

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
15 June 2006 (15.06.2006)

PCT

(10) International Publication Number
WO 2006/061019 A2

(51) International Patent Classification: Not classified

(74) Agent: ZACCO DENMARK A/S; Hans Bekkevolds Allé 7, DK-2900 Hellerup (DK).

(21) International Application Number:
PCT/DK2005/000774

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
7 December 2005 (07.12.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PA 2004 01904 8 December 2004 (08.12.2004) DK
PA 2005 00909 21 June 2005 (21.06.2005) DK

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): SUPER-FOS A/S [DK/DK]; Skimmedevej 10, DK-4390 Vipperød (DK).

(72) Inventors; and

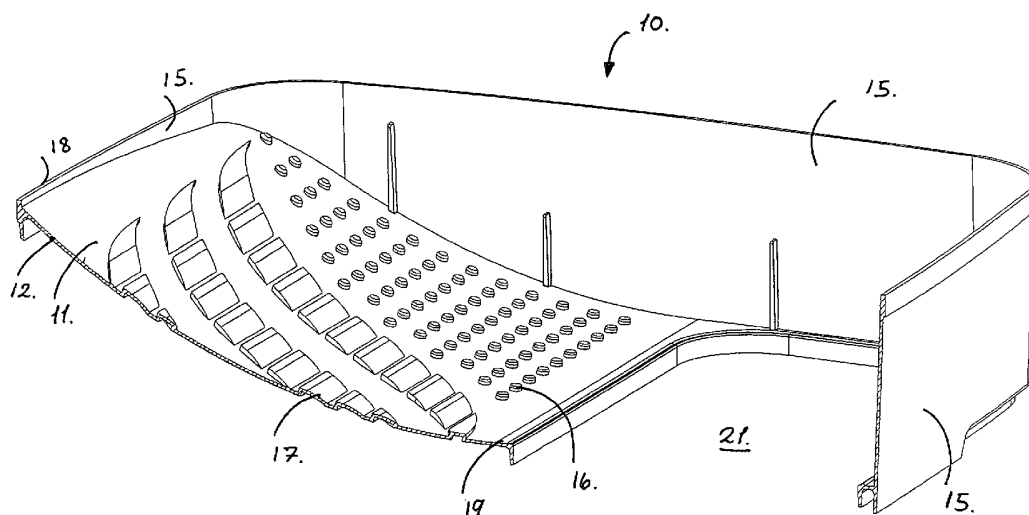
(75) Inventors/Applicants (for US only): NOER, Torben [DK/DK]; Kirkebakken 80, DK-8330 Beder (DK). PUDSELYKKE, Lars [DK/DK]; Blomsterhaven 9B, DK-4300 Holbæk (DK). VUILLOT, Jean-Marc [FR/FR]; 428 Route de Tournus, F-71290 Cuisery (FR). STENSBØL, Michael [DK/DK]; Evavej 21, DK-3500 Værløse (DK).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PAINT TRAY AND A PACKAGING



(57) Abstract: The invention relates to a paint roller tray (10) for a container (101) comprising a container bottom (106), a round-going container wall (5) delimiting the container (101) and having opposite the container wall (106) a mouth with an expanse delimited by the container wall (5), and wherein the paint roller tray (10) comprises a bottom with a bottom face (11), a round-going sidewall (15) delimiting the paint roller tray (10) and having opposite the bottom face (11) a free edge (18) defining the upper opening of the tray (10); and that the tray (10) comprises means for arrangement of the paint roller tray (10) in a position at the mouth of the container (101).

WO 2006/061019 A2

A paint tray and a packaging

The present invention relates to a paint roller tray for a container comprising a container bottom, a round-going container wall delimiting the container and
5 having, opposite the container bottom, a mouthing with an expanse delimited by the container wall; and wherein the paint roller tray comprises a bottom with a bottom face, a round-going sidewall delimiting the paint roller tray and having, opposite the bottom face, a free edge defining the upper opening of the paint roller tray, and wherein the paint roller tray comprises means for
10 arranging the paint roller tray in a position at the mouthing of the container.

A paint roller tray intended for being arranged in a container and comprising a plane bottom face for sweeping off a paint roller is known as such. However, it is a problem of the prior art paint roller trays that the expanse of
15 the bottom face is delimited by the dimensions of the container; and that the expanse of the bottom face is not always sufficient for a sweeping off of the entire diameter of the paint roller to take place by rotation thereof on the bottom face. Sweeping off of the paint roller is crucial to obtaining an even distribution of paint throughout the entire diameter of the paint roller and
20 hence for the paint to be evenly distributed when it is applied eg to a wall face to be painted.

According to the invention that problem is solved by a paint roller tray, wherein the bottom face is configured with a single-curvature course,
25 whereby, with a paint roller tray of given dimensions, it is accomplished that the effective length of the bottom face is increased compared to the case where the bottom face is configured with a planar course.

Advantageous embodiments of the invention will appear from the dependent
30 claims.

Figure 1 is a perspective view of a paint roller tray with a cut-through container according to the invention;

Figure 2 is a perspective, sectional view through a paint roller tray;

5

Figure 3 is a sectional view through a paint roller tray;

Figure 4 shows a paint roller tray, seen from above;

10 Figure 5 is a perspective view of a packaging consisting of a container with a paint tray according to one embodiment, in the use position;

Figure 6 are side views of the various parts that partake in the packaging;

15 Figure 7 shows an alternative embodiment of the packaging shown in figures 5 and 6;

Figure 8 shows an alternative embodiment of the packaging shown in figures 5 and 6;

20

Figure 9a and 9b show different paint trays that may be constituents in the packaging shown in Figures 5-8; and

25 Figure 10 shows how the paint trays shown in figures 7 and 8 can be arranged on the container.

Figure 1 is a perspective view of a cut-through plastics container 1 which is provided at the top with a lid 4 made of plastics. Preferably the container has such volume that it is able to hold from 1 to 20 litres of paint or varnish, while
30 said container simultaneously accommodates a paint roller tray according to

the invention; and wherein the paint roller tray is arranged at a level above the liquid surface of the paint/varnish.

