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(54) Title of the Invention: **Container**
Abstract Title: **Paint container including flexible fluid receptacle**

(57) A container (1) comprising a volume defined by a plurality of walls (1a, 1b, 1c, 1d, 2), the container comprises a flexible fluid receptacle provided within said volume. The receptacle includes a closable opening, and wherein the closable opening is provided in an, in use, uppermost wall of said plurality of walls. The closable opening may include a rigid rim 11 and lid 12, may accommodate the head of a paintbrush and may also include a lip that provides a brush-wiping surface. The containers base may include an aperture sized to accommodate a lid to permit interlocking stacking of one or more such containers.

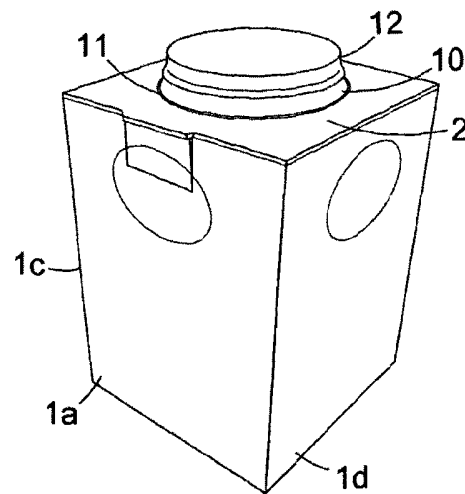


Fig. 3

1/4

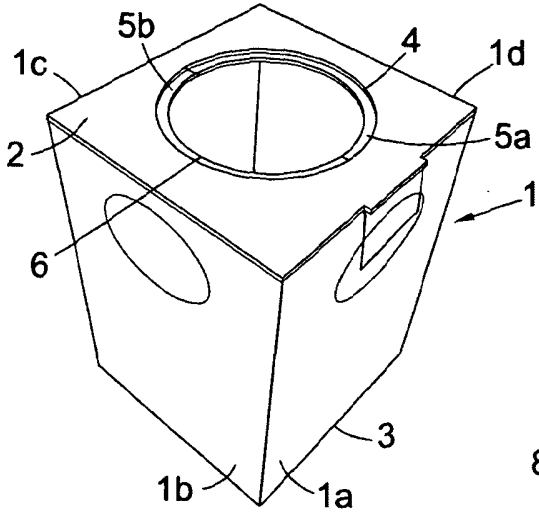


Fig. 1

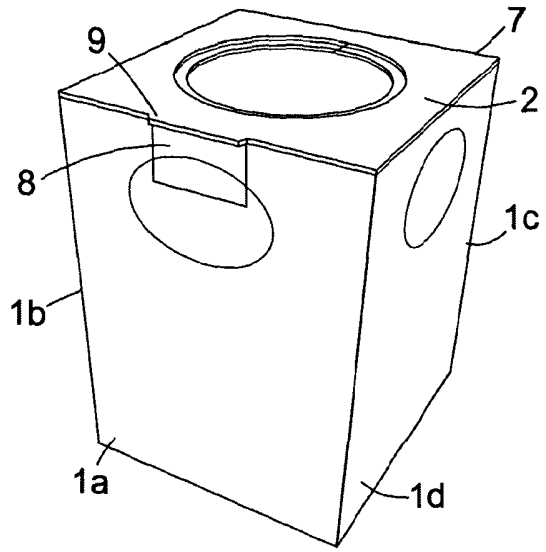


Fig. 2

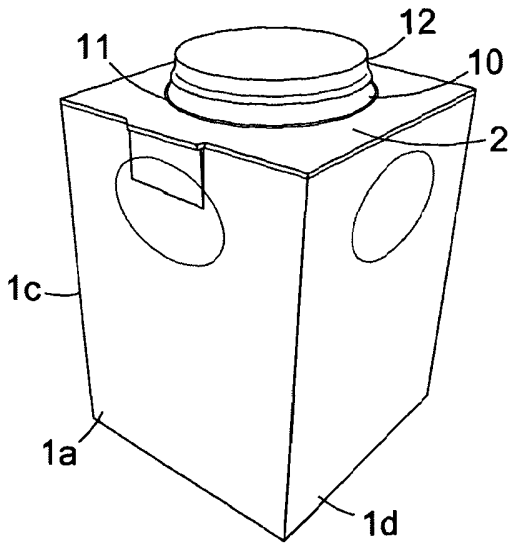


Fig. 3

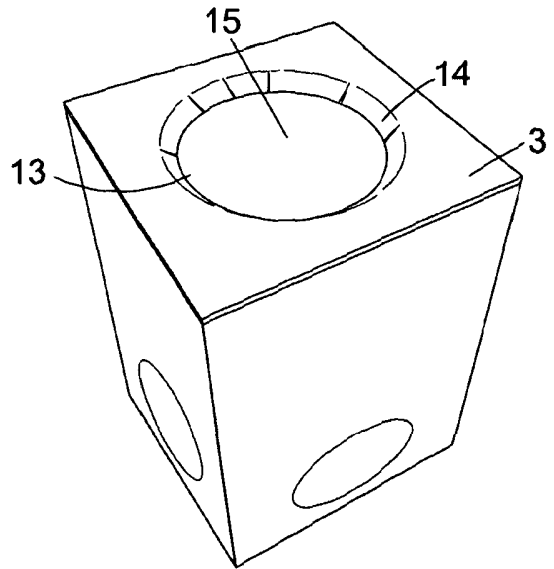
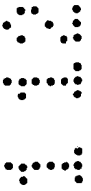


