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(54) **PACKAGING ARRANGEMENT**

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(71) Applicant: **VORTEX INNOVATION WORX (PTY)**, Ottery (ZA)

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(72) Inventor: **Bester Jacobus PANSEGROUW**, Ottery (ZA)

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(57) **ABSTRACT**

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The invention discloses a packaging arrangement for the bulk handling of fluid material and being adapted to be located within an outer box and/or container, which includes an inner bag adapted to hold fluid material, the inner bag having a product inlet through which the fluid material can be introduced into the inner bag and a product outlet through which the fluid material can flow from the inner bag; and a surrounding member adapted to surround the inner bag and adapted to form at least one air pocket or air compartment between the surrounding member and the inner bag, the pocket having an air inlet through which air can be introduced into the pocket and thereby putting pressure on the inner bag to force the fluid material out of the inner bag through the product outlet.

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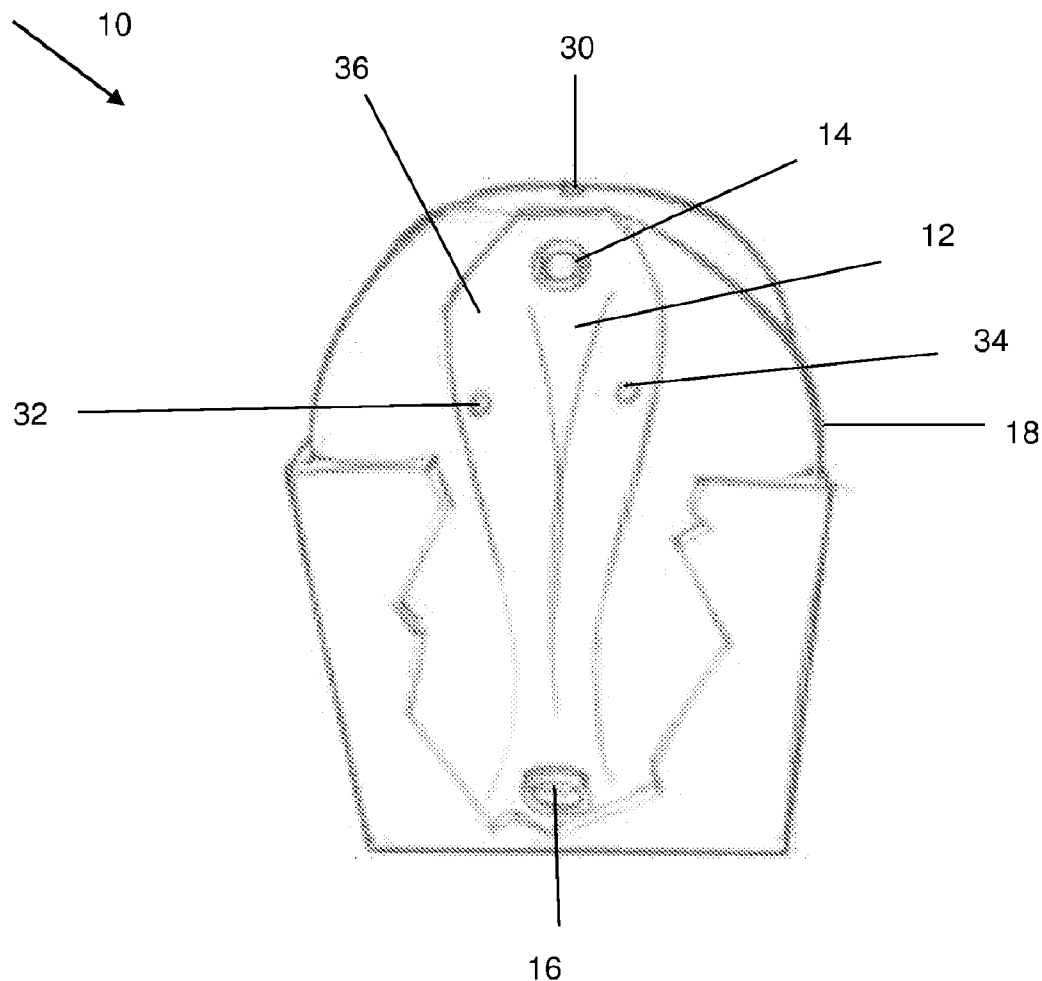