As shown in Figure 1 the plastics container 1 comprises a container bottom 5
5 that extends into a round-going wall 5 having, opposite the bottom, a free edge 7 with a bead 8 and defining the mouthing of the plastics container. The bead 8 is intended for snap-lockingly engaging with complementary snap means on the lid 4 in a conventional manner. Hereby the container is defined by the bottom 6, sidewalls 5 and the free edge 7. As will appear from the
10 Figure, the plastics container 1 is configured with pairs of opposite parallel sides, whereby the plastics container may, seen from above, be rectangular or square; alternatively the plastics container may be cylindrical or conical.

In connection with the mouthing of the plastics container 1 a paint roller tray
15 10 according to the invention is arranged at the top of the plastics container.

In figures 2, 3 and 4 the paint roller 10 is shown in detail. As shown in Figure 2, the paint roller tray comprises a bottom with a bottom face 11, wherein a round-going wall 15 extends from the bottom 12 and which is delimited by a
20 free edge 18 opposite the bottom 12, and whereby the free edge 18 defines an upper opening in the paint roller tray 10.

The bottom face 11 of the paint roller tray is configured with a single-curvature extending from the free edge 18 of one side 15 with a descending
25 inclination in a direction towards an opposite side 15. The term 'single-curvature' as used herein is intended to designate a surface having a curvature in a first direction and essentially no curvature in a direction perpendicular to said first direction. The thus formed hollow will face upwards in the use situation. At a lower area of the bottom face 11, where the inclination has tapered off and continues in a lower plane course 19 or a
30 lower essentially plane course 19, the bottom 12 comprises a lower opening

21 intended for transporting paint from the container and upwards to the bottom face 11. The transport of paint will preferably take place by a (not shown) paint roller being conveyed down through the opening 21 and dipped into the paint, following which it is taken onto the bottom face, where the paint roller is being swept off by being rolled on the bottom face. Preferably the paint roller will be swept one full round on the bottom face 11.

For instance, the bottom face 11 can be configured with a course that describes a section of a circle or a section of an ellipse.

10

Advantageously the bottom face 11 will be provided with or configured with a number of protrusions 16, 17 in the shape of studs, beads or ribs and serving the purpose of providing increased friction between a paint roller and the bottom face 11 and hence of preventing the paint roller from sliding during sweeping off.

15

In the above, the paint roller tray was described in terms of an embodiment of the invention, in which the paint roller tray is arranged within the plastics container. However, in accordance with the invention nothing prevents the paint roller tray from being configured with securing means (not shown) in extension of the sidewall 15 at the bottom side of the tray 12, whereby it can be secured on the free edge 7 of the container wall 5. When the paint roller tray 10 is arranged on the plastics container 1 and the securing means of the paint roller tray is lowered down onto the free edge of the container wall, the bead on the free edge will snap-lockingly engage with the securing means of the paint roller tray. Correspondingly, at the free edge 28, the sidewall 15 of the paint roller tray will be provided with a bead which may, in a conventional manner, snap-lockingly engage with complementary snap means on a lid.

20

25

The packaging described in the context of Figures 5-10 may be considered as being based on a further development of the paint roller tray described in the context of Figures 1-4.

- 5 However, it should be stressed that the principles described in the context of Figures 5-10 can be used completely independently of the principles described with reference to Figures 1-4. Thus in general the packaging described with reference to Figures 5-10 solves a number of the problems identified during practical use of the packaging solutions taught in US patent
10 No. 5 472 111 and EP patent No. 1 293 360, respectively.

In Figure 5, reference numeral 101 shows a plastics container. The container is intended for containing in particular paint, varnish or other similar liquid products to be applied to a surface by means of a paintbrush or in particular
15 a paint roller. The container 101 has a wall and a bottom that combine to define a receiving space for the contents of the container 101, and opposite the bottom it has an opening delimited by the upper edge of the wall. The container may be round, but it is preferably approximately square or approximately rectangular, meaning that it will appear as shown with
20 oppositely arranged, approximately parallel sides, due to that shape being particularly suitable when the container 101 is to be used in connection with a paint roller for application of the contents of the container on a surface.

The container 101 is also shown in Figure 6, from where it will appear that,
25 underneath its upper edge 101', the wall of the container 101 has an outwardly protruding, round-going skirt 104 and an attachment area extending along the opening, in the embodiment shown in the shape of an recess 120 for optional attachment of either a lid 103 of plastics or a paint tray 102 of plastics, both of which will be subject to further description below.
30 Along with the tray 103 and the paint tray 102, the container 101 forms a packaging intended for being supplied to the end user in a sales outlet with

paint, varnish or corresponding product contained in the container 101 below the lid 103.

- 5 In Figure 5 the container 101 is shown with the paint tray 102 secured to the attachment area 120 of the container 101. It will be understood that Figure 5 shows the paint tray in a use position, where the user has access to the contents of the container 101. As shown in Figure 5 the paint tray 102 is configured with a bottom 106 that has a through-going opening 108 delimited by a peripheral edge 128. The bottom 106 is delimited by an upwardly
10 extending wall 107 which may have a height of preferably between about 2 cm and about 7 cm, and, in the use position, the bottom 106 preferably extends in the plane defined by the upper edge 101' of the container 101, or above that plane.
- 15 The wall 107 of the paint tray 102 essentially follows the contour of the wall of the container 101, and the bottom 106 may optionally have a slight inclination in a direction towards the opening 108, either by the bottom 106 being plane or by the bottom 106 being a single-curvature face with its highest area being located farthest from the opening 108 as was described with reference to
20 Figures 1-4. The opening 108 is preferably elongate and preferably rectangular and is preferably located in proximity of or directly abutting on the wall 107 of the paint tray 102.

- 25 In order to ensure sealing between the paint tray 103 and the container 101, it is preferred that the paint tray 103 is configured such that it abuts closely on the upper edge 101' of the container 101 in the use position shown in Figure 5, eg in that the wall 107 abuts on the upper edge 101' along the entire expanse thereof. When the container 101 is essentially rectangular as is shown in Figure 5, the paint tray 102 will also have approximately parallel
30 sides and in that case the opening 108 will preferably be configured close by or abutting on one of the short sides of the paint tray 102.