Fig. 4



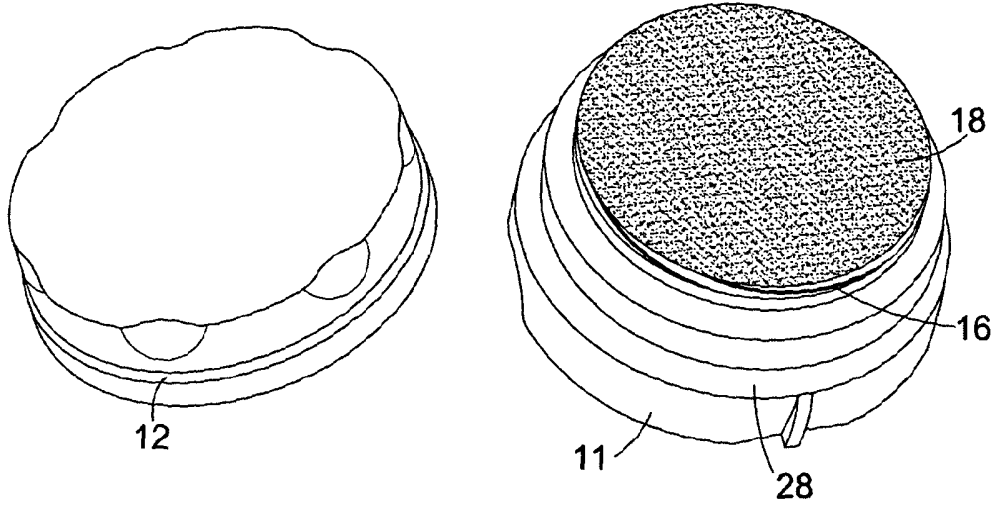


Fig. 5

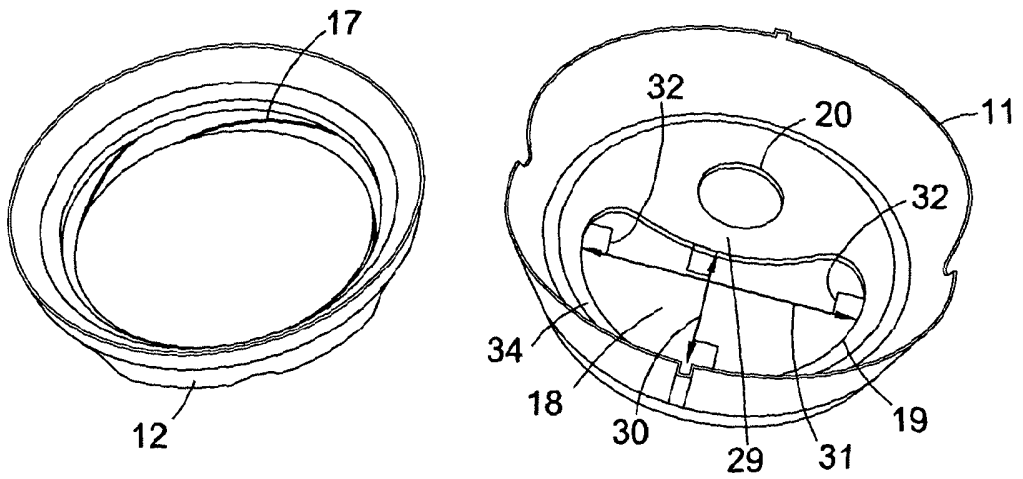


Fig. 6

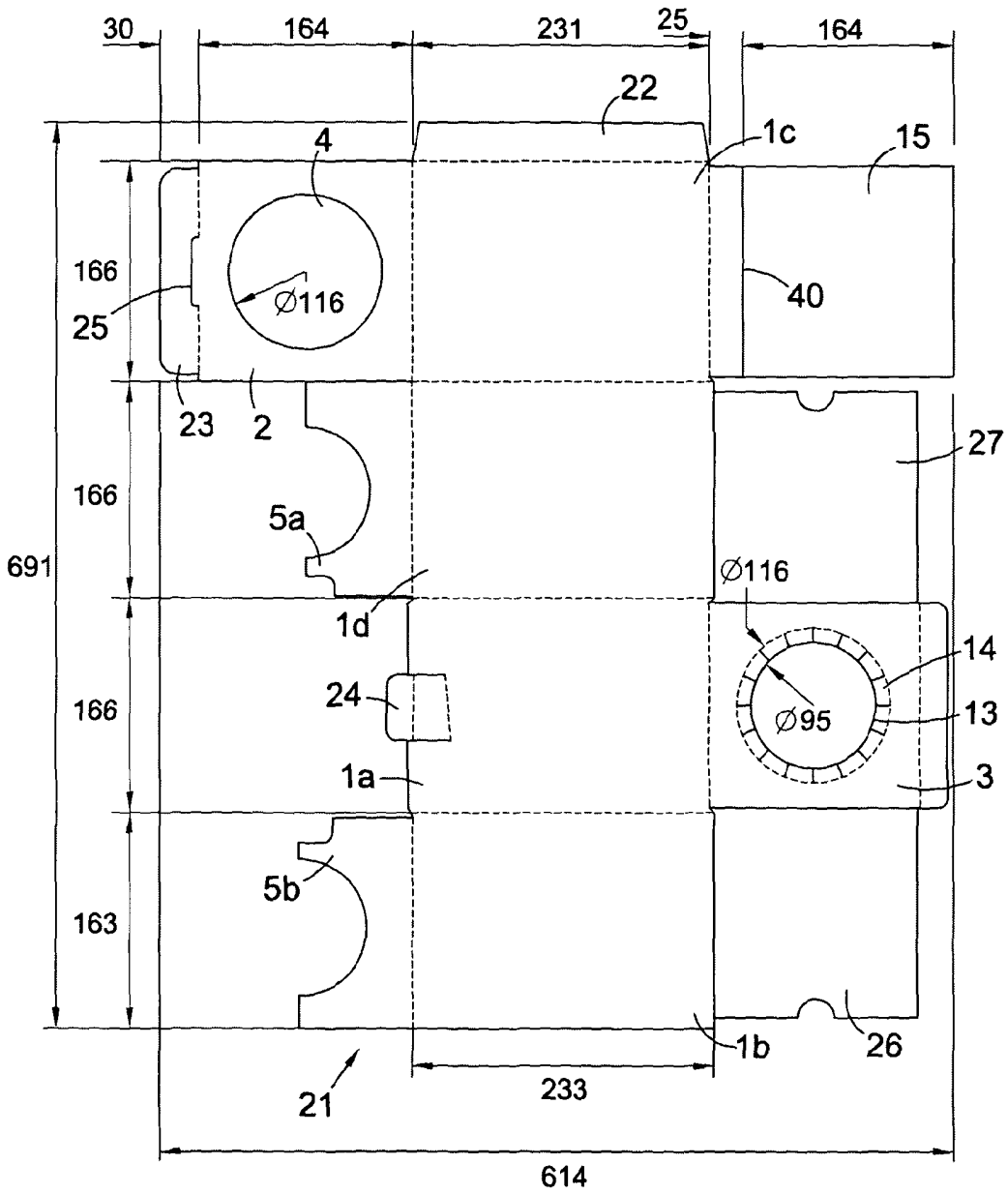


Fig. 7

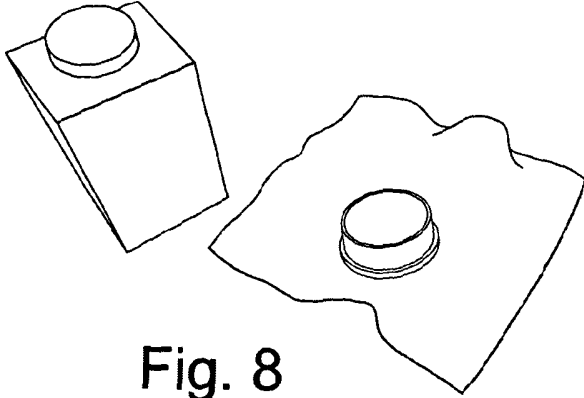


Fig. 8

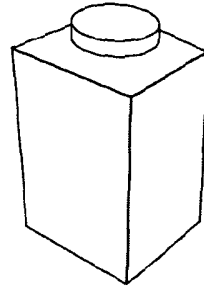


Fig. 9

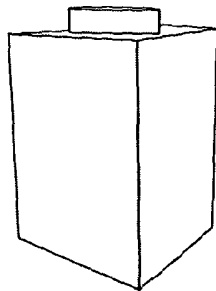


Fig. 10

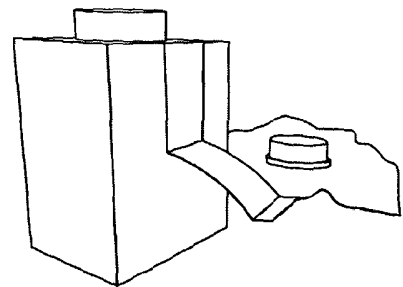


Fig. 11

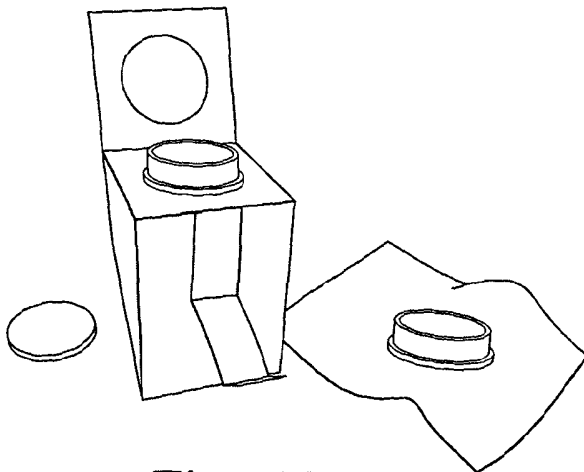


Fig. 12

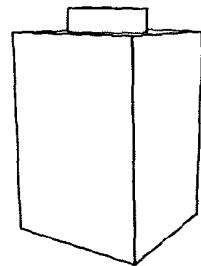


Fig. 13

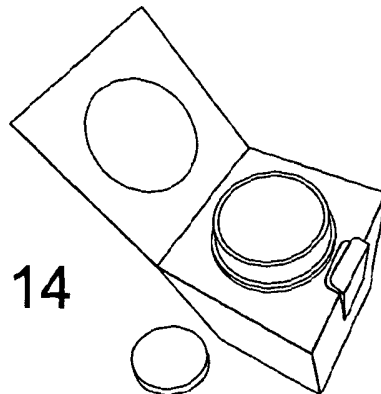


Fig. 14



Container

The present invention relates to a container, in particular a container suitable, but not necessarily exclusively, for holding paint or other such liquids.

5

Conventional containers for paints include tins made either of rigid plastics or metal materials. However, the use of such materials, and the nature of the paint or liquids contained therein, mean that disposal of the used containers can be problematic.

10

In addition, to prevent spoiling of the paint or the container therefor, or to prevent inadvertent rupturing of the container during transportation, the amount of material needed to manufacture or package the containers can be significant. For example, packing materials are usually needed during transportation for locating between layers of the containers, or between the containers themselves. Further, the containers, by being typically substantially cylindrical, usually are not particularly efficiently stacked onto the crates that carry them, and they can be unstable thereon (thus calling for packing to be used between them). The crates therefore are also unnecessarily large for a given volume of paint thereon. Further, when empty, i.e. before filling, the containers, both for metal and plastic containers, they remain bulky, whereby they cannot easily be space-efficiently transported from the tin/container manufacturing plant to the paint filling line. These characteristics are all rather wasteful in terms of resources – both in terms of material and space usage.

15

20

25

Further, the opening of existing paint tins typically involves the use of a tool, such as a screwdriver, for prising off the top of the tin. This in itself is inconvenient, but it can also be problematic – the resealing of the tin upon reapplying the lid depends upon the integrity of the shape of the hole or lid having been maintained, whereby paint can inadvertently be wasted if the seal therebetween is incomplete.

30

Further, the edge of the aperture typically gets used by the user to remove excess paint from a brush, whereby the paint itself can cause difficulties with forming a fresh seal between the lid and the aperture, or at least a messy scenario for the user to contend with.

The present invention seeks to overcome at least one of the disadvantages of the prior art.

5 According to a first aspect of the present invention there is provided a container comprising a volume defined by a plurality of walls, the container comprising a flexible fluid receptacle provided within said volume, the receptacle comprising a closable opening, and wherein the closable opening is provided in an aperture in a first, in use uppermost, wall of said container.

10 Preferably, the volume defined by the plurality of walls is generally cuboid.

The walls are preferably planar.

15 The walls may comprise a top wall and a base wall. The top wall and the base wall will typically be parallel to one another, although they may not define singular planes, or they may be curved. As such, they may define surfaces that are angled relative to one another (they may be non-parallel).