Figure 1

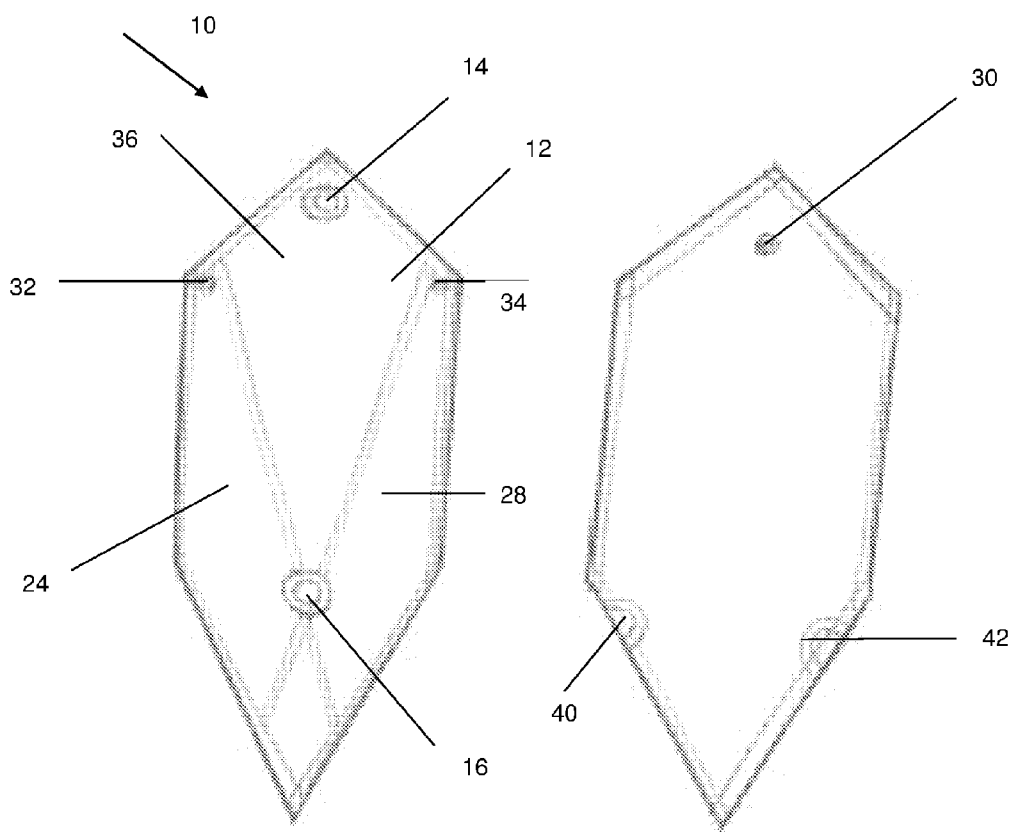


Figure 2

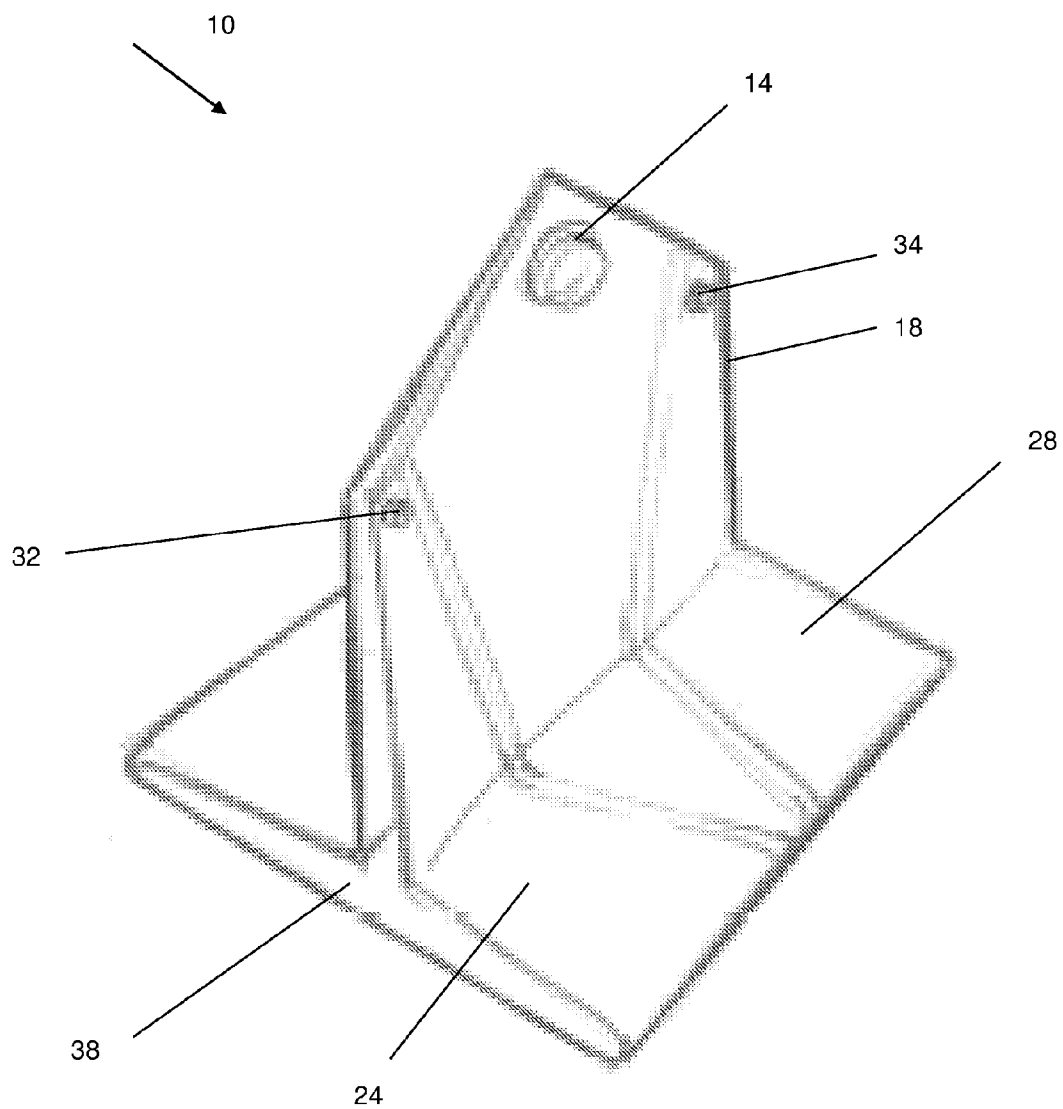


Figure 3

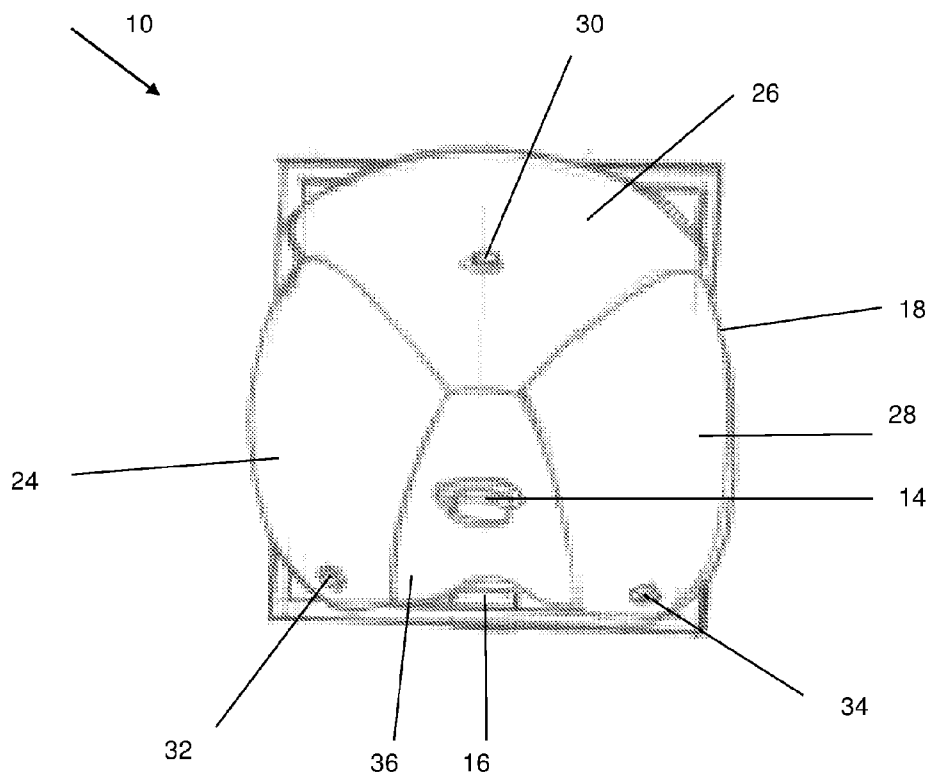


Figure 4

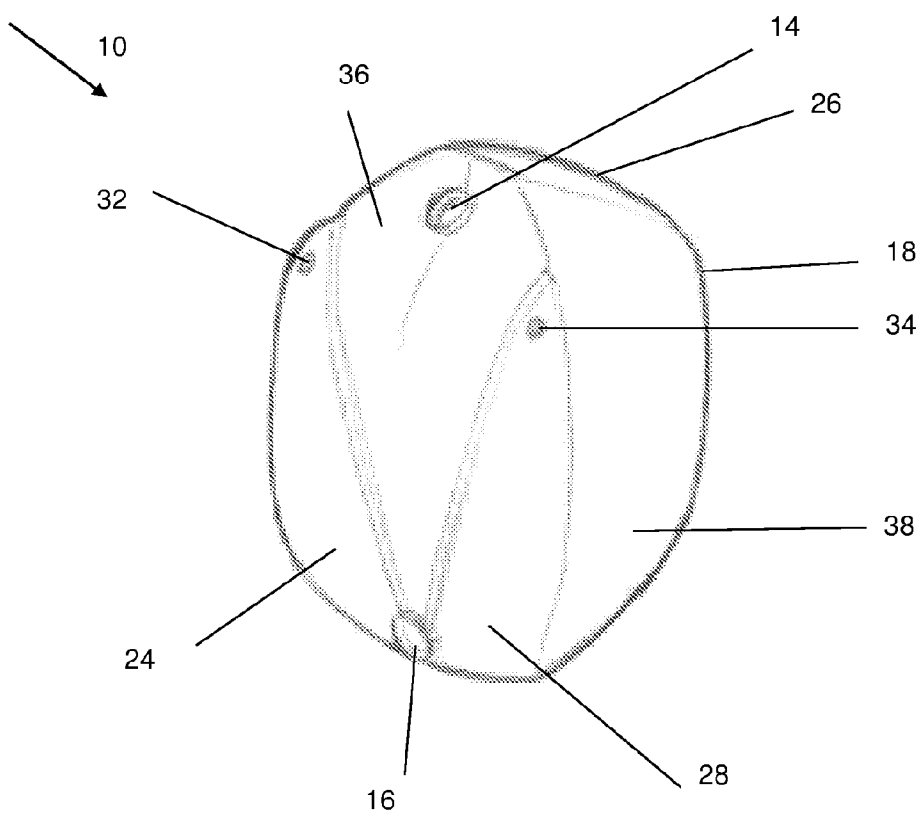


Figure 5

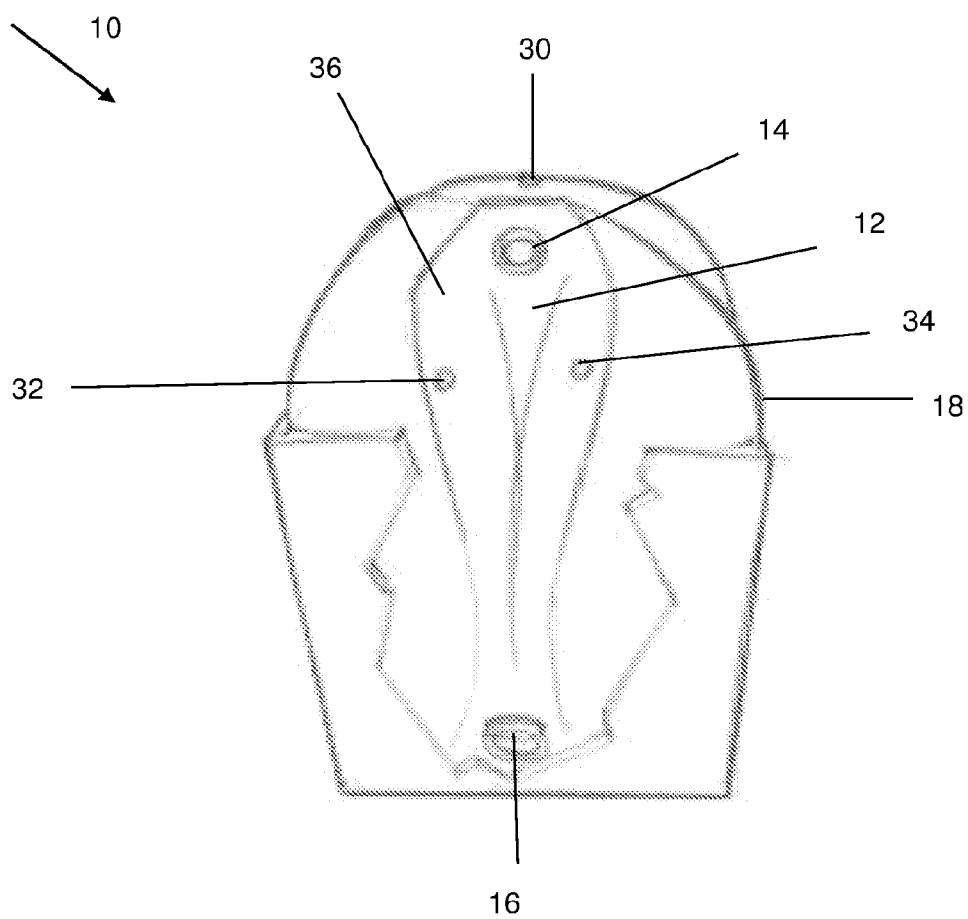


Figure 6

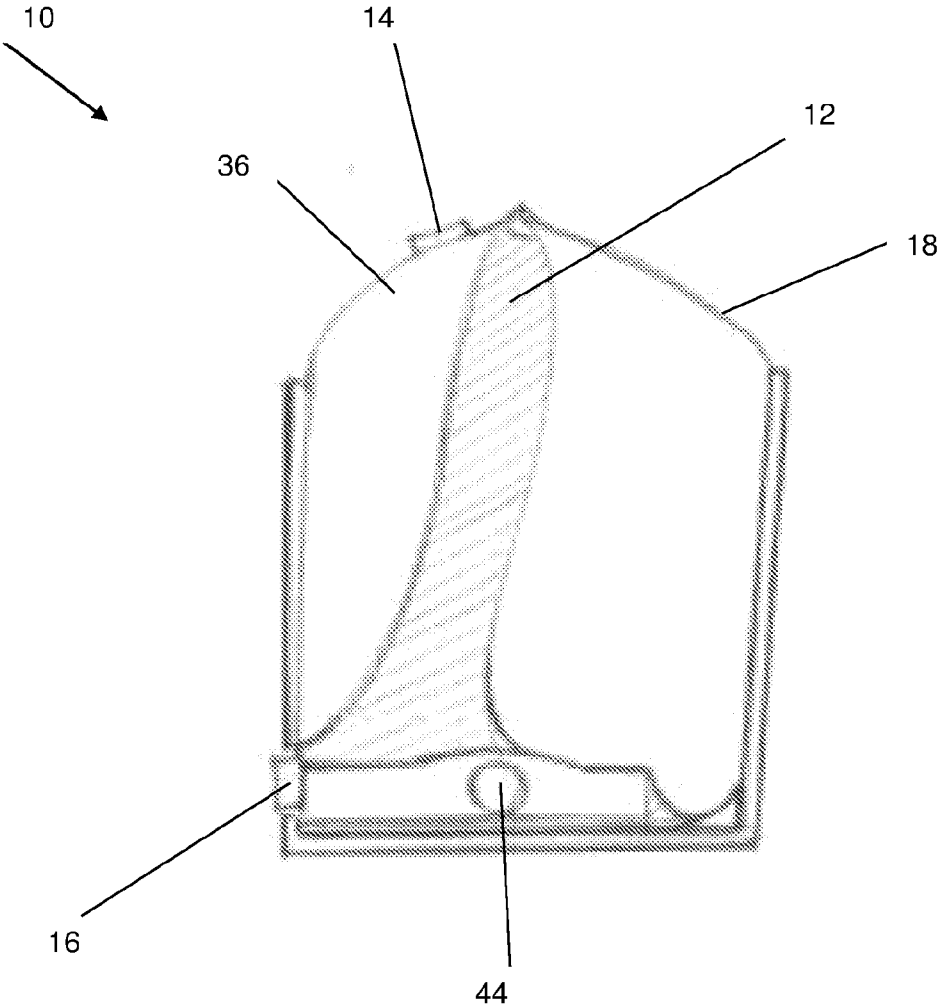


Figure 7

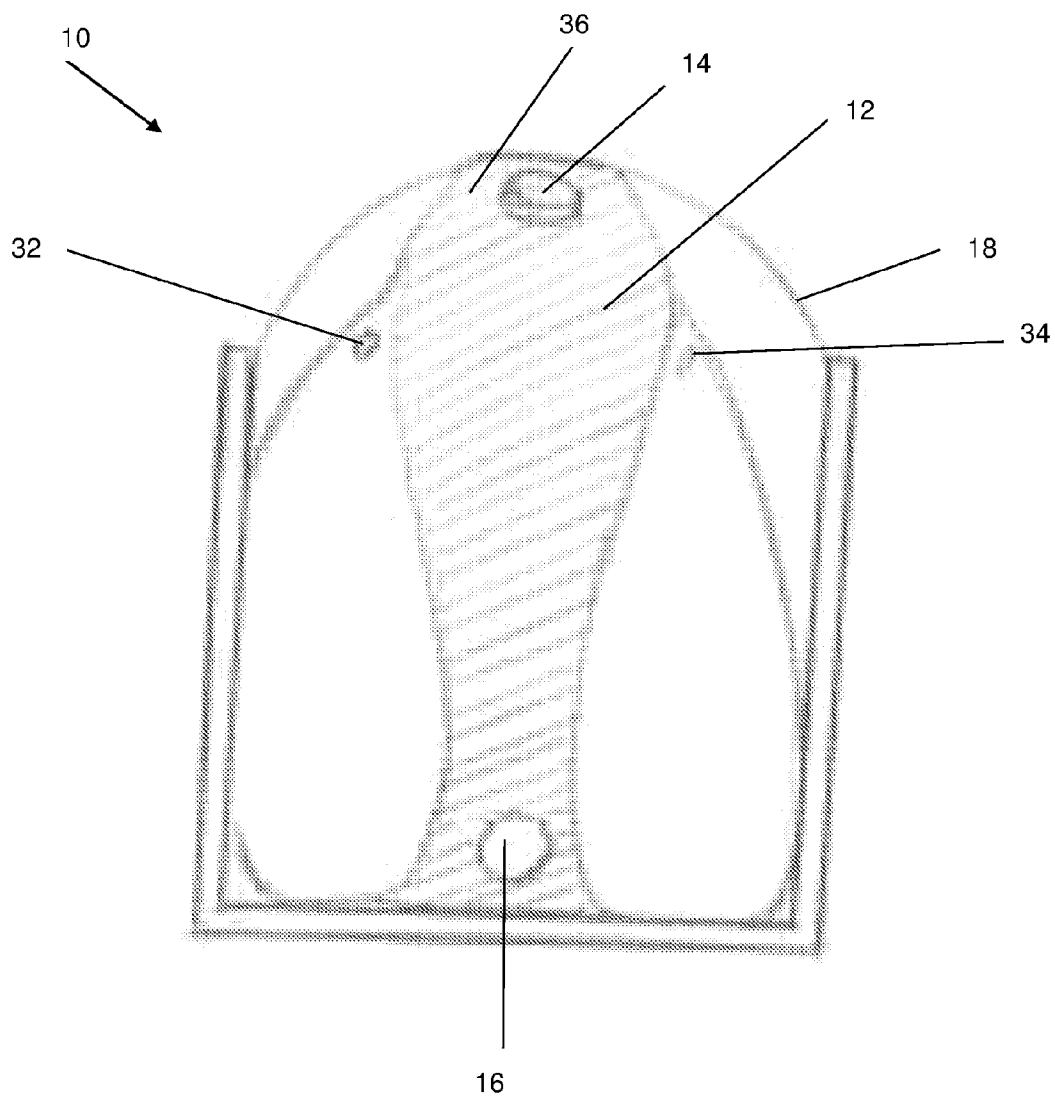


Figure 8

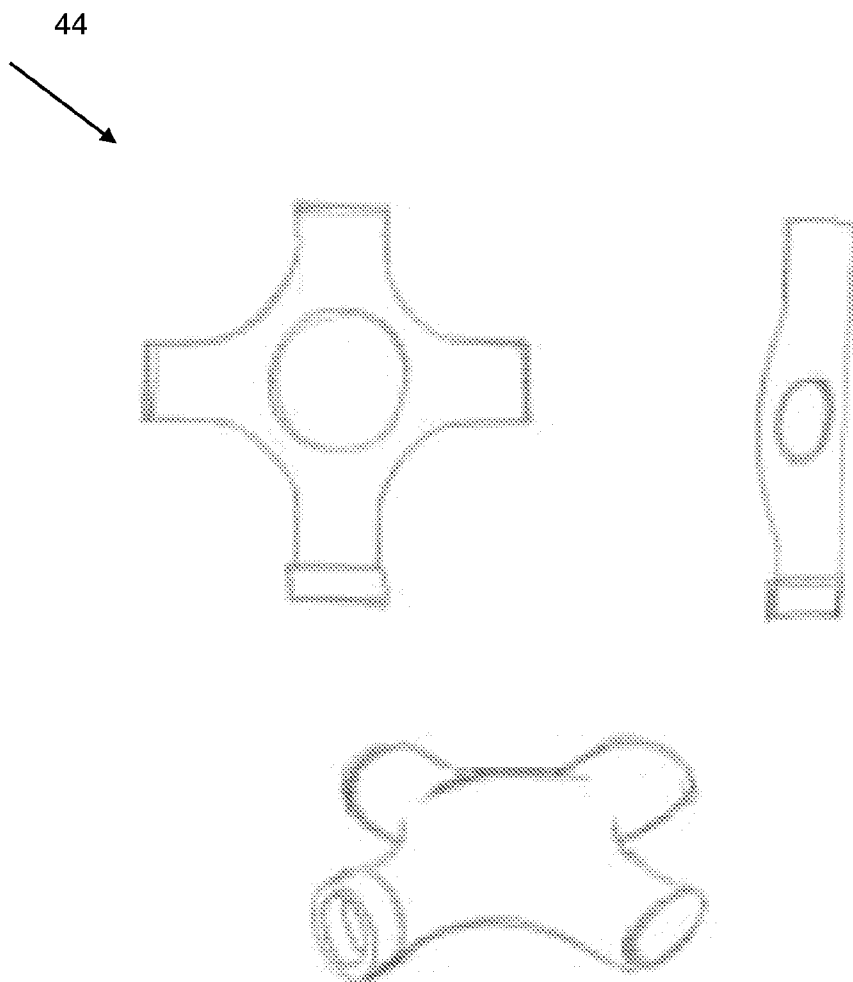


Figure 9

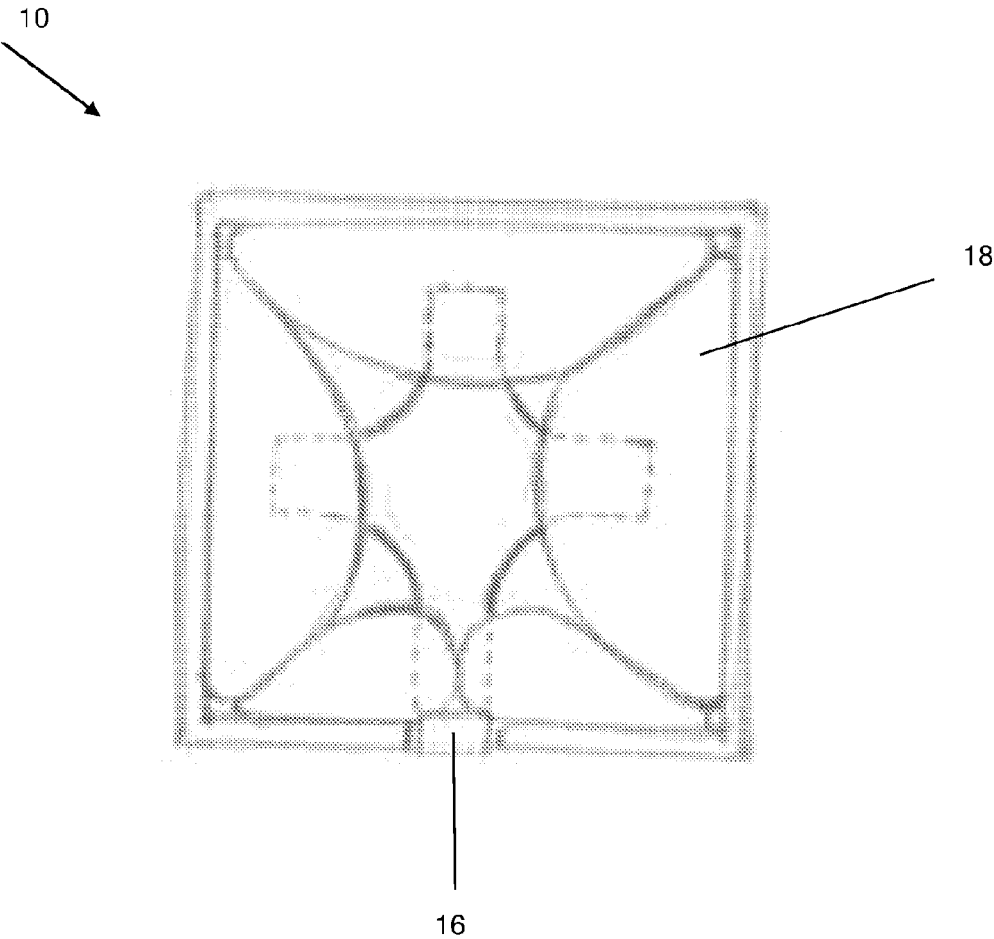


Figure 10

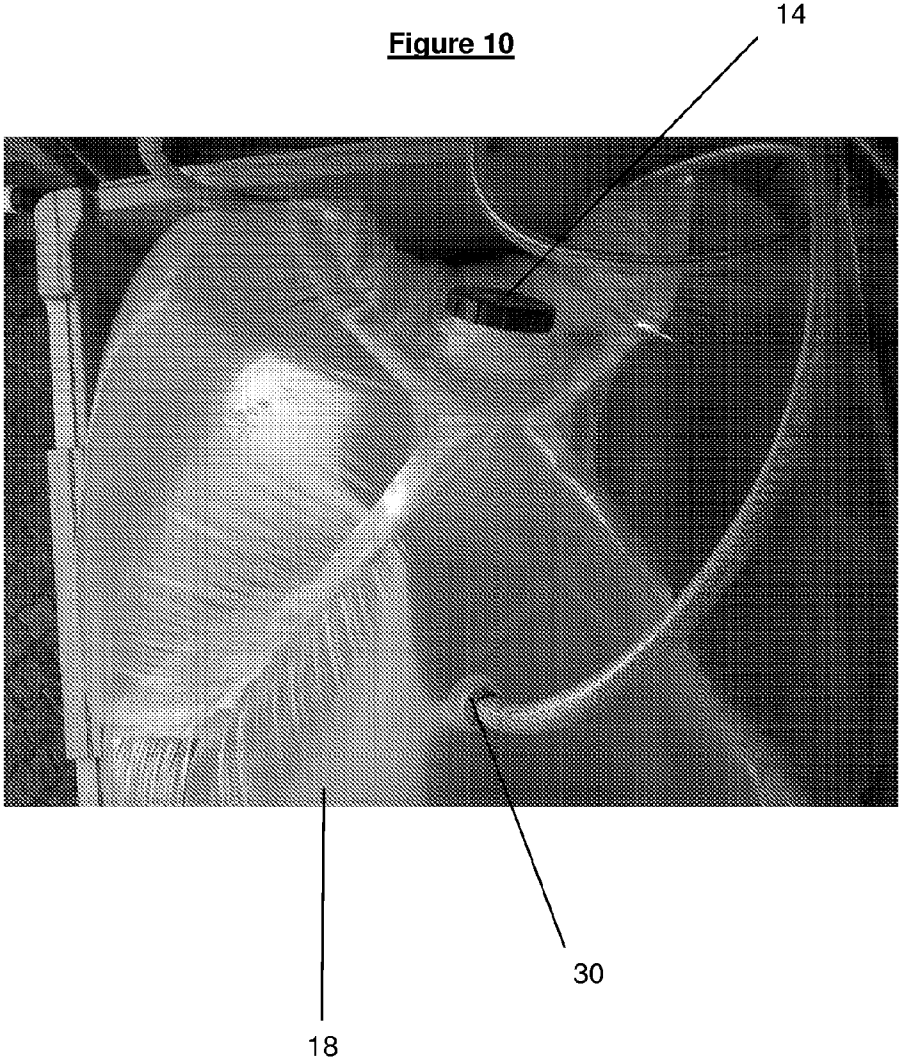


Figure 11

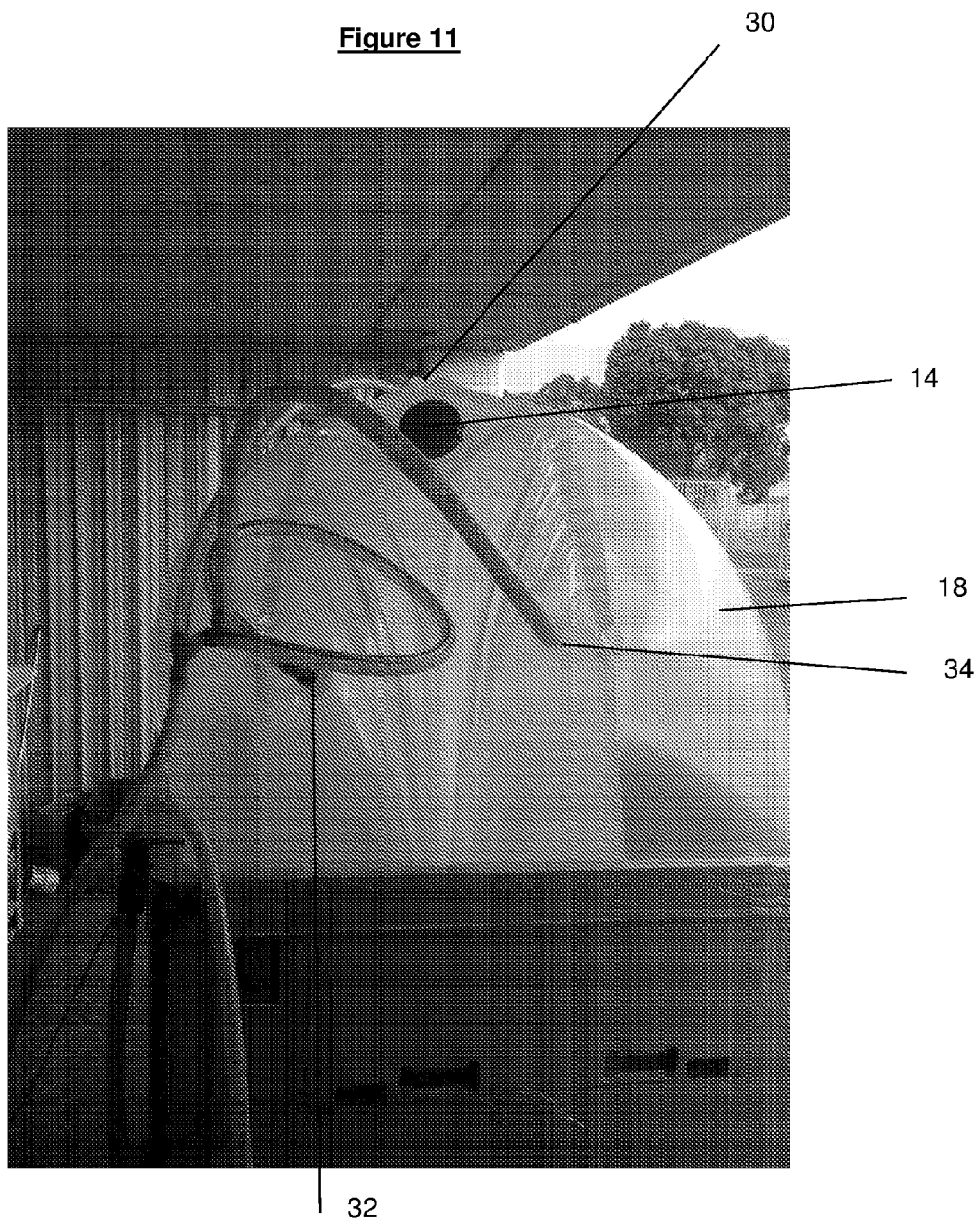