During use of the paint tray 102, the bottom 106 forms a sweeping face for a paint roller or a paintbrush that was immersed into the liquid contained in the container 101 through the opening 108 with a view to removing excess liquid from the paint roller by the user rolling the paint roller along the bottom 106. To this end the bottom 106 may be provided with protrusions 109 in the form of ribs that facilitate the sweeping off of excess paint from the paint roller or paintbrush, and the height of the wall 107 is preferably configured such that it is avoided to the largest extent possible that the paint on the paint tray 102 splashes beyond the upper edge of the paint tray 102.

In Figure 6 it is also shown that the paint tray 102 has a downwardly extending flange 105 with an inwardly oriented protrusion 111. This inwardly oriented protrusion 111 is intended for engaging with the attachment area 120 on the container 101, preferably a snap-locking engagement, by which the paint tray 102 can be secured in the use position shown in Figure 5. To this end the attachment area 120 is configured to be complementary with the protrusion 111. In the drawing a number of separate flanges 105, more specifically two of them, are shown arranged opposite each other along the sides of the paint tray 102 which, in the exemplary embodiment, constitutes two short sides of the paint tray 102, but nothing prevents the flange 105 from extending all the way around along the wall 107 in order to thereby enable engagement with the complementarily configured attachment area 120 along the entire upper edge of the wall of the container 101.

Figure 6 also shows the lid 103 intended for sealing the contents of the container 101 relative to the outside. To this end the lid 103 has a horizontal partition face 103' and a round-going wall that extends upwards and downwards from the partition wall 103' whereby an upper recess 130 and a lower recess 132 is formed. At the bottom the round-going wall forms an interiorly round-going protrusion which is seen exteriorly on the wall as an

interior round-going recess 122, and this protrusion is such configured that the lid 103 is able to snap-lockingly engage with the attachment area of the container 101 in that the protrusion snaps into the recess 120.

5 As shown in Figure 6 the shape of the lid 103 at the top corresponds to the shape of the attachment area 120 of the container 101. Thus, the lid 103 has an attachment area 120'. Hereby the paint tray 102 can be secured to the lid 103, while the lid 103 is on the container 101, ie prior to opening of the packaging, in that the protrusion 111 of the paint tray is caused to snap-
10 lockingly engage with the attachment area 120' of the lid. When the packaging is to be opened, the lid 103 is removed, eg by the user inserting his fingertips underneath the lower edge of the lid 103 in an area of the container's skirt 104 with recesss 112 and lifting upwards. Prior to the lid 103 being removed, the paint tray 102 can optionally be removed by the paint tray
15 102 being lifted upwards and, in order to facilitate such separation, the snap-locking engagement between the paint tray 102 and the lid 103 can preferably be more easy to release than the snap-engagement between the lid 103 and the container 101, where requirements to sealing makes higher demands to the strength of the engagement. The wall 107 of the paint tray
20 102 preferably follows the contour of the wall of the container 101, and in particular the contour of the skirt 104, but maximally extends to an imaginary upwards extension of the skirt 104, whereby a number of the shown packagings can be arranged side-by-side with the respective skirts in abutment on each other.

25

It will be understood that the invention provides a packaging, wherein all of the constituent components may be assembled by the supplier, and wherein the user can easily ascertain that the paint tray is delivered simultaneously with the container. Moreover, the invention facilitates admixture of an original
30 content of the container 101 with eg a tint, and during painting procedures it is well secured that the container sits reliably with poor risk of spilling due to

the container 101 toppling over, which is a problem with the packaging shown in US 5 472 111, in particular when only a little paint remains in the container simultaneously with the paint roller being rolled in a direction towards the portion of the paint tray that extends beyond the side of the container.

Figure 7 shows an alternative configuration of the packaging wherein, if desired, it is an option to entirely obviate the need for a separate lid between the paint tray 102 and the container 101. By that packaging the paint tray 102 thus has a lid 118 configured to be releasably secured to cover the opening 108. Although not shown, the paint tray 102 preferably has a protrusion 111 that extends around along the entire wall 107 of the paint tray 102, whereby close cooperation can be established with the attachment area 120 of the container 101, whereby the container 101 can be delivered with contents to the end user, the sealing of the packaging being secured by the tight connection between the paint tray 102 and the container 101 and between the lid 118 and the paint tray 102, respectively. When the user is to apply the contents of the container 101 onto a surface the lid 118 is removed, and a paint roller is conveyed through the opening 108 as described above. After use the lid 118 is applied. An advantage of that packaging is that the need for a separate lid is entirely eliminated.

Figure 8 shows a further embodiment of the invention. That embodiment comprises a separate lid as described above with reference to Figures 5 and 6, and a paint tray, different configurations of which are shown in Figure 9a and 9b. The paint tray shown in Figure 9b is provided with openings, whereby paint and the like on the paint tray may drip into the container. The paint trays shown in Figures 8 and 9 are configured for being attached interiorly in the upper recess 103' of the lid 103, eg by a snap-effect, said paint tray 102 and said lid 103 having complementary coupling means that allow reliable, releasable attachment of the paint tray 102 in such a manner

that it is shown to be visible to the end user. In that embodiment, the paint tray 102 may have such dimensions that, in the use position, it is to be introduced into the interior of the container 101, as shown in Figure 10, eg to a depth of 4-8 cm below the upper edge 101' of the container 101, where the
5 container may have a round-going shoulder that allows releasable support of the paint tray 102, optionally by use of complementary attachment means, whereby an actual securing of the paint tray 102 is accomplished in the use position shown in Figure 10.