20 The walls may comprise two side walls, a rear wall and a front wall. They may be arranged perpendicular to one-another to form a square or rectangular section for the container.

25 The volume may alternatively be formed from other shapes/sections, such as a volume with a differently polygonal cross section, e.g. a hexagonal section. The sidewall might even be round, or there could be a mixture of curved and planar walls.

By planar, we mean substantially planar. By perpendicular we mean substantially perpendicular. By parallel we mean substantially parallel.

30 Preferably the walls are formed of corrugated cardboard. The thickness and ply-count/ply weight of the cardboard may be chosen according to the required rigidity of the container, and/or for resisting puncturing/deformation/scuffing of the container.

35 The walls may form the outermost surfaces of the container. As such they may be printed with brand names or product information and the like. Alternatively an outer

printed surface, such as a label, may be used for forming the outermost surface of the container.

5 Preferably the flexible fluid receptacle is formed as a bag, whereby the container is a bag in a box-type arrangement.

10 Preferably the receptacle is formed of a plastics material. Preferably it is a thermoplastic, such as polyethylene. Alternatively it may be a composite, such as a plastic coated foil. Such materials are generally compatible with paints and the like, specially emulsion which is water-based..

15 The wall of the receptacle may be formed as a single sheet (i.e. a single layer of plastic). Additional layers or plies may be formed or applied to the wall of the receptacle to improve the strength or liquid compatibility of the receptacle, or to improve the length of resistance to spoiling of the contents of the receptacle from the environment – i.e. to increase the shelf-life of the liquid within the receptacle, once the receptacle has been filled with the liquid and closed.

20 The closable opening may comprise a screw-fit lid, or a bayonet-fit lid. This is so that it can repeatedly be opened and closed without tools. The lid preferably has an external diameter of at least 9cm.

25 The closable opening may comprise a semi-rigid or rigid opening or rim. The opening or rim may be formed with a releasable fastening for allowing a lid to fit thereon in a releasable and refittable manner. This may be a screw or bayonet fastening. With a screw thread, the opening or rim is adapted to receive the screw-fit lid. The lid may therefore be used to open and close the opening in the receptacle, repeatedly, and without tools.

30 Preferably the container has no protrusions from the side walls.

Preferably the container has no side spout or tap.

35 Preferably, the closable opening is provided with a first lip which rests against an edge of the aperture in said first wall – in use typically an underside of that edge.

The first wall may be formed of two parts, each with a semi-circular cut out, such that when folded into abutment, the first wall's aperture is formed as a full circle, from the two semi-circular cut outs. A different shaped cut-out in each part may be provided
5 instead, whereupon different aperture shapes would be formed. The circular aperture, however, suits a circular closable aperture.

The first lip may extend around the full periphery of the closable opening, which when circular defines an annular lip.
10

The cap, upon closing/screwing down onto the closable opening preferably sandwiches the first wall between the lip and the cap.

A second wall may be provided parallel and adjacent the first wall of the container, external of the first wall. The second wall may also feature an aperture – the second
15 aperture, which may be larger than the aperture in the first wall.

The second aperture preferably is larger than the cap.

Preferably, the closable opening comprises a second lip, arranged to form a groove between the first and second lips, the edge or edges of the aperture in the first wall being located within said groove during use. This groove helps to retain the closeable opening in a substantially fixed position relative to the first wall. The second lip can be formed as the underside of a nut-like member, whereby it can be screwed down onto
20 the first wall.
25

The second lip may be positioned between the first and second walls of the container.

Preferably, the closable opening has an internal opening with a width or diameter which is at least 30% of the minimum diametric width of the said container, or more preferably
30 at least 40% thereof. However, the internal opening's width or diameter may be sized to suit the required application. For example, to permit insertion of a paintbrush, preferably the internal opening has a width or diameter of at least 7cm. Preferably the internal opening is round. However, it may be differently shaped, an example of which
35 is explained below. Further, it is preferred that the closable opening has an outer

diameter which is at least 50% of the width of the end wall of said container, as measured in the same plane as that outer diameter. As such, by providing either or both of these sizes for the closable opening, the closable opening will be significantly larger than conventional bag-in-box openings (such as taps). This therefore allows a paintbrush to be dipped into the paint through the opening.

Preferably, means are provided to adjust (e.g. increase or decrease) the useable internal volume – space – of the container, in which space the receptacle will be located. The means may include a moveable surface, flap or plunger that is provided for engagement against said receptacle, the movement thereof being to adjust the volume of the space within the container in which the receptacle is provided. Preferably the means is a planar surface or flap, which may be a hinged member of the container.

Preferably, the surface is formed as a flange joined to or formed integrally with one of said plurality of walls. It is preferably formed from the same blank as those walls, which may themselves all be formed from a common blank. As such, the surface or flap may be formed integrally with all of the walls of the container such that the container's walls, and the flap are all formed from a single blank of material.

Preferably, the surface, flap or piston has a friction fit with one or more adjacent surfaces of the container, such as the inner surfaces of two parallel walls thereof, to resist movement of the surface, flap or piston once moved into a desired position. The friction fit allows subsequent adjustments, such as to further restrict the space within the container, but the nature of cardboard can be such that the friction fit's resistance to subsequent movements it will degrade upon repetitive movements. Nevertheless, with the single use nature of the container (i.e. the receptacle is not refilled), only a single stepped movement of the surface, flap or piston is anticipated – a stepped travel from the space's maximum size to the space's minimum size.

Preferably, the closable opening extends through and above the first wall.

Preferably, a stacking aperture is formed in a base wall of said plurality of walls, the stacking aperture being configured to accommodate or fit over a closable opening or lid of a similar container to permit a stacking of the similar container over the first containers. In this way, when stacked, adjacent containers may interlock like Lego®.

Preferably, the base wall is spaced apart from, and arranged substantially opposite, the first wall of the container.

5 Preferably, the stacking aperture is provided with a segmented arrangement to form multiple edges or flaps, such that when a cap or closable opening of an adjacent container is received in the stacking aperture, the edges or flaps substantially grip the cap or closable opening of the adjacent container.

10 Preferably, the adjustable surface, flap or piston is accessible via said stacking aperture. Preferably, the adjustable surface, flap or piston may be adjusted by applying hand pressure thereto through that stacking aperture.

