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(54) **A container**

(57) The invention relates to a container comprising four sides (12, 14, 26, 18) that meet in corners (A, B, C, D), a bottom (40), a mouthing (11) opposite the bottom (40), and a handle (30), wherein the handle (30) is hingedly connected to the container (10) at two opposed corners (A, C). The container is characterised in being configured for allowing turning of the handle (30) between a first position in which the handle (30) is laid down in a direction towards a first corner (D), and a second position in which the handle (30) extends essentially vertically, said container (10) comprising means (36, 23') configured for preventing or counteracting a further rotation of the handle (30) from said second position in a direction towards a second corner (B) arranged diagonally opposite the first corner (D).

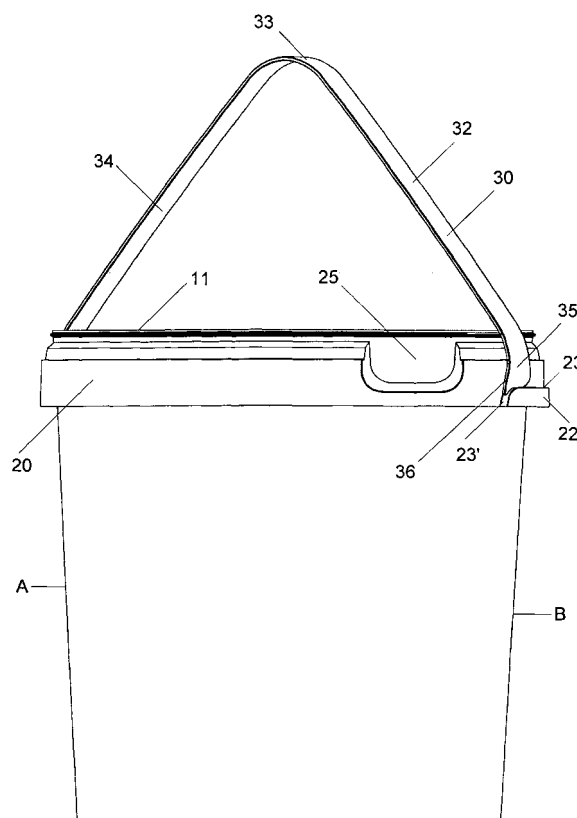


Fig. 4

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## Description

**[0001]** The present invention relates to a container comprising four sides that meet in corners, a bottom, a mouthing opposite the bottom, and a handle, wherein said handle is hingedly connected to the container at two opposite corners. A container of this general type is known from US patent No. 3 866 791 and distinguishes itself by enabling reliable emptying, if so desired, of a charge of liquid material, such as paint or dye, across the mouthing of the container at one of two opposed corners. The corner thereby forms a kind of pouring spout for generating a more well-defined outflow of the liquid material.

**[0002]** It is a problem of these prior art containers that, precisely in the seizing area, the handle is susceptible to being covered by the material from the interior of the container. This happens when, following partial emptying of the container, the user randomly lets go of the handle at one of the two opposed corners, whereby the seizing area of the handle may, in the adverse event, be caused to come into contact with liquid material emptied across the mouthing of the container and having spilled down along the corner of the container over which the user has poured the container charge.

**[0003]** The object of the invention is to provide an improved container.

**[0004]** This is accomplished in that the container is configured to allow a turning of the handle between a first position in which the handle is laid down in a direction towards a first corner and a second position in which the handle extends essentially vertically, said container comprising means configured for preventing or counteracting a further turning of the handle from said second position in a direction towards another corner arranged diagonally opposite the first corner. The container is preferably made of a plastics material.

**[0005]** When using the container according to the invention the user will be able to tilt the container relative to the handle in one direction only, thereby enabling emptying of the charge of the container only via the mouthing of the container at the one corner. When the handle is let go, the handle is able to tilt downwards only to abut on the outside of the container at the corner of the container which is located diametrically opposite the corner where the emptying took place.

**[0006]** A further inconvenience associated with the container illustrated in the US patent which has the shape of an upside-down frustum of a pyramid is that the handle on the uppermost container in a stack of such empty containers must necessarily be tilted upwards before it is possible to separate the stack. This problem is solved according to an embodiment of the invention in that, along an area along the mouthing of the container, at least one protrusion is configured for supporting the handle in said first position, and that the handle will, in said first position, extend essentially horizontally. The handle of the container being configured approximately as a V with sides

whose shapes correspond to the shape of the sides of the container in the area around the mouthing and which converge in a corner whose shape corresponds essentially to the outer contour of the first corner of the container, it is possible to ensure that, to the widest extent possible, the container does not have protruding portions that could make it difficult to handle and stack the container.