C l a i m s

1. A paint roller tray (10) for a container (1) comprising a container bottom (6), a round-going container wall (5) that delimits the container (1) and which
5 has, opposite the container bottom (6), a mouthing with an expanse delimited by the container wall (5), and wherein the paint roller tray (10) comprises a bottom (12) with a bottom face (11), an annular sidewall (15) delimiting the paint roller tray (10), and having opposite the bottom face (11) a free edge (18) defining the upper opening of the paint roller tray (10), and wherein the
10 paint roller tray (10) comprises means for arranging the paint roller tray (10) in a position at the mouthing of the container (1), **characterised in** that the bottom face (11) is configured with a single-curvature course; and that the paint roller tray (10) is configured for being arranged interiorly of the container (1) or for being arranged on top of the container (1) in that
15 attachment means at the bottom (12) are connected to the container (1).
2. A paint roller tray according to claim 1, **characterised in** that the bottom face (11) describes a section of a circle.
- 20 3. A paint roller tray according to claim 1 or 2, **characterised in** that the centre of curvature of the bottom face (11) is situated above the bottom face (11).
4. A paint roller tray according to any one of claims 1-3, **characterised in**
25 that the bottom face (11) comprises a number of bead-like protrusions (16, 17) for providing increased friction between the bottom face (11) and a paint tool, preferably a paint roller.
5. A paint roller tray according to any one of claims 1-4, **characterised in**
30 that the single-curvature course of the bottom face (11) extends, at a lower area (19), into a plane course, wherein said plane course comprises an

opening (21), said opening (21) being configured for supplying to the paint roller tray a paint contained in the container.

6. A paint roller tray according to any one of the preceding claims,
5 **characterised in** that the container is a plastics container.

7. A paint roller tray according to any one of the preceding claims,
characterised in that the attachment means at the bottom (12) are secured
to the free edge (18) of the container, preferably by a snap-locking
10 engagement.

8. A packaging comprising a container (101) with a wall, a bottom, an
opening defined by an upper edge (101') of the wall, and attachment means
(120) arranged near said upper edge (101'), a lid (103) having first
15 attachment means (122) configured for releasably cooperating with the
attachment means (120) of the container (101), and second attachment
means (120'), and a paint tray (102) having a bottom (106), a peripheral wall
(107) and attachment means (111) configured for releasably cooperating with
the second attachment means (120') of the lid (103), said paint tray (102)
20 being also configured for being releasably secured directly to the container
(101) in a use position, in which the bottom (6) of the paint tray (102) extends
across the opening of the container (101), preferably above the opening of
the container (101), **characterised in** that the paint tray (102) preferably has
an elongate opening (108) formed at the bottom (106) and being configured
25 for allowing passage of a paint roller.

9. A packaging according to claim 8, **characterised in** that said attachment
means are complementary; and that a cooperation can be established
between the attachment means by a snap-effect.

10. A packaging according to claim 8 or 9, **characterised in** that the second attachment means (120') of the lid (103) are arranged on that side of the lid (103) which is intended for facing away from the interior of the container (101), whereby the paint tray (102) is visible.

5

11. A packaging according to any one of the preceding claims 8-10, **characterised in** that the attachment means (11) of the paint tray (102) are configured for cooperating with said attachment means (120) on the container (101), preferably by snap-effect, preferably in that said attachment means (111, 120) are complementary.

10

12. A packaging comprising a container (101) with a wall, a bottom, an opening defined by an upper edge (101') of the wall, and attachment means (120) arranged near the upper edge (101'), a lid in the form of a paint tray (102) having a bottom (106), a peripheral wall (107) and attachment means (111) that cooperate in a sealing and releasable manner with the attachment means (120) of the container, the bottom (106) of said paint tray (102) extending across the container above the opening of the container (101), **characterised in** that the paint tray (102) has a preferably elongate opening (108) configured at said bottom (106) and configured for allowing passage of a paint roller; and that the packaging also comprises a separate lid (118) being in a releasable and reclosable manner attached to the paint tray (103) in the area adjacent the opening (108) to close off the opening (108) whereby a person can obtain access to the interior of the container by removing the lid (118).

15

20

25

13. A packaging according to claim 12, **characterised in** that said attachment means are complementary; and that cooperation can be established between the attachment means by a snap-effect.

30

14. Packaging comprising a container (101) with a wall, a bottom, an opening defined by an upper edge (101') of the wall, and attachment means (1290) arranged near said upper edge (101'), a lid (103) having first attachment means (122) configured for releasably cooperating with the attachment means (120) of the container (101), and second attachment means (120'); and a paint tray (102) having a bottom (106) and attachment means (111) configured for releasably cooperating with the second attachment means (120') of the lid (103), said paint tray (102) being also configured for being supported releasably by the container (101) in a position, where the bottom (106) of the paint tray (102) extends interiorly of the container (101) a short distance, preferably at least 4-8 cm, below the upper edge (101') across the container (101), while maintaining a receiving space in the container (101) underneath the bottom (106) of the paint tray (102) with a volume of preferably between two litres and five litres, **characterised in** that the paint tray (102) has a preferably elongate opening (108) configured at the bottom (106) and configured for allowing passage of a paint roller.

15. A packaging according to claim 14, **characterised in** that said attachment means are complementary; and that cooperation can be established between the attachment means by a snap-effect.

16. A packaging according to claim 14 or 15, **characterised in** that the second attachment means (120') of the lid (103) are arranged on that side of the lid (103) which is intended for facing away from the interior of the container (101) whereby the paint tray (102) is visible.

17. A packaging according to any one of the preceding claims 14-16, **characterised in** that the paint tray 102) has attachment means (111) configured for cooperating with said attachment means (120) on the container (101), preferably by a snap-effect, preferably in that said attachment means (111, 120) are complementary.

18. A packaging according to any one of the preceding claims 8-17, **characterised in** that, neither when secured to the tray (101) or to the lid (103), the paint tray (102) extends beyond the contour of the container (101),
5 nor, if the container (101) has a skirt (104), beyond the contour of the skirt (104) whereby a number of said packagings can be arranged side-by-side with the walls of the containers (101) abutting on each other, or the respective skirts (104) abutting on each other.