Preferably, the plurality of walls are formed of a single blank of material.

15

The container may be assembled by appropriate folding and/or fixing of relevant adjacent walls together using adhesive, and/or by using appropriate correspondingly engaging parts, such as tabs and flaps.

20 Preferably, the receptacle is configured to contain paint. The receptacle may however be used to hold any other suitable fluid, subject to the compatibilities thereof.

Preferably the container and the receptacle together contain a volume of paint therein. That volume preferably substantially corresponds to at least 90% of the volume of the container, or substantially corresponds to at least 90% of the volume of the space defined within the container by the adjustable surface, flap or piston. It is to be borne in mind that a volume of air will also typically be present within the container, either within the receptacle, or just simply to allow the cap of one container to extend through and into the stacking aperture of another container.

30

The internal opening of the closable opening may define a circular hole for accommodating a head of a paintbrush, as per conventional paint tins, with a diameter of at least 7cm, and more preferably with a diameter of 8cm or more. However, as explained above, the internal opening can have other shapes.

35

In one arrangement, the internal opening comprises a bridging member passing across the expanse of such a circular hole. That bridging member may provide a brush-wiping surface against which a user can remove excess paint from his brush, thereby reducing drips therefrom. Such a feature minimises the amount of paint that will be spilt, by such
5 drips, against an outer rim of the closable aperture, whereby a cap can easily be reapplied over the rim of the closable aperture – there will be less mess.

The bridging member can be such that the brush-receiving hole is non-round.

10 Preferably the brush receiving hole has a shape defining a maximum free-span dimension of at least 7cm. It is also preferred that it has a mean free-span dimension of no less than 4cm, taken by determining and averaging the free-span lengths extending perpendicular to the wall of the brush receiving hole, all the way around the brush receiving hole.

15

The bridging member may be on a perforated member, whereby it can be removable. Preferably by removing it a generally circular brush receiving hole is created.

The container as defined above is preferably a paint container.

20

In an alternative arrangement there is provided a kit of parts adapted to form a container as defined above, comprising one or more blanks for forming the walls, a flexible fluid receptacle comprising a closeable opening, and a lid for closing the closeable opening, the lid having an external diameter of at least 9cm.

25

Alternatively, just the blank may be provided, or just the flexible fluid receptacle with the closeable opening.

Preferably the kit of parts is supplied in an unassembled form.

30

Preferably the one or more blank, for forming the walls, is supplied as one or more substantially flat sheets, and the receptacle is provided in a non-inflated condition.

The present invention also provides a paint container comprising a fluid receptacle, a
35 base and a lid, the lid projecting above the top edge of the fluid receptacle, wherein the

base has an aperture in it sized to receive and accommodate the lid, whereby the lid of a corresponding paint container can be fitted into the aperture for securely stacking the paint container above the corresponding paint container. Such secured stacking of paint containers reduces or eliminates the need for packing between paint containers during transportation – the interlocked containers cannot slip transversely relative to one another.

Preferably the fluid receptacle of the paint container is contained within a plurality of walls of the container, and the closable opening extends through and out of an upper aperture in a first, in use uppermost, wall of said container.

Preferably the paint containers have a substantially cuboid, or planar-sided, body.

The present invention also provides a pallet of paint containers, the paint containers being as defined above, a plurality of the paint containers being stacked on top of a corresponding number of other paint containers.

The pallet of paint containers preferably is arranged with transversely adjacent containers in a touching arrangement. Preferably the paint containers are substantially cuboid. With this arrangement, the pallet is efficiently loaded with paint containers, with minimal wasted space (air) - preferably no more than 10% of wasted space per level of paint containers, i.e. in the horizontal dimension, and with the interlocked stacking further maintaining an efficient packing capacity in the vertical dimension too.

According to a further aspect of the present invention, there is provided a method of using a container, the container being as defined above (or comprising a volume defined by a plurality of walls, the container comprising a flexible fluid receptacle provided within said volume, the receptacle comprising a closable opening, and wherein the closable opening is provided in a first, in use, uppermost wall of said plurality of walls), the container comprising therein a movable surface, flap or piston that is adjacent the receptacle, the method involving moving the surface, flap or piston to adjust the internal useable space within the container, that space being where the receptacle is located.

Preferably, the moving of the surface, flap or piston directly adjusts the height of an upper surface of a volume of paint within the receptacle relative to the closable opening of the receptacle.

5 A preferred embodiment of the present invention will now be described by way of example only with reference to the accompanying drawings in which:

Figure 1 shows top perspective view of a container, but without a receptacle being in place;

10

Figure 2 shows a further perspective view of the container of Figure 1;

Figure 3 shows a top perspective view of a container in accordance with the present invention;

15

Figure 4 shows a bottom perspective view of a the container of Figure 1;

Figure 5 shows a top perspective view of a closable opening with a lid;

20

Figure 6 shows a bottom perspective view of the closable opening (and lid) of Figure 5;

Figure 7 shows a preferred design of blank for forming the walls of the containers of Figures 1 to 4; and

25

Figures 8 to 14 show an alternative embodiment, illustrating a bag attached to the closable opening, with a cut-out provided in the box therefor (in Figures 11 and 12) for showing the bag in the box.

30

Referring first of all to Figures 1, 2 and 4 there is shown a container 1 without a receptacle in place. The container 1 comprises four planar side walls 1a, 1b, 1c, 1d, a top first end wall and a base end wall 3. The walls together form a generally cuboid volume, or a cuboid box.

The side walls 1a, 1b, 1c, 1d are rectangular, having their shorter edges defining the base and top of the container 1. The base and top are square. Other shapes, however, are also possible.

- 5 In the top first end wall of the container, a circular aperture is formed. The aperture is a through aperture into the substantially cuboid volume formed by the above-mentioned walls 1a, 1b, 1c, 1d, 3.