**[0007]** According to a particularly preferred embodiment the container is provided with a recess in the bottom located at said first corner. The recess enables the user to introduce a finger to secure and support the container reliably during the emptying process. The location of the recess is selected in accordance with the fundamental idea behind the invention according to which the emptying is to take place at the diagonally opposite second corner of the container. Since such recess will typically be matched by a corresponding elevation interiorly of the container, and since such elevation will reduce the interior volume of the container, the need for two opposed recesses is eliminated which could have been desirable in case of the container described in the US patent.

**[0008]** In the following the invention will be explained in further detail with reference to a currently preferred embodiment.

**[0009]** Figure 1 shows the container with a lid, seen in a perspective view from above;

**[0010]** Figure 2 shows the container with the handle tilted vertically upwards, seen in a perspective view from above;

**[0011]** Figure 3 shows the container without handle, seen from one side;

**[0012]** Figure 4 shows the container with the handle tilted vertically upwards, seen from the same side as in Figure 3;

**[0013]** Figure 5 shows the container with the handle tilted vertically upwards, seen in a perspective view from below; and

**[0014]** Figure 6 shows the container with the handle tilted vertically upwards, seen from above.

**[0015]** In Figure 1 reference numeral 10 is used to generally show a four-sided container provided with a lid 1 configured for being able to engage with the mouthing 10 of the container. The lid 1 may conventionally be provided with reinforcement ribs 5 on the top side and a round-going groove delimited by sidewalls 6 for receiving the mouthing of the container. According to the invention, the container 10 may particularly advantageously be used for storing liquid products such as paint, foodstuffs or foodstuff ingredients.

**[0016]** As mentioned the container 10 has four sides 12, 14, 16, 18 that meet in corners A, B, C, D. Corners A, B, C and D are preferably slightly rounded, preferably with the same radius, and sides 12, 14, 16, 18 may be completely straight and parallel or exhibit a slight curvature as is the case with the container in the shown embodiment. At the top the container 10 has, in a conventional manner, a round-going skirt 20 extending at a dis-

tance from the walls 12, 14, 16, 18 and whose function it is to brace the container 10 at the mouthing and to allow attachment of a handle 30. A recess 25 formed in the skirt at the one side 12 of the container 10 enables easy removal of the lid 1, an individual being able to introduce his finger into the recess and press the round-going edge of the lid upwards out of engagement with the mouthing of the container 10.

**[0017]** According to the invention the shown handle 30 can be moved between two positions, viz the first position shown in Figure 1 in which the handle lies down vertically or approximately vertically in abutment against the top face 23 of a flange 22 extending along the skirt 20 of the container 10 along the two sides 16, 18 that meet at the corner D; and a second position shown in Figure 2.

**[0018]** In Figure 2 the container 10 is shown without the lid 1, and it will appear that the handle 30 is connected to the container 10 in two opposed corners A, C. In Figure 2 the mouthing of the container is shown by reference numeral 11, and the letter I designates an area of the mouthing at the corner B. When the container 10 is emptied, the container 10 is tilted relative to the handle 30 which continues to be held essentially vertical in such a manner that the area I is caused to define a pouring edge over which the liquid charge of the container flows during the emptying procedure. If desired such pouring edge, ie the area I, may optionally be configured with such geometry as to provide a more pronounced spout configuration for reducing undesirable drop formation.

**[0019]** Comparison of Figures 1 and 2 will show that the handle 30 of the container 10 is configured approximately as a V with sides 32, 34 whose shape corresponds to the shape of the sides 16, 18 of the container 10 in the area at the mouthing 11 and which meet in a corner 33, whose shape corresponds essentially to the external contour of the one corner D of the container.

**[0020]** In Figure 3 the container 10 is shown without the handle 30 and it will appear how the skirt 20 is manufactured with a through-going aperture or an indentation 21 that serves to receive a pin on the handle 30 for turnable attachment of the handle 30 to the container 10.

**[0021]** In Figure 4 the container 10 is shown with the handle 30 in the second position shown in Figure 2, and it will appear that, at the corner A, the flange 22 of the container 10 is provided with an end edge 23' whose function it is to form an abutment face for the edge of a protruding portion 36 on the handle 30 at the end 35 of the handle 30. A corresponding end edge 23' is arranged at the opposite corner C to form an abutment face for a corresponding protruding portion at the opposite end of the handle. When the handle 30 is taken to the shown second position, the end edges 23' will abut on the associated protruding portions 36 and form stops that prevent or to the widest extend possible, counteract a further turning of the handle 30 in a direction towards the corner B.

**[0022]** Figure 5 shows how the container is, opposite the mouthing 11, provided with a bottom 40, and that, in

the bottom 40 at the corner D, a recess 45 is provided. It will further appear how the skirt 20 is in a conventional manner connected to the sides of the container 10 by means of ribs 21.