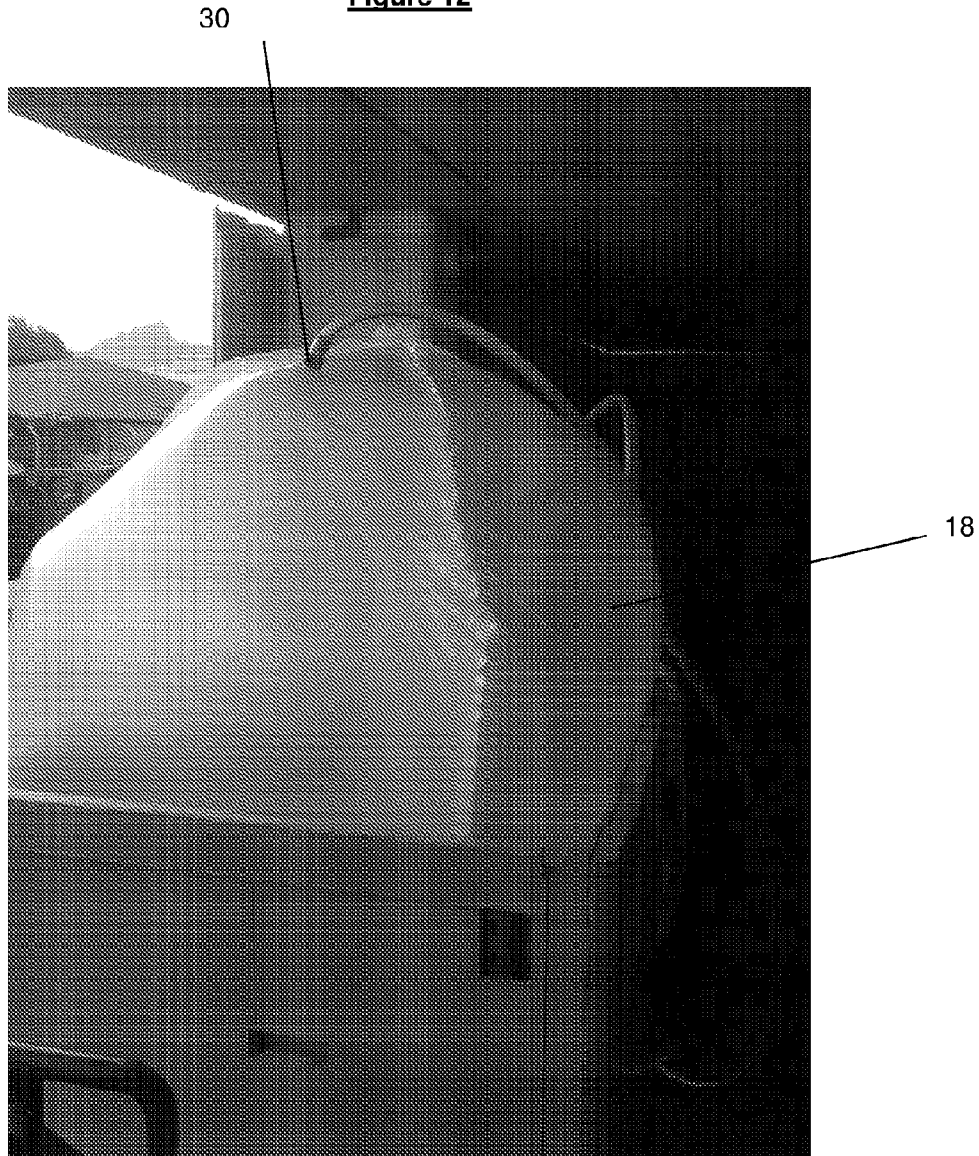


Figure 12



PACKAGING ARRANGEMENT

FIELD OF INVENTION

[0001] The present invention relates to a packaging arrangement.

[0002] More particularly, the present invention relates to a packaging arrangement for fluids, pastes and powders.

BACKGROUND TO INVENTION

[0003] Various types of packaging are known for transporting or storing liquids such as food products and chemicals. These food products and chemicals are either emptied with devices such as pumps or pressure devices or are self-emptying due to gravity.