10 The top first end wall is a double thickness wall, formed from three wall components 2, 5a, 5b. The two thicknesses comprise a first wall formed of two sections 5a, 5b, each of which has a semi-circular edge which, when the sections are assembled into the cuboid shape, lie in a common plane to form a first circular aperture 6, and a second wall 2 with a further aperture 4, which when the cuboid shape is assembled lies over and concentrically relative to the first circular aperture. In this configuration, the second wall 2 lies parallel to and against both of the two sections 5a, 5b. This second wall 2 serves to reinforce the first wall (which is split into two) , and can be held down either by glue, or, as shown, using a tuck-in flap 23 (secured by a locking flap 24): the second wall 2 is folded along one edge 7 and engages its tuck-in flap, at its opposite edge, through a slot, against an internal surface of the opposing side walls 1a. Then the locking flap 8 - provided for that opposing side wall 1a - is inserted into a corresponding slot 9, 25 that is provided in the joint between the tuck-in flap 23 and the second wall 2. See Figure 7 as well, which shows the blank that is used to form this container. It has the tuck-in flap 23, the locking flap 24 and the corresponding slot 9, 25 all shown on it.

25

Referring next to Figure 3 there is shown a top perspective view of a container with a closable opening in position in the aperture 4 of the second wall 2 of the container. It is likewise extending through the first aperture 6.

- 30 The closable opening comprises a rigid plastic rim 11 and corresponding lid 12. The rim 11 and lid 12 engage together using a threaded connection.

35 The rim 11 is attached to a plastic bag, that bag being wholly contained within the cuboid shape of the container. See the second embodiment (Figures 8 to 14). The bag thus provides a receptacle which may be used to hold paint within the container. Bags

for "bag-in-box" applications are well known in, for example, the drinks industry, especially beer, wine and cider, and therefore a further description of the bag is not required here. Nevertheless, by way of an example, the bag can be connected to the rim 11 of the closable opening by adhesive. Alternatively a heat bond may be used.

5 The bag is then supplied into the box either in the folded condition, ready for inflation by filling it with the liquid of choice, e.g. paint, or it has been pre-filled prior to insertion into the box.

The rim 11 and lid 12 sit proud, or upwards of, of the top surface of the second wall 2
10 once located within the box of the container. For that purpose, the rim 11 includes a lip around its edge which may rest under the two sections 5a, 5b of the first wall to locate the closable opening 10 relative to the apertures 4, 6 in the top first end wall. In an alternative embodiment (not shown), the lip may instead be arranged to face downwards such that it rests atop the two sections 5a, 5b, or the second wall 2. In a
15 further alternative embodiment (also not shown), two lips may be provided - a second lip is provided opposite the first lip to form a groove, into which would extend the two semi circular cut-outs in the two sections 5a, 5b so as to positively engage onto those sections both from above and below the sections. The second lip may even be adapted to screw down towards the first lip so as to positively grip those sections 5a, 5b, by
20 putting the second lip onto a nut element. The illustrated embodiment, however, just has the first lip engaging underneath the two sections 5a, 5b. Instead the lid 12 provides a second lip that can be tightened down onto the upper side of those sections (the lid is smaller than the second aperture 4 but bigger than the first aperture 6)

25 The bag in which the paint is held in located within the volume formed by the walls 1a, 1b, 1c, 1d, 2, 3 of the container 1. The walls of the container are formed, in this embodiment, of corrugated cardboard and they provide rigidity to the container - the bag is made of a flexible plastic. The walls also resist damage to the bag in which the paint is held. In this way, a relative thin material may be used for the bag material
30 compared to the thickness of the (cardboard) walls of the container. As such, the proportion of plastics materials in the container may be relatively small - significantly less than the equivalent prior art rigid plastic containers. The cardboard part also remains substantially paint free since it is not in direct contact with the contained paint. As such, after the paint has been used, the cardboard parts of the container may be
35 readily recycled.

Figure 4 shows a bottom view of the container 1 of Figure 1. The base wall 3 of the container is provided with an aperture 13. The aperture 13 is sized to fit over the lid of a similar container. This is to allow such similar containers to be stacked vertically on top of one another such that the lid of one container may be inserted into the aperture 13 in the base 3 of container located on top, like Lego® or Duplo®. In this way, the top first wall of one container may lie adjacent the base wall of a container located on top. The stacking efficiency is therefore highly efficient. Also, because the lid of one container interlocks into the base of another container when the containers are stacked, adjacent containers are positively held in position. The containers are therefore more stable than conventional stacked containers. Further, no interspacing cardboard is needed between stacked containers, unlike with tin or plastic paint containers.

The aperture 13 in the base wall 3 is also provided with a segmented form that provides edges 14. These edges 14 provide a friction fit with the lid that is inserted therein. This further improves the interlocking of containers.

Because the containers have a cuboid form, when containers are stacked adjacent one another laterally there is also a minimal loss of paint transportation volume between stacked containers, and significantly less than with round paint tins. This serves to save space in transportation and it also allows greater pallet utilisation (or smaller pallets for the same volume of paint). Further, because of the cuboid shape of the containers, no additional cardboard dividers are required between transversely adjacent containers when stacked side-by-side on pallets.

The shape of the containers also provides greater shelf utilisation in a retail environment.

The planar surfaces of the containers also mean that a full face or wall of the container is provided for printing product information.

In addition, because containers interlock when stacked, the containers may be provided with the opening in place in the aperture of the end top surface of the container, rather than being concealed behind a frangible hatch, as currently done with

existing bag-in-box arrangements – the user therefore does not need to fiddle around with the box to access the closeable opening.

5 Further, with the present invention a larger opening may be provided compared with conventional cardboard containers, such as those that hold beverages (the taps are typically only provided with a relatively small aperture to allow fluid flow from the tap to be controllable. Their small size also ensures that they can be retained within the volume of the container during storage and shipping. The pre-exposed closeable opening of the present invention therefore also distinguishes the present invention over
10 existing bag-in-box designs.

An adjustable surface or flap 15 is also provided within the volume formed by the plurality of walls 1a, 1b, 1c, 1d, 2, 3. The adjustable surface or flap 15 in the embodiment shown is visible through the bottom of the box – see Figure 4. It
15 comprises a planar wall, which may be moved by applying pressure thereon, for example by hand, through the aperture 13 in the base wall 3. The adjustable surface 15 is hinged to an internal side wall of the container, or it may be simply cut to fit in the box, thereby acting as a piston. It is provided such that it grips against the inside walls of the box – preferably at least two of them, thereby having a friction fit within the box.
20 The resilience of cardboard is sufficient to provide this friction-fit resistance to movement for at least one use, or one passage from its bottom-most position (near the bottom and thus defining a large space within the container in which the bag can fit) into its uppermost position (near the top – or hinged such that an end is near the top – so as to define a smaller space into which the bag will fit).