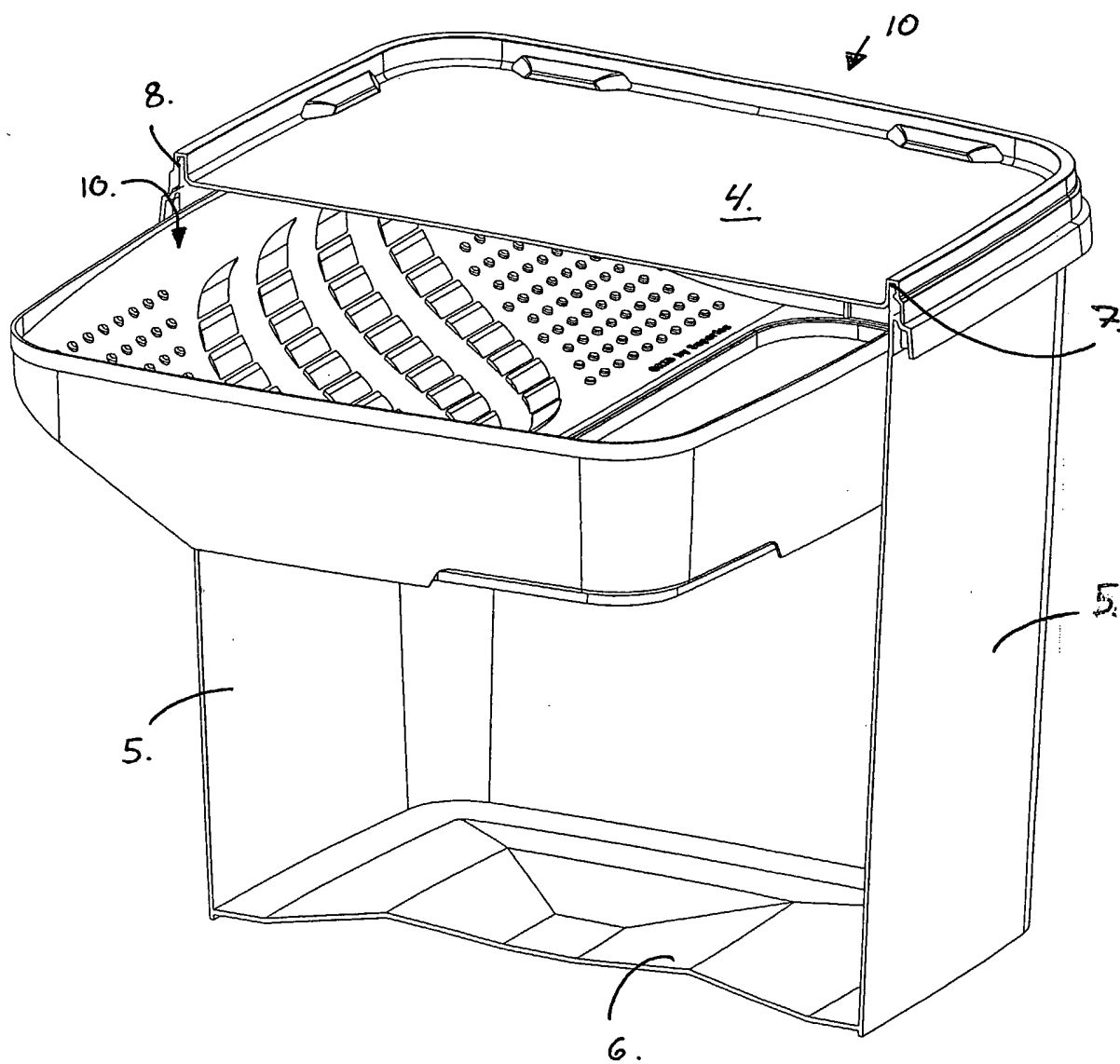


Fig. 1.

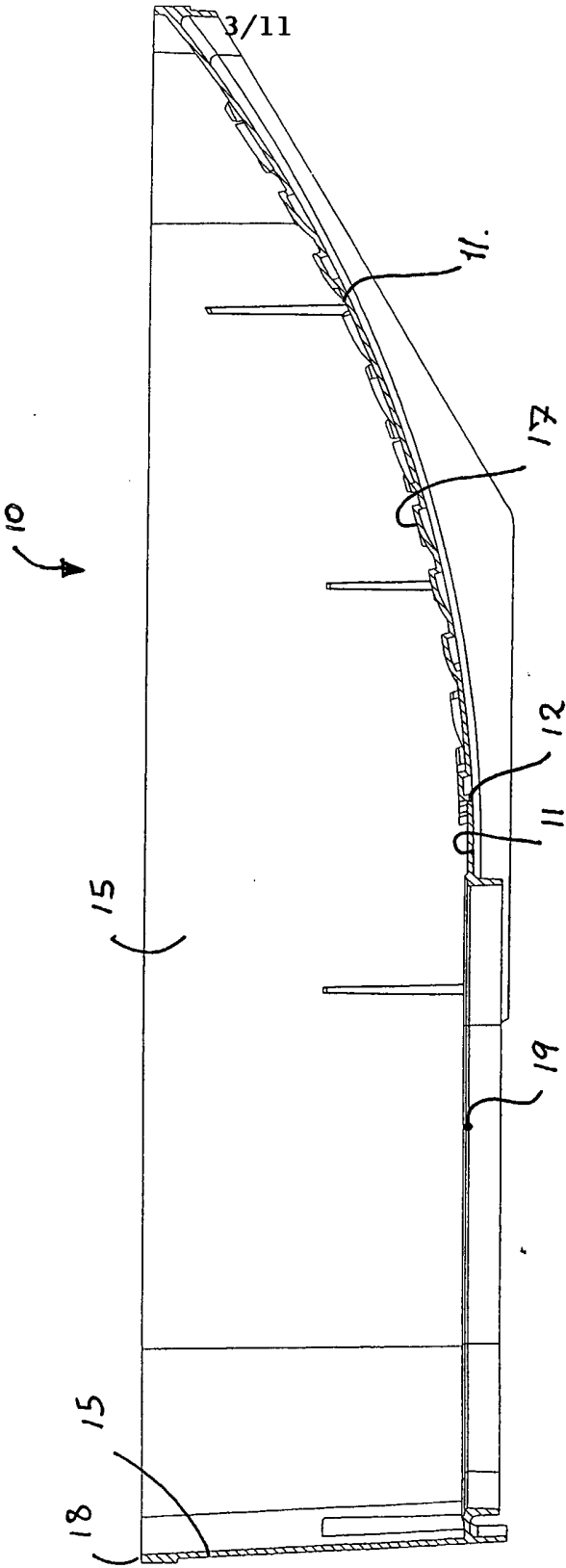


Fig. 3.