[0004] It is an object of the invention to suggest a novel packaging arrangement.

SUMMARY OF INVENTION

[0005] According to the invention, a packaging arrangement for the bulk handling of fluid material and being adapted to be located within an outer box and/or container, includes

[0006] (a) an inner bag adapted to hold fluid material, the inner bag having a product inlet through which the fluid material can be introduced into the inner bag and a product outlet through which the fluid material can flow from the inner bag;

[0007] (b) a surrounding member adapted to surround the inner bag and adapted to form at least one air pocket or air compartment between the surrounding member and the inner bag, the pocket having an air inlet through which air can be introduced into the pocket and thereby putting pressure on the inner bag to force the fluid material out of the inner bag through the product outlet.

[0008] The packaging arrangement may be flexible.

[0009] The surrounding member may consist of at least two layers.

[0010] The surrounding member may have 7 air pockets or air compartments.

[0011] Five of the air pockets or air compartments may be adapted to receive air.

[0012] Two of the air pockets may be adapted not to receive air.

[0013] Three of the air pockets may be inter-connected by means of openings between them.

[0014] The air pockets or air compartments may be formed by seal lines on the surrounding member.

[0015] The packaging arrangement may include 3 air inlets to fill all the five air pockets or air compartments adapted to receive air.

[0016] The packaging arrangement may have a bladder shape.

[0017] The packaging arrangement may consist of transparent material to enable the fluids, pastes and/or powders to be visible from the outside.

[0018] The box and/or container may be an intermediary bulk container (IBC).

[0019] The packaging arrangement may be a liquid liner.

[0020] The packaging arrangement may include a manifold within the inner bag to assist in forcing the fluid material out of the inner bag through the product outlet.

[0021] The manifold may be a loose device inserted into the inner bag.

[0022] The fluid material may be powdery, paste-like, fluids and/or liquids.