**[0023]** As shown in Figure 6 the recess 45 can be seen as an upwardly arched portion 45' interiorly of the container 10 at the corner D. The recess 45 is dimensioned such that an individual is able to introduce a part of his finger and support the container 10 simultaneously with him holding the handle 30. When the container 10 is to be emptied the individual will lift the bottom of the container 10 at the corner D, thereby turning the container relative to the handle 30 that remains essentially vertical, whereby the handle turns in a direction towards the first position. During this lifting movement of the corner D the container 10 tips, whereby the liquid charge of the container will flow across the mouthing 11 in the area I that is, as mentioned, situated at the corner B opposite the corner D.

**[0024]** It will further appear from Figure 6 that the protrusion 22 may comprise two sections of areas 22', 22" that extend along respective sides 16, 18 of the container 10.

**[0025]** Albeit the means for preventing or counteracting the further turning of the handle are described as cooperating faces arranged on the handle and exteriorly on the skirt of the container, many different configurations of the means are conceivable. For instance, it is an option to configure the handle pin conveyed into the opening 21 and the opening 21 in such a manner that the surfaces of the pin and of the opening 21 produce the desired stop. Likewise, it is an option that, within the skirt interior at the area at the opening 21, protrusions or ribs are arranged that cooperate with the pin of the handle 30 and form said stop.

## Claims

1. A container comprising:

- four sides (12, 14, 16, 18) that meet in corners (A, B, C, D) and delimit the container interior;
- a bottom (40);
- a mouthing (11) opposite the bottom (40); and
- a handle (30), wherein the handle (30) is hingedly connected to the container (10) exteriorly in relation to the container interior at two opposite corners (A, C).

**characterised in that** the container (10) is configured for allowing turning of the handle (30) between a first position in which the handle (30) is laid down in a direction towards a first corner (D) and a second position in which the handle (30) extends essentially vertically, said container (10) comprising means (36, 23') configured for preventing or counteracting a further turning of the handle (30) from said second po-

- sition in a direction towards the second corner (B) diagonally opposite the first corner (D).
2. A container according to claim 1, **characterised in that** exteriorly the container (10) comprises a round-going skirt (20) arranged at the mouthing (11). 5
  3. A container according to claim 1 or 2, **characterised in that**, in an area along the mouthing (11) of the container, at least one protrusion (22, 22', 22'') is formed for supporting the handle (30) in said first position; and that the handle (30) in said first position thereby extends essentially horizontally. 10
  4. A container according to claims 2 and 3, **characterised in that** the at least one protrusion (22 22', 22'') is configured on the skirt (20). 15
  5. A container according to one of the preceding claims 3 and 4, **characterised in that** the at least one protrusion is arranged along the two sides (16, 18) that adjoin the first corner (D). 20
  6. A container according to any one of the preceding claims, **characterised in that** the bottom (40) is provided with a recess (45). 25
  7. A container according to the preceding claim, **characterised in that** the recess (45) is formed at the first corner (D). 30
  8. A container according to claim 6 or 7, **characterised in that** the recess (45) corresponds to a corresponding elevated portion 45' interiorly of the container. 35
  9. A container according to any one of the preceding claims, **characterised in that** the corners (A, B, C, D) are rounded.
  10. A container according to any one of the preceding claims, **characterised in that** the sides (12, 14, 16, 18) extend in an inclining manner upwards from the bottom (40) towards the mouthing (11). 40
  11. A container according to any one of the preceding claims, **characterised in that** the sides (12, 14, 16, 18) along the mouthing (11) are configured for being able to secure a lid (1). 45
  12. A container according to the preceding claim, **characterised in that**, on at least one of the container sides, a recess (25) is provided for removal of the lid (1), said recess (25) being arranged between the second corner (B) and one or both of the two opposed corners (A, C), whereby an individual is able to apply an upwardly oriented force onto an edge of the lid (1) when the handle (30) is in the first position. 50 55
  13. A container according to any one of the preceding claims, **characterised in that** said means (36, 23') for preventing or counteracting a further turning of the handle (30) are constituted by a respective area (36) at the ends of the handle (30) that cooperate with a respective abutment (23') on the container (10).
  14. A container according to any one of the preceding claims, **characterised in that** the handle (30) is configured approximately like a V with sides (32, 34) whose shape corresponds to the shape of the container sides (16, 18) in the area at the mouthing (11) and meet in a corner (33), whose shape corresponds essentially to the external contour of the first corner (D) of the container.