4/11

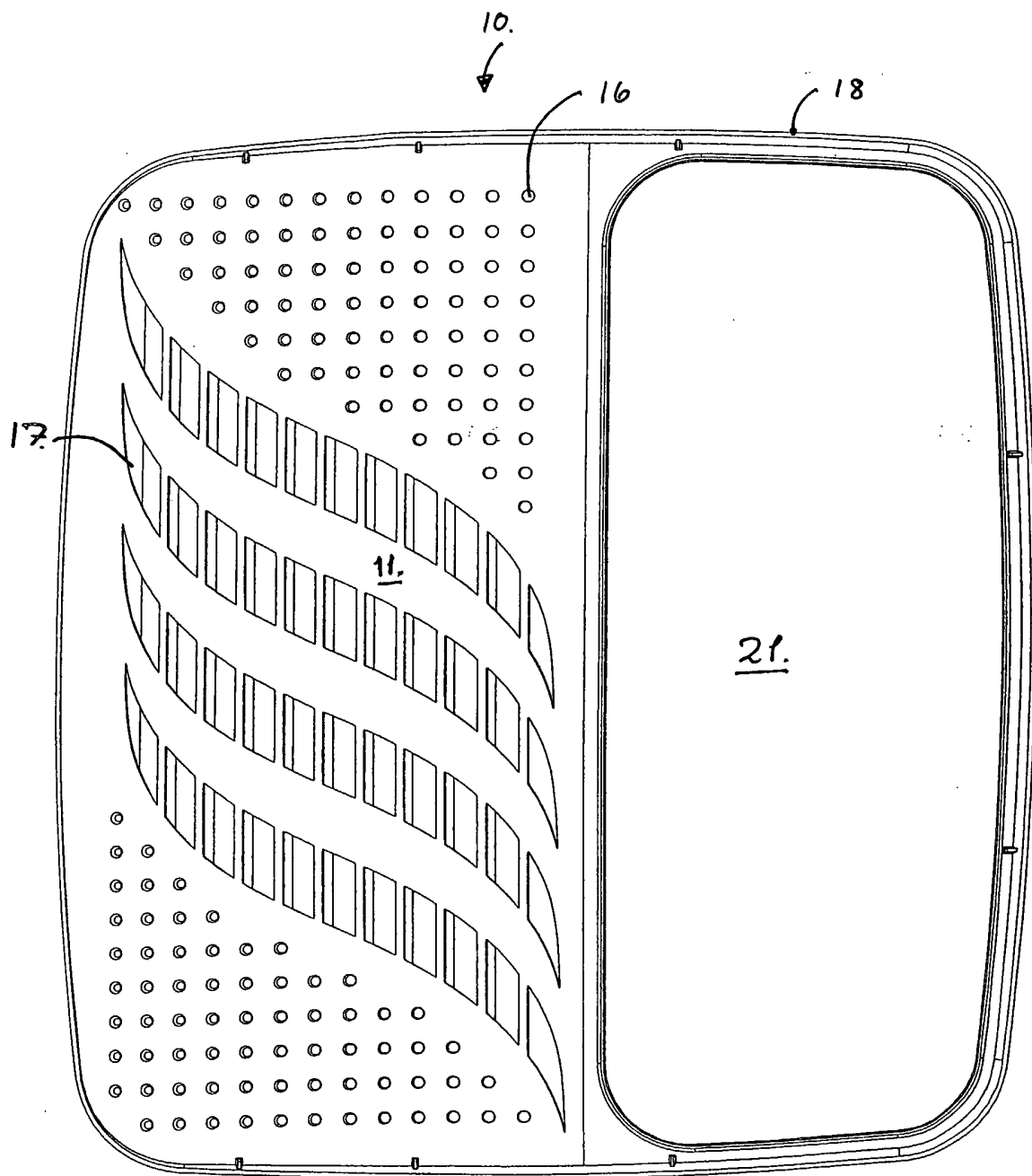
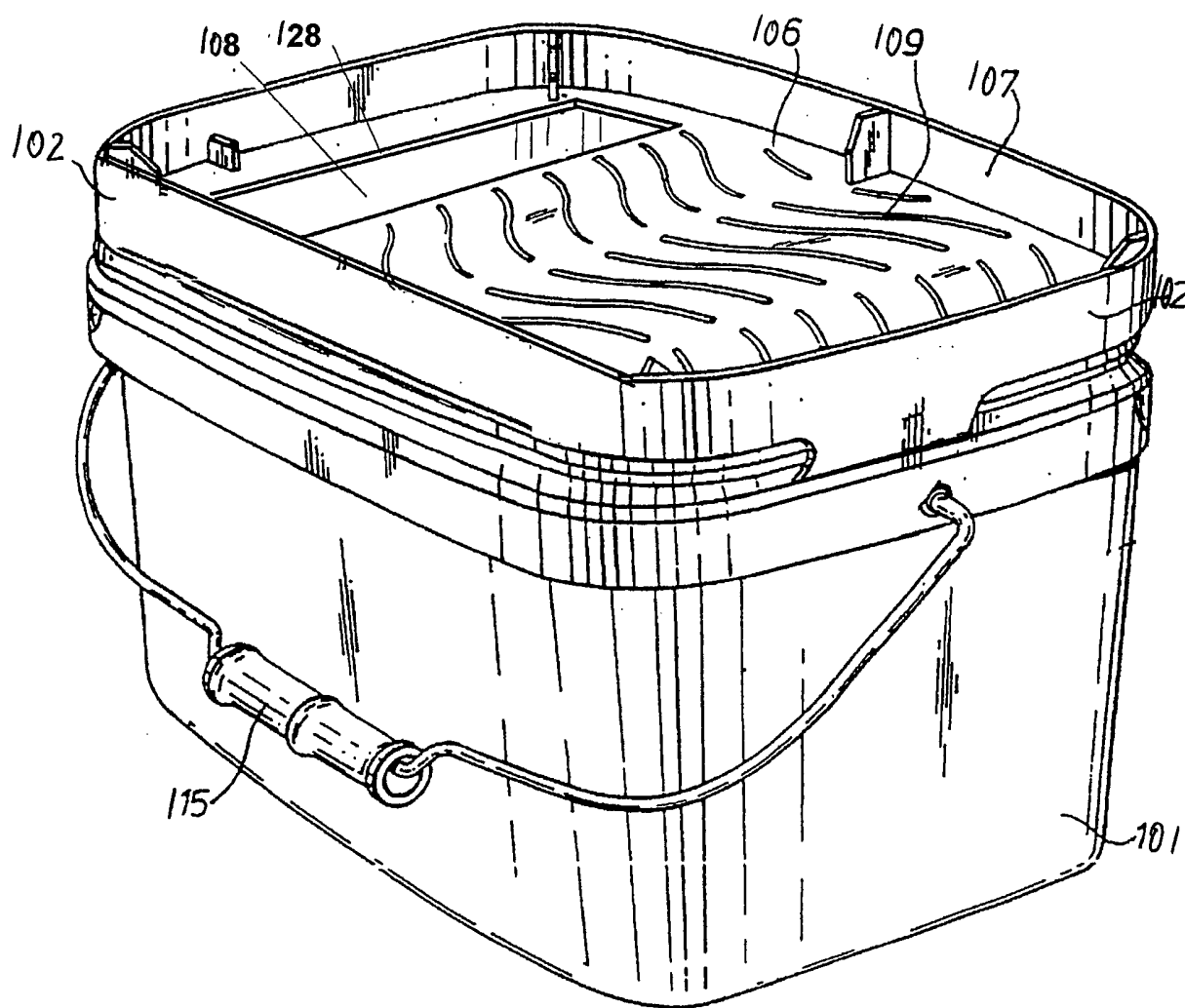