25 The surface or flap is moved to reduce the space within the container in which the receptacle (bag) is located. This is useful since as the paint is used up, you can raise the top surface of the remaining paint relative to the closable opening. The brush can then be inserted to a lesser degree into the container than would otherwise be needed.
30 This helps to keep the closable opening free of dripped paint.

Figures 5 and 6 show the closable opening of the receptacle in isolation. The closable opening is in the form of a plastic rim 11 which is attached to the bag (not shown). The rim 11 is substantially rigid, and it is provided with a screw thread 16 around its

circumference. A lid 12 is provided with corresponding screw thread so that the closable opening may be closed.

5 In the embodiment shown, the rim 11 is provided with a removable foil security seal 18. This can be heat sealed onto the rim 11 once the paint is in the bag, and once the rim is attached to that bag.

10 Figure 6 shows the underside of the opening of the receptacle. As can be seen, the rim 11 in the embodiment shown includes two apertures 19, 20. This is specifically for attachment of a paint delivery system thereto. A paint-pick-up tube passes through the smaller aperture 20.

15 The two apertures can also be used to provide a further advantageous feature. Between the two apertures 19, 20 there is a bridging member 29. The bridging member provides a delimitation for the larger aperture 19. As such, the larger aperture has a widest free span 31 of about 8cm, and a second, smaller free span of about 5cm. These measurements are taken perpendicular 32 to the wall 34 of that larger aperture 19.

20 The larger aperture, as a result, is large enough to receive even a 5cm paintbrush. However, the bridging member 29 also provides a surface against which excess paint can be removed from the brush for minimising drips. This therefore can be done without getting paint onto the neck of the rim 11, whereby the screw-on lid 12 can be reapplied without mess. This mode of use of the bridging member is not known in the art.

25 Referring finally to Figure 7, it shows a blank 21 that can be used to form the walls for containing the receptacle, i.e. the box of the container. Although dimensions are shown, these are only by way of example. However, the dimensions may be used to determine relative dimensions of the parts.

30 The blank includes four sections forming the four planar side walls 1a, 1b, 1c, 1d (including two sides, a front and a back). A joining lip 22 is provided to join the four side walls together. The side walls are rectangular, having their shorter edges sized to define the size of the base and top of the container, and their longer edges sized to

define the stacking height of the containers (the closable opening at the top of the container extends into the base of the container above, whereby it does not contribute to the stacking height of the container).

5 In a first, in use uppermost, wall of the container, the circular aperture is formed for receiving the closable opening therethrough. This is formed, as described above, from the two sections 5a, 5b and the second wall 2. They are foldably attached to a relevant side, front or back. As such, two of the side walls 1b, 1d include the sections 5a, 5b with semi-circular edges, and as previously described, when the walls are assembled,
10 these sections 5a, 5b with semi-circular edges lie in a common plane to form a first circular aperture, and the second wall 2 is formed on a further side wall 1c for folding such as to bring its aperture 4 into concentricity above that first aperture 6.

The second wall 2 then also includes the flap 23 for holding down that second wall in a
15 releasable manner (rather than using glue for that purpose) A locking flap 24 is then provided in and on the side wall 1a, for insertion into a corresponding slot 25 in the edge of the second wall 2.

As for the base wall 3, it is formed also as a foldable flap integral with one of the side
20 walls 1a, and it includes the aperture 13 with the segments that form the edges 14.

The base wall 3 also includes adjoining sections 26, 27, which lie against two of the side walls of the container (on their inside faces) when the container is assembled. They reinforce the strength of those sidewalls, and help to secure the closure of the
25 base wall by virtue of their long length, thereby resisting a bursting of the bottom upon lifting the container (the container may carry 2.5 litres or more of paint, and perhaps even 5 litres or more, which weights a considerable amount).

The adjustable surface or flap 15 is then provided as a section adjoining one of the
30 other side walls 1c. It can have a frangible connection line 40 to allow it to function as a plunger, rather than a hinged flap. The hinged flap arrangement, however, is preferred since the hinge keeps the friction fit more uniformly controllable.

All the walls, in this blank, are formed in a single one piece blank.

Only the joining lip 22 need be provided with adhesive, or other suitable fixing means, to assemble the container. The remaining sections are simply folded into place.

5 Referring next to Figures 8 to 14, a further example of the container is shown. For the most part it is very similar. However, it has a different closable opening – there is no bridging member. See Figure 14.

10 Figure 8 shows the container as an assembled unit, and it is next to an additional bag (with its closable opening in an open condition). The bag is unfolded, but generally deflated.

Figures 9, 10 and 13 show the assembled unit from different angles.

15 Figures 11 and 12 show the assembled unit with a portion of the side wall cut out and pulled down for revealing the bag within the box – for the purpose of this illustration, the bag within the box is inflated with air.

20 Finally, Figure 14 shows the closable opening as having no bridging member, whereby it has a circular brush receiving hole.

The present invention has been described above purely by way of example. Modifications in detail may be made to the invention within the scope of the claims as appended hereto.

CLAIMS

1. A container comprising a volume defined by a plurality of walls, the container comprising a flexible fluid receptacle provided within said volume, the receptacle comprising a closable opening, and wherein the closable opening is provided in an, in use, uppermost wall of said plurality of walls.
5
2. A container according to claim 1, wherein the volume defined by the plurality of walls is generally cuboid.
10
3. A container according to claim 1 or 2, wherein the walls are formed of corrugated cardboard.
4. A container according to any one of the preceding claims, wherein the flexible fluid receptacle is formed as a bag.
15
5. A container according to any one of the preceding claims, wherein the receptacle is formed of a plastics material.
6. A container according to any one of the preceding claims, wherein the closable opening includes a screw lid.
20
7. A container according to any one of the preceding claims, wherein the closable opening is provided with a first lip which rests against an edge of an aperture in said uppermost wall.
25
8. A container according to claim 7, wherein the closable opening comprises a second lip such that a groove is formed between the first and second lips, the edge of the aperture of the end wall being located within said groove.
30
9. A container according to claim 8, wherein the second lip is provided by a perimeter of a lid of the closable opening.