[0023] The intermediate bulk container may have a capacity of 50 to 500 gallons or about 189 to 2000 litres.

[0024] The invention also extends to a method for delivering bulk material and a method for producing the packaging arrangement as described herein.

BRIEF DESCRIPTION OF DRAWINGS

[0025] The invention will now be described by way of example with reference to the accompanying schematic drawings.

[0026] In the drawings there is shown in:

[0027] FIG. 1: a front view and a rear view of the packaging arrangement according to the invention and wherein no fluid material or air has been inserted yet;

[0028] FIG. 2: a perspective view of the packaging arrangement shown in FIG. 1 in folded position;

[0029] FIG. 3: a top view of the packaging arrangement shown in Figure 1 but containing a fluid material and being inserted in a box or container;

[0030] FIG. 4: a perspective view of the packaging arrangement shown in FIG. 3 but without the box or container;

[0031] FIG. 5: a front view of the packaging arrangement shown in FIG. 3 with a section of the box or container cut-out to show the product outlet;

[0032] FIG. 6: a sectional front view of the packaging arrangement shown in FIG. 3 showing the manifold;

[0033] FIG. 7: a front view of the packaging arrangement shown in FIG. 3 with a side of the box or container cut-out;

[0034] FIG. 8: various views of the manifold shown in FIG. 6;

[0035] FIG. 9: a sectional top view of the packaging arrangement shown in FIG. 3 showing the manifold;

[0036] FIG. 10: a top view image of the packaging arrangement according to one embodiment of the invention;

[0037] FIG. 11: a side view image of the packaging arrangement shown in FIG. 10; and

[0038] FIG. 12: a rear view of the packaging arrangement shown in FIG. 10.

DETAILED DESCRIPTION OF DRAWINGS

[0039] Referring to the drawings, a gland retaining clip for intermediate bulk containers in accordance with the invention, generally indicated by reference numeral 10, is shown.

[0040] The flexible packaging arrangement 10 for the bulk handling of fluid material and being adapted to be located within an outer box and/or container, includes

[0041] (a) an inner bag 12 adapted to hold fluid material, the inner bag 12 having a product inlet 14 through which the fluid material can be introduced into the inner bag and a product outlet 16 through which the fluid material can flow from the inner bag 12;

[0042] (b) a surrounding member 18 adapted to surround the inner bag 12 and adapted to form five air pockets or air compartments 20, 22, 24, 26, 28 between the surrounding member 18 and the inner bag 12, the air pockets 20, 22, 24, 26, 28 having three air inlets 30, 32, 34 through which air can be introduced into the air pockets 20, 22, 24, 26, 28 and thereby putting pressure on the inner bag 12 to force the fluid material out of the inner bag 12 through the product outlet 16.

[0043] The packaging arrangement 10 is flexible.

[0044] The product outlet 16 is located at the bottom of the packaging arrangement 10.

[0045] The product inlet 14 is located at the top of the packaging arrangement 10.

[0046] The surrounding member 18 consists of two layers.

[0047] The packaging arrangement 10 may additionally include two air pockets 36 and 38 adapted not to receive air.

[0048] Three of the air pockets 24, 26 and 28 are interconnected by means of openings 40 and 42 between them.

[0049] The air pockets or air compartments 20, 22, 24, 26, 28, 36 and 38 are formed by seal lines on the surrounding member 18.

[0050] The packaging arrangement 10 has a bladder shape.

[0051] The packaging arrangement 10 consists of transparent material to enable the fluids, pastes and/or powders to be visible from the outside.

[0052] The box and/or container may be an intermediary bulk container (IBC).

[0053] The packaging arrangement 10 can be a liquid liner.

[0054] The packaging arrangement 10 includes a manifold 44 within the inner bag 12 to assist in forcing the fluid material out of the inner bag 12 through the product outlet 16.

[0055] The manifold 44 is a loose device inserted into the inner bag 12.

[0056] The fluid material can be powdery, paste-like, fluids and/or liquids.

[0057] The intermediate bulk container can have a capacity of 50 to 500 gallons or about 189 to 2000 litres.

[0058] The invention also extends to a method for delivering bulk material and a method for producing the packaging arrangement as described herein.

1. A packaging arrangement for the bulk handling of fluid material and being adapted to be located within an outer box and/or container, which includes

- (a) an inner bag adapted to hold fluid material, the inner bag having a product inlet through which the fluid material can be introduced into the inner bag and a product outlet through which the fluid material can flow from the inner bag; and
- (b) a surrounding member adapted to surround the inner bag and adapted to form at least one air pocket or air compartment between the surrounding member and the inner bag, the pocket having an air inlet through which

air can be introduced into the pocket and thereby putting pressure on the inner bag to force the fluid material out of the inner bag through the product outlet.

2. An arrangement as claimed in claim 1, which is flexible.
3. An arrangement as claimed in claim 1 or claim 2, in which the surrounding member consists of at least two layers.
4. An arrangement as claimed in claim 1, in which the surrounding member has seven air pockets or air compartments.
5. An arrangement as claimed in claim 4, in which five of the air pockets or air compartments are adapted to receive air.
6. An arrangement as claimed in claim 4, in which two of the air pockets are adapted not to receive air.
7. An arrangement as claimed in claim 4, in which three of the air pockets are inter-connected by means of passages between them.
8. An arrangement as claimed in claim 1, in which the air pockets or air compartments are formed by seal lines on the surrounding member.
9. An arrangement as claimed in claim 1, which includes three air inlets to fill all the five air pockets or air compartments adapted to receive air.
10. An arrangement as claimed in claim 1, which has a bladder shape.
11. An arrangement as claimed in claim 1, which consists of transparent material to enable the fluids, pastes and/or powders to be visible from the outside.
12. An arrangement as claimed in claim 1, in which the box and/or container is an intermediary bulk container (IBC).
13. An arrangement as claimed in claim 1, which is a liquid liner.
14. An arrangement as claimed in claim 1, which includes a manifold within the inner bag to assist in forcing the fluid material out of the inner bag through the product outlet.
15. An arrangement as claimed in claim 14, in which the manifold is a loose device inserted into the inner bag.
16. An arrangement as claimed in claim 1 in which the fluid material is powdery, paste-like and/or a liquid.
17. An arrangement as claimed in claim 1, in which the intermediate bulk container has a capacity of 50 to 500 gallons or about 189 to 2000 litres.
- 18-19. (canceled)

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