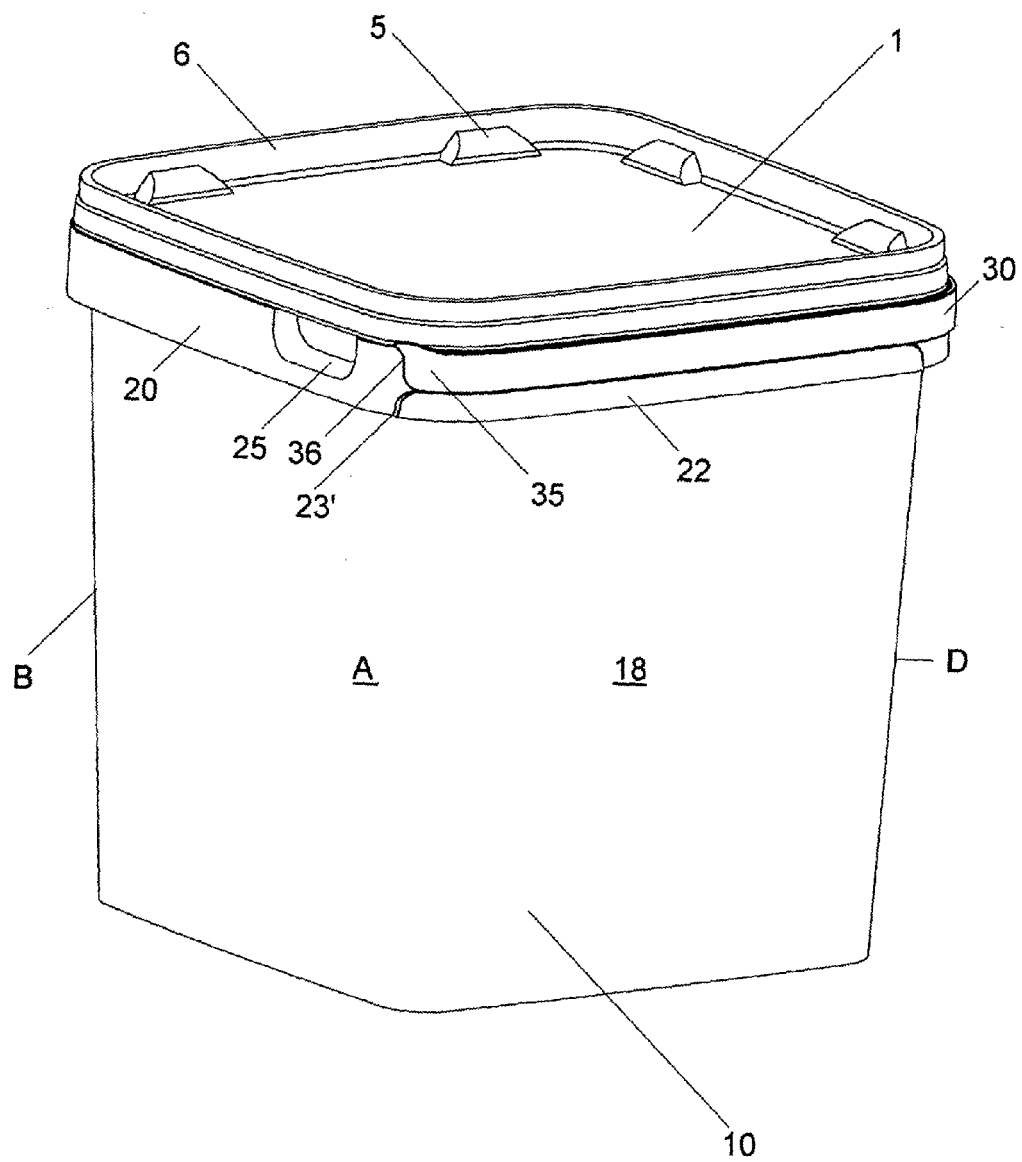


Fig. 1

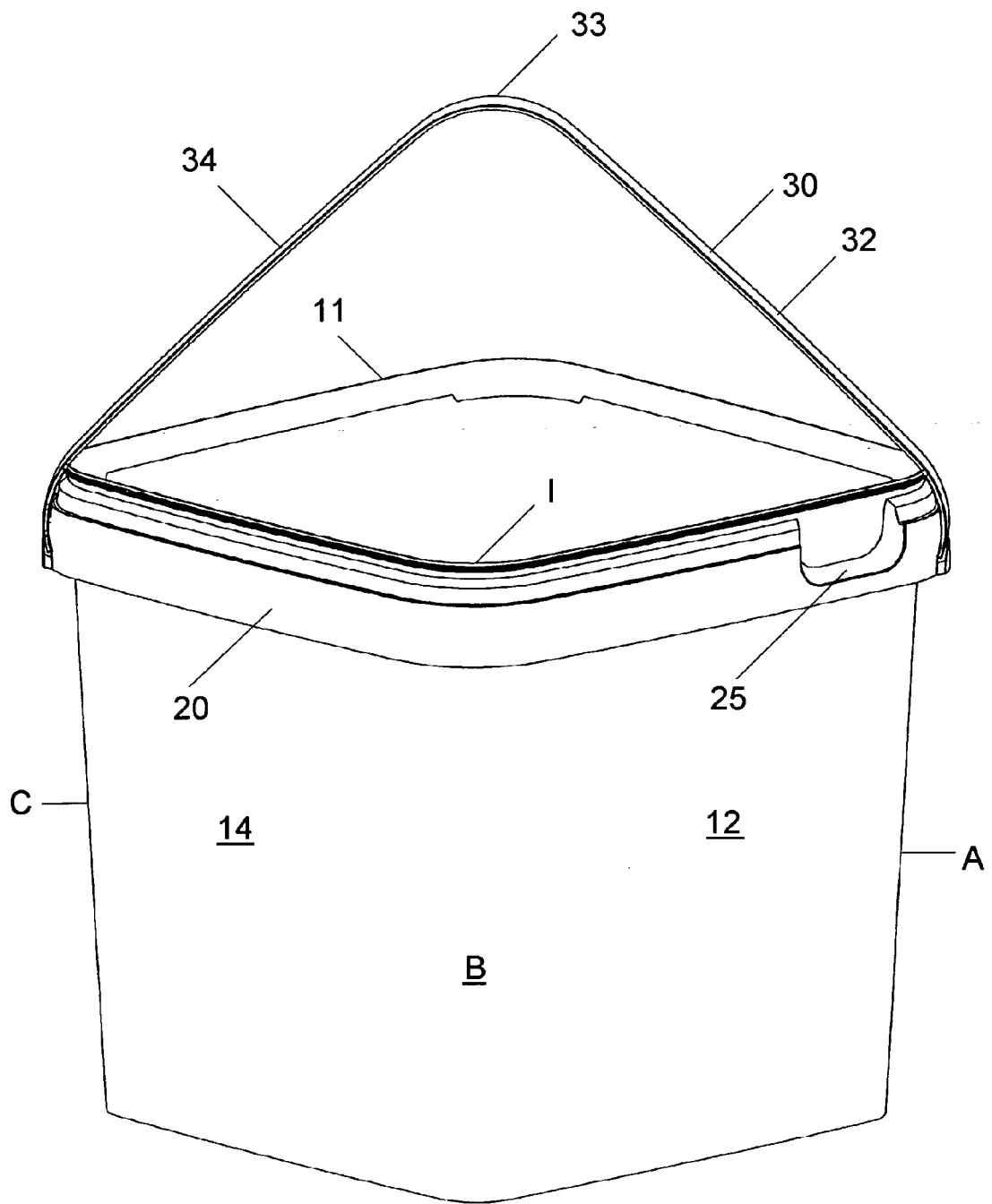


Fig. 2

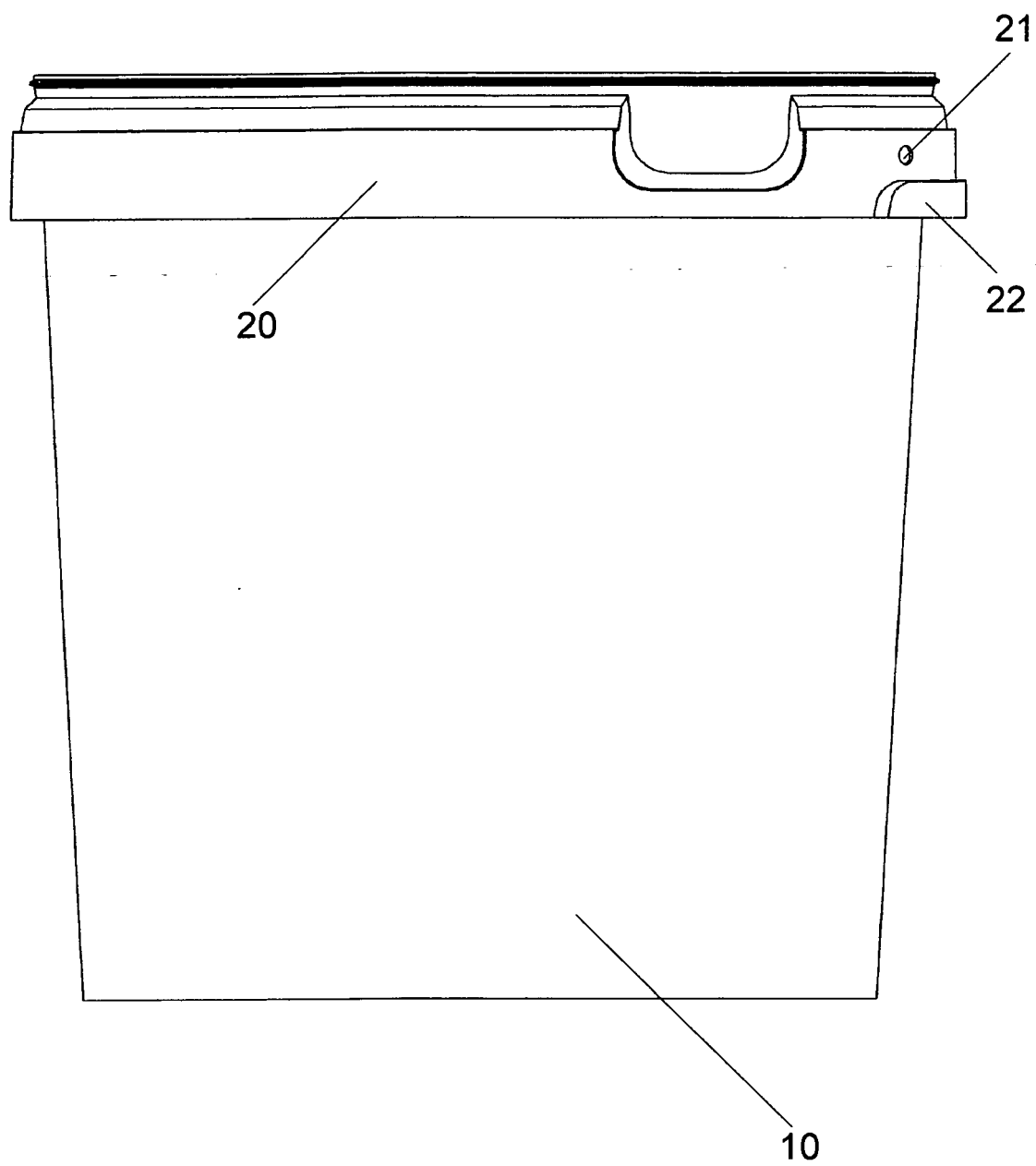