10. A container according to any one of the preceding claims, wherein the closable opening has an outer diameter which is at least 50% of the width of the end wall of said container, as measured in the same plane as that outer diameter.
- 5 11. A container according to any one of the preceding claims, wherein means are provided to adjust the useable internal volume of the container, thereby adjusting the size of a space in which the receptacle is located.
- 10 12. A container according to claim 11, wherein said means comprises a surface, a flap or a plunger, provided adjacent said receptacle, the means being movable to adjust the size of the space.
- 15 13. A container according to claim 11 or claim 12, wherein the means is formed as a flange that is joined to or formed integrally with one of said plurality of walls.
14. A container according to claim 11, claim 12 or claim 13, wherein the means has a friction fit with at least two adjacent surfaces of the container for resisting movements thereof.
- 20 15. A container according to any one of the preceding claims, wherein the opening extends above a plane of the uppermost wall.
- 25 16. A container according to any one of the preceding claims, wherein the uppermost wall comprises two layers, a second wall of which has an aperture therethrough, the aperture being configured to fit over the closable opening.
- 30 17. A container according to any one of the preceding claims, wherein the container's base comprises an aperture that is configured to be of a size to fit over the closable opening, whereby the closable opening of a second, similar, container can be located into that opening in the base so as to permit an interlocked stacking of one or more such containers.
- 35 18. A container according to claim 17, wherein the aperture in the base is provided with segments so as to provide a plurality of edges, such that when, in use, a closable opening of second, similar container is received in the aperture in the base, the edges

positively engage with the closable opening of the second container to grip that second container.

5 19. A container according to claim 17 or claim 8, when dependent on any one of claims 12 to 14, wherein the means is accessible via said aperture in the base.

20. A container according to any one of the preceding claims, wherein the plurality of walls are formed of a single blank of material.

10 21. A container according to any one of the preceding claims, wherein the receptacle contains paint.

15 22. A container according to any one of the preceding claims, wherein the closable opening defines an internal opening in the form of a circular hole for accommodating a head of a paintbrush, with a diameter of at least 7cm.

20 23. A container according to any one of the preceding claims, wherein the closable opening defines an internal opening and a bridging member or lip that provides a brush-wiping surface against which a user can remove excess paint from his brush.

24. A container according to any one of the preceding claims, wherein the closable opening defines a brush-receiving hole that is non-round.

25 25. A container according to any one of the preceding claims, wherein the closable opening defines a brush-receiving hole that has a shape defining a maximum free-span dimension of at least 7cm.

30 26. A container according to any one of the preceding claims, wherein the closable opening defines a brush-receiving hole that has a mean free-span dimension of no less than 4cm, taken by determining and averaging the free-span lengths extending perpendicular to the wall of the brush receiving hole, all the way around the brush receiving hole.

35 27. A kit of parts adapted to form a container according to any one of the preceding claims, the kit comprising one or more blanks for forming the walls thereof, the flexible

fluid receptacle comprising the closeable opening with a lid for closing the closeable opening, and wherein the lid has an external diameter of at least 9cm.

5 28. The kit of claim 27, wherein the one or more blank, for forming the walls, is supplied as one or more substantially flat sheets, and the receptacle is provided as a bag in a substantially non-inflated condition.

10 29. A paint container comprising a fluid receptacle, a base and a lid, the lid projecting above the top edge of the fluid receptacle, wherein the base has an aperture in it sized to receive and accommodate the lid, whereby the lid of a corresponding paint container can be fitted into the aperture for securely stacking the paint container above the corresponding paint container.

15 30. The paint container of claim 29, wherein the fluid receptacle is contained within a plurality of walls of the container, and the is part of a closable opening attached to the fluid receptacle, the closable opening extending through and out of an upper aperture in a first, in use uppermost, wall of said container.

20 31. The paint container of claim 29 or claim 30, having a substantially cuboid, or planar-sided, body.

32. The paint container of any one of claims 29 to 31, being in accordance with any one of claims 1 to 26.

25 33. A pallet of paint containers, the paint containers being in accordance with any one of claims 29 to 32, a first plurality of the paint containers being stacked on top of a second plurality of the paint containers.

30 34. The pallet of paint containers according to claim 33, arranged with transversely adjacent containers being in a touching arrangement.

35 35. A method of using a container, the container comprising a volume defined by a plurality of walls, the container comprising a flexible fluid receptacle provided within said volume, the receptacle comprising a closable opening, and wherein the closable opening is provided in a first, in use, uppermost wall of said plurality of walls, the

container comprising therein a movable surface, flap or piston that is adjacent the receptacle, and the method involving moving the surface, flap or piston to adjust the internal useable space within the container, that space being where the receptacle is located.

5

36. A method according to claim 35, wherein the moving of the surface, flap or piston directly adjusts the height of an upper surface of a volume of paint within the receptacle relative to the closable opening of the receptacle.

10

37. A container substantially as described herein, with reference to and as illustrated in the accompanying figures.

38. A method of using a container substantially as described herein with reference to and as illustrated in the accompanying drawings.



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Claims searched: 1-28, 35-38

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Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-15, 20, 21, 27, 28, 35, 36	US4739903 A (BEDWELL) see whole document
X	1-10, 15, 20, 21	WO2008/038054 A2 (HARDING) see whole document
X	1-10, 15, 20, 21	WO01/66423 A1 (HOLLAND) see whole document
X	1-10, 15, 20, 21	GB2228725 A (BUNSCHOTEN) see whole document
X	1-10, 15, 16, 20, 21	GB2403468 A (STEPHENSON) see whole document

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
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Field of Search:

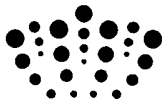
Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

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B65D

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI



International Classification:

Subclass	Subgroup	Valid From
B65D	0077/06	01/01/2006
B65D	0005/72	01/01/2006
B65D	0021/02	01/01/2006
B65D	0025/16	01/01/2006
B65D	0083/00	01/01/2006