Fig. 4.

Fig. 5 5/11



6/11

Fig. 6

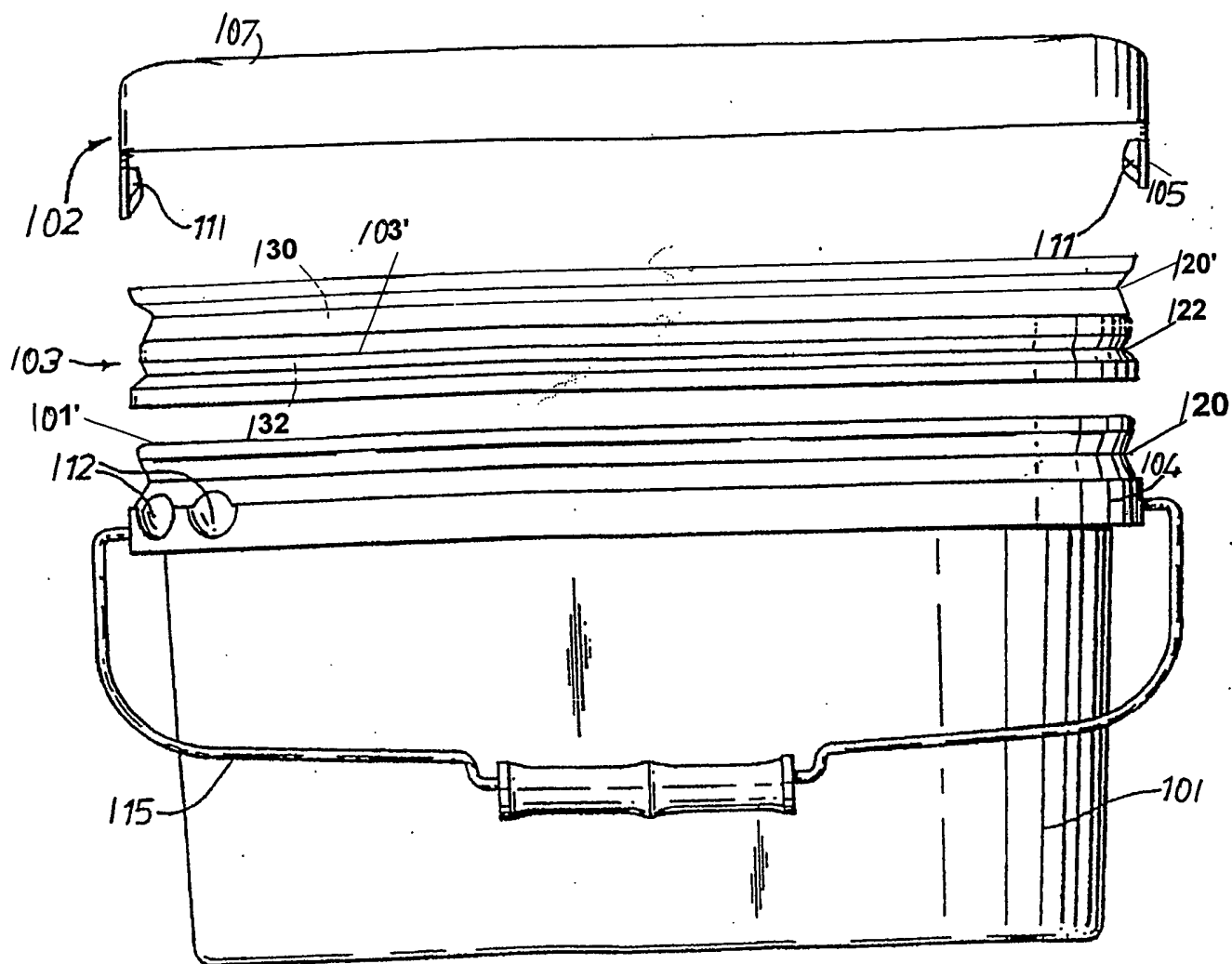