Fig. 3

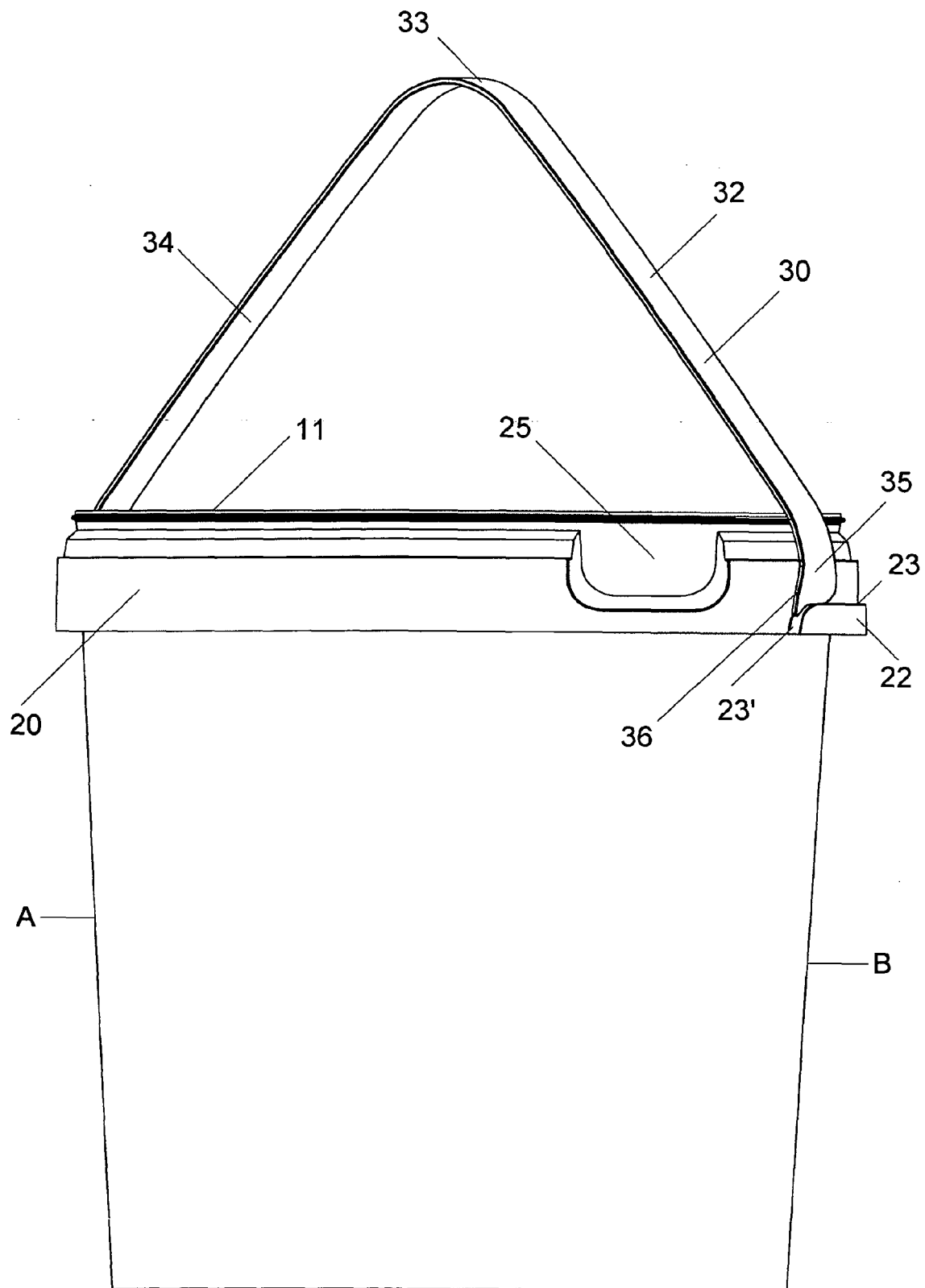


Fig. 4



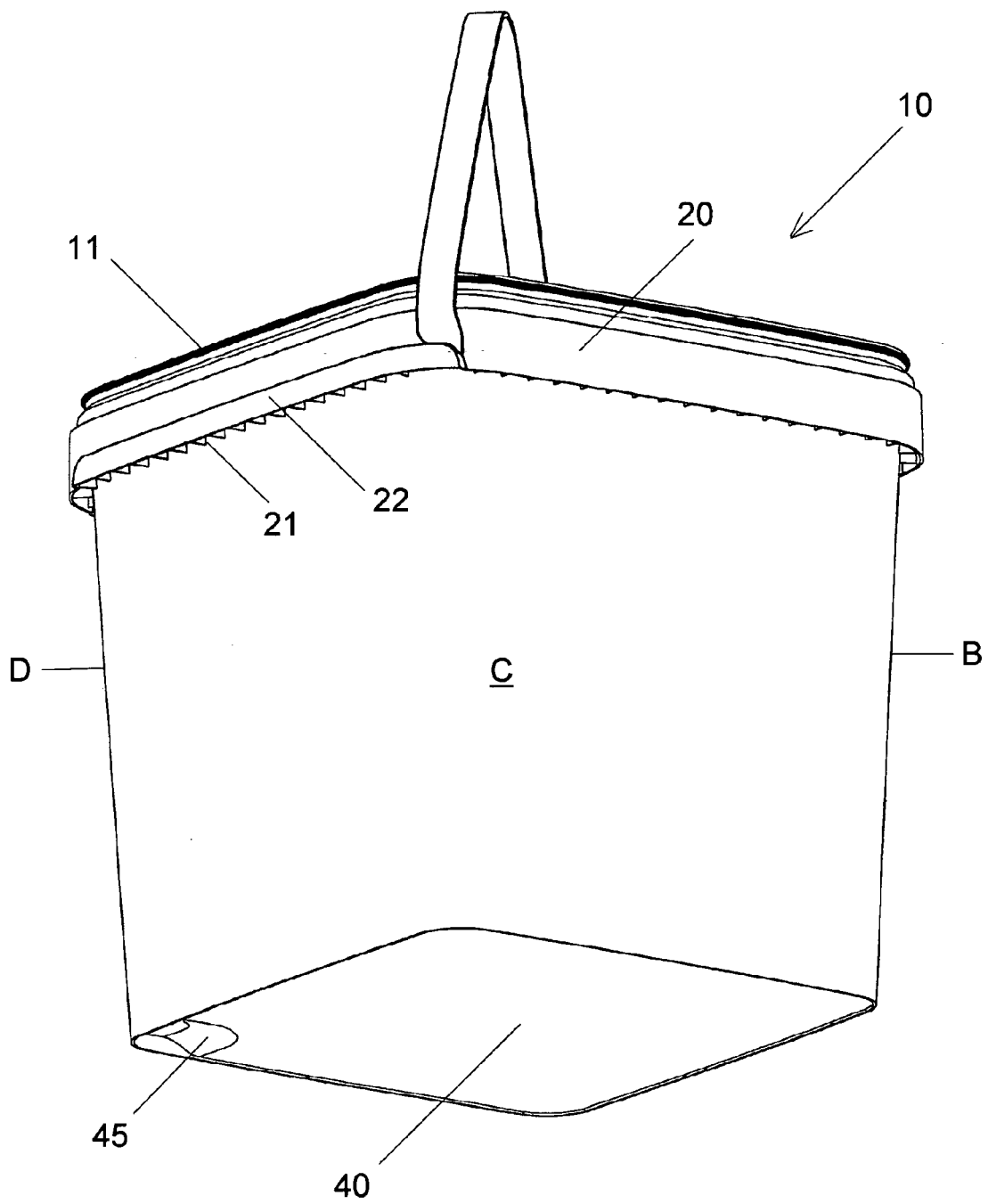


Fig. 5

