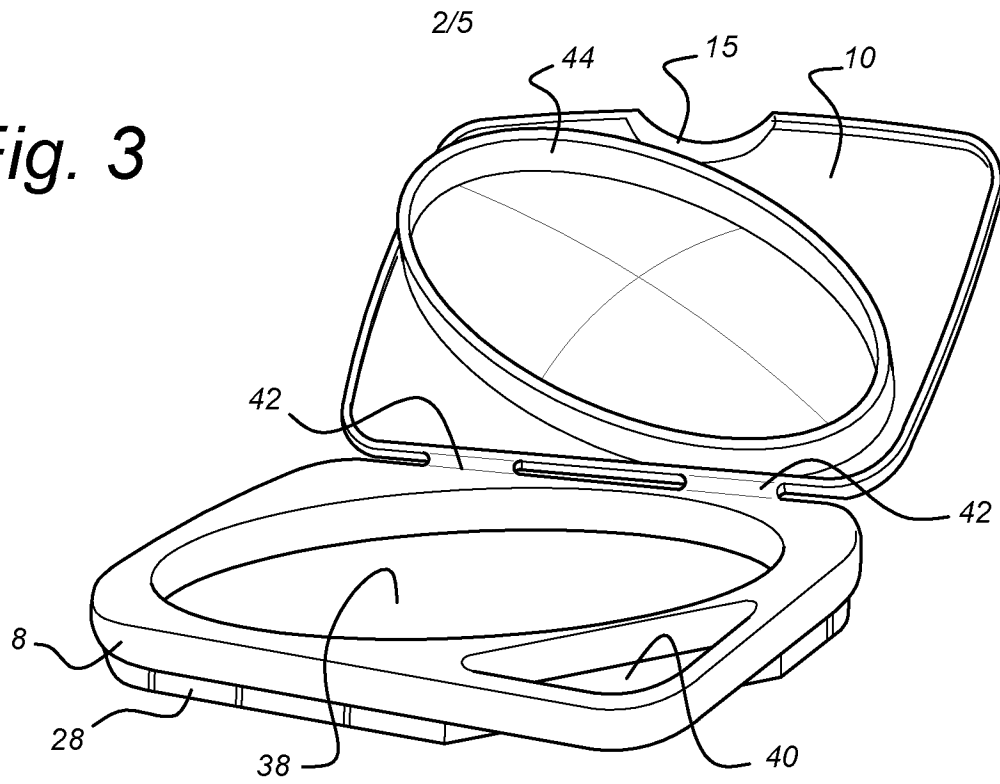


Fig. 4

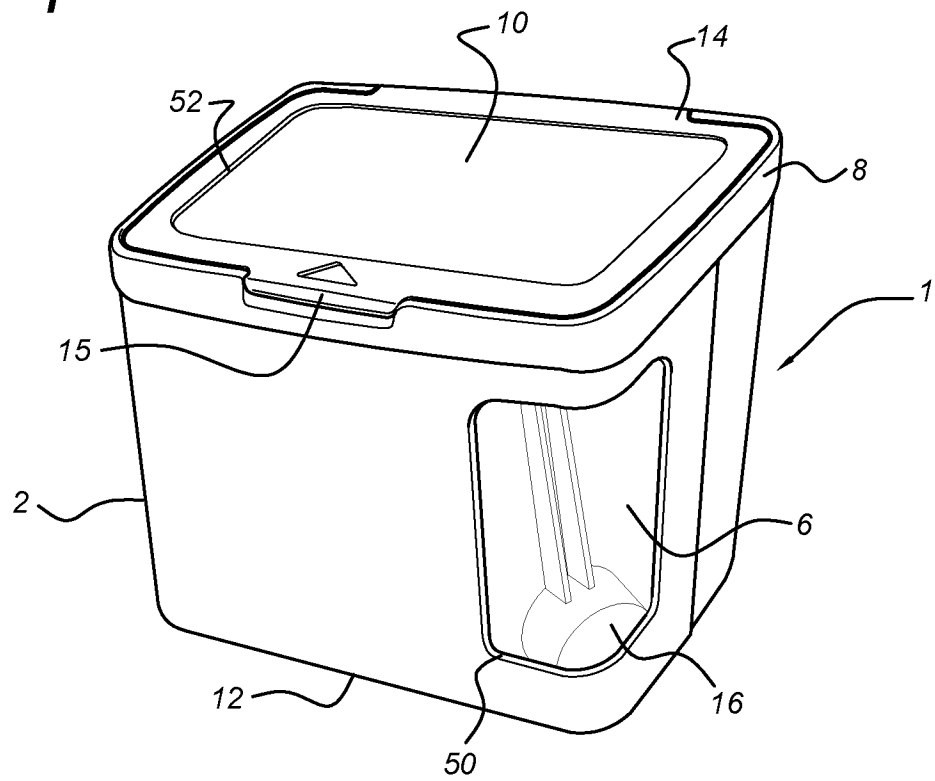


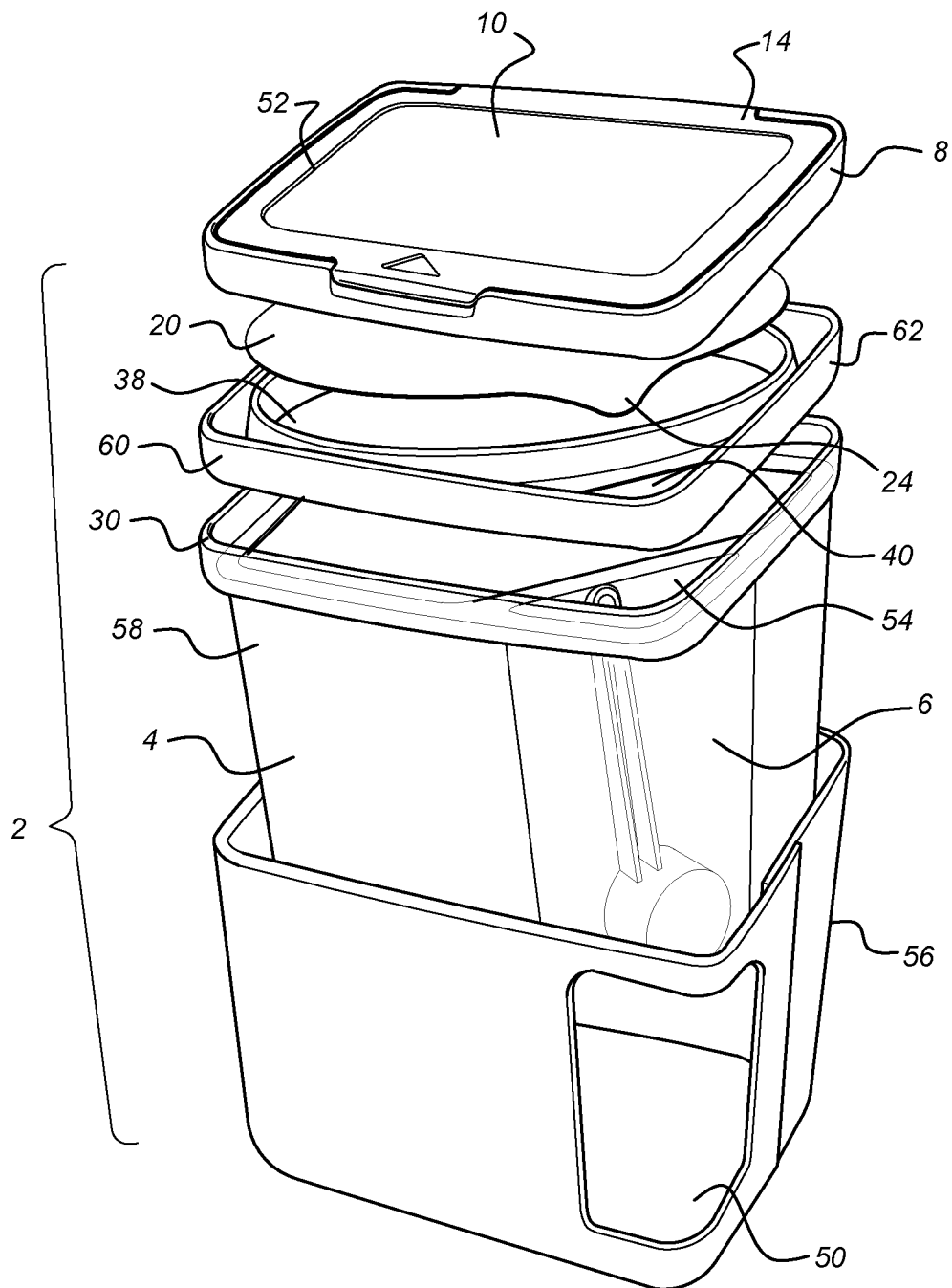
Fig. 5

Fig. 6

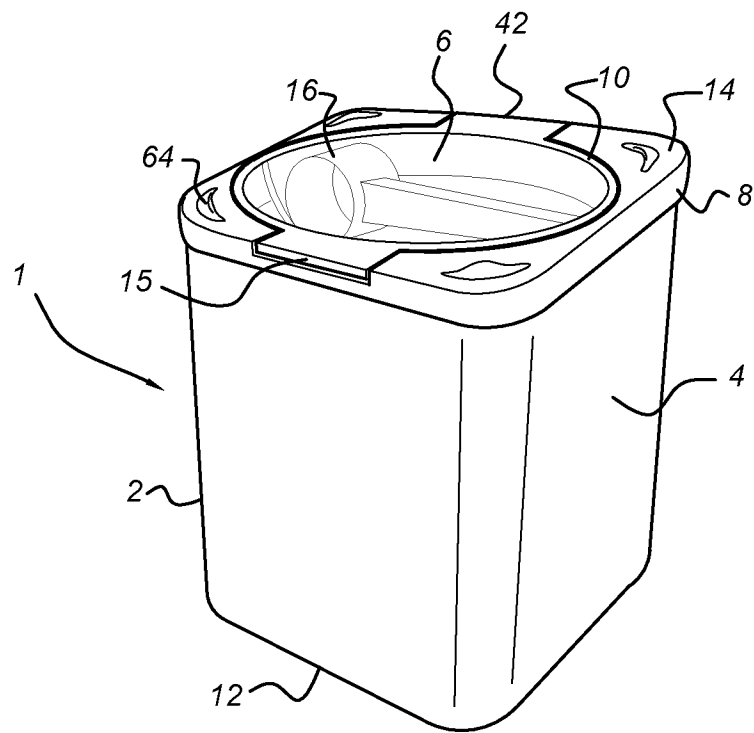


Fig. 7

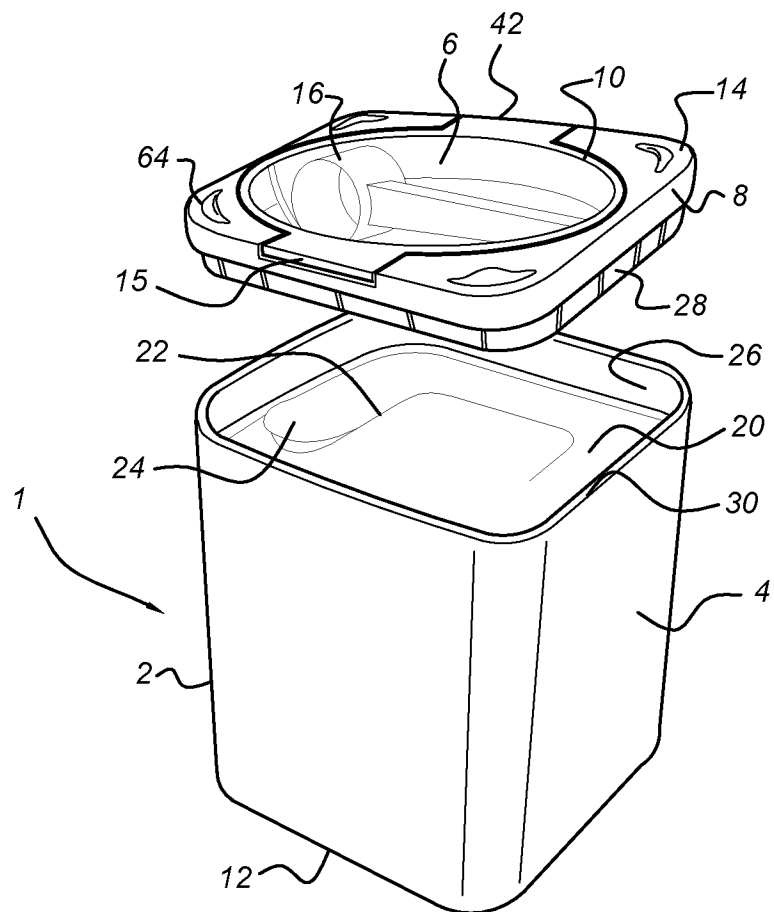
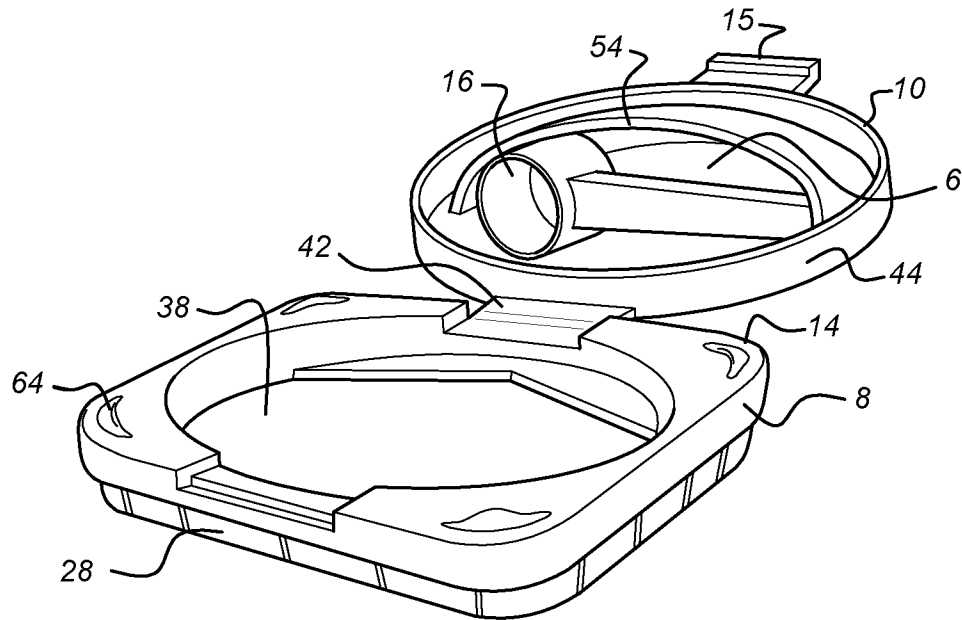


Fig. 8

INTERNATIONAL SEARCH REPORT

International application No
PCT/NL2012/050373

A. CLASSIFICATION OF SUBJECT MATTER

INV. B65D21/02 B65D51/24 B65D43/16 B65D77/24
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	WO 2011/067585 A1 (BAPCO CLOSURES RES LTD [GB]; MCGEOUGH PETER MICHAEL [IE]) 9 June 2011 (2011-06-09) the whole document -----	1,2,7, 10,13, 14,17,18
X	EP 2 130 776 A1 (KPSS KAO GMBH [DE]) 9 December 2009 (2009-12-09) the whole document -----	1-5,10, 13-15 6,16-18
Y		
X	EP 0 609 650 A1 (MIRA LANZA SPA [IT]) 10 August 1994 (1994-08-10) the whole document ----- -/--	1,7, 10-12, 15,16



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

22 June 2012

Date of mailing of the international search report

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Dederichs, August

INTERNATIONAL SEARCH REPORT

International application No

PCT/NL2012/050373

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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