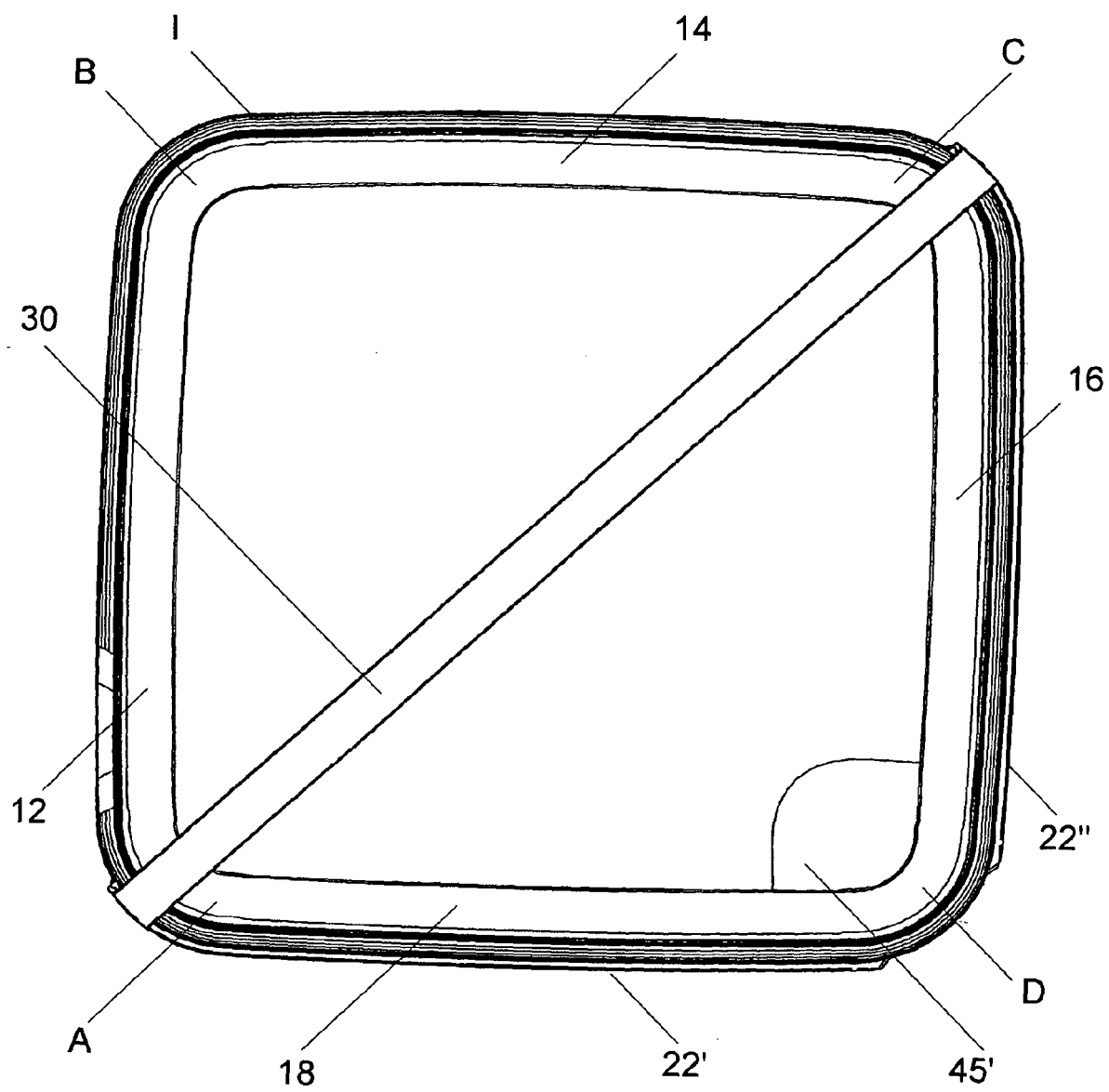


Fig. 6



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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 April 2006	Examiner Jervelund, N
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 06 38 8003

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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04-04-2006

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