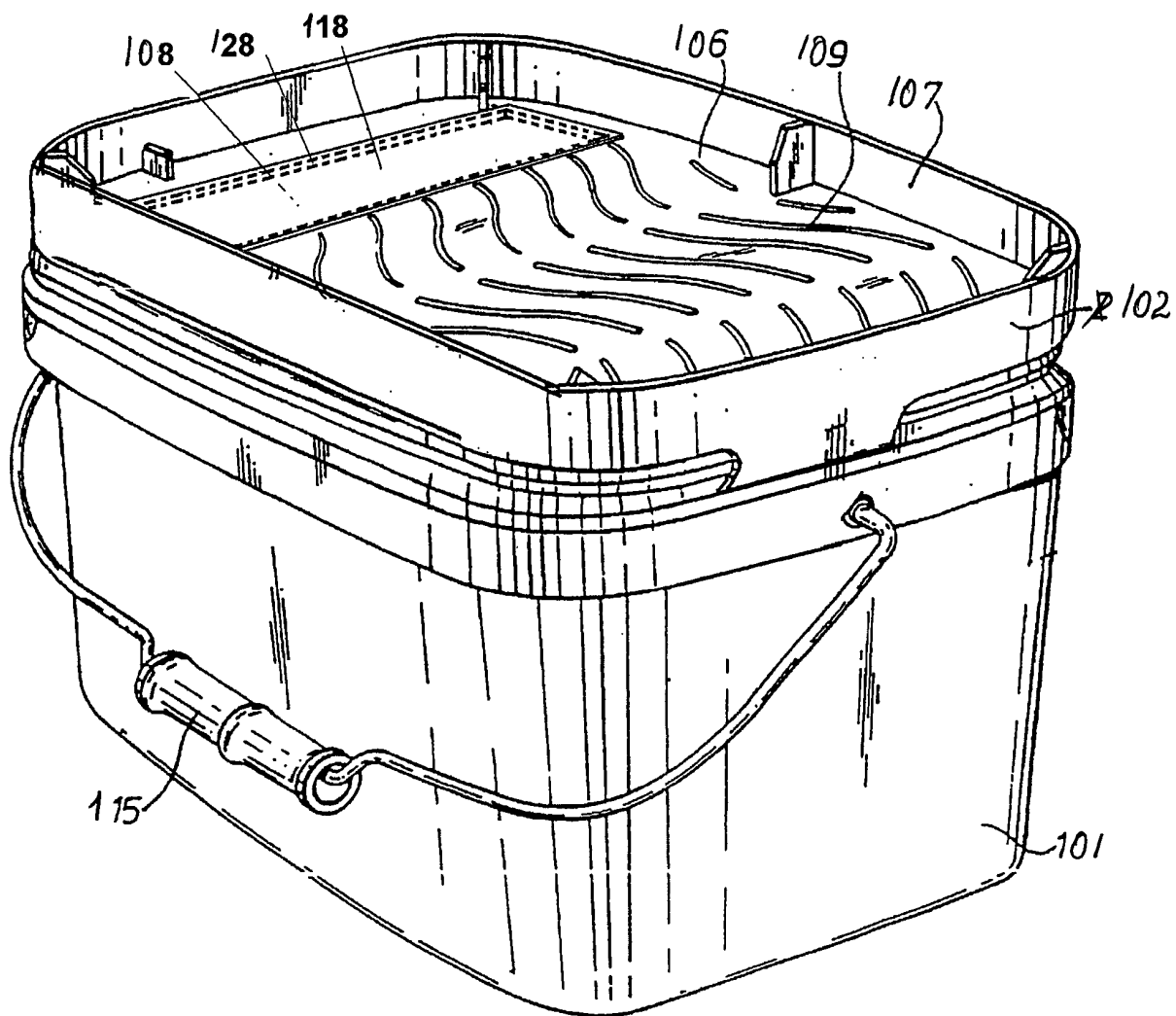
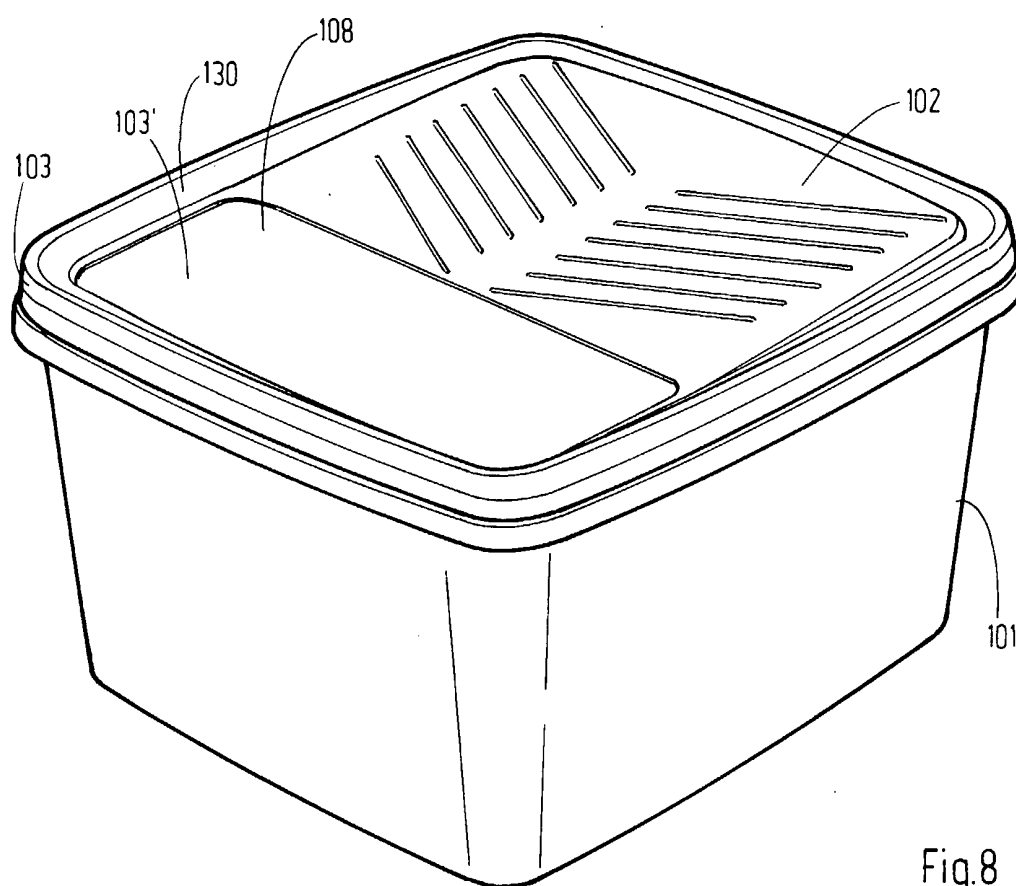


Fig. 7 7/11



8/11



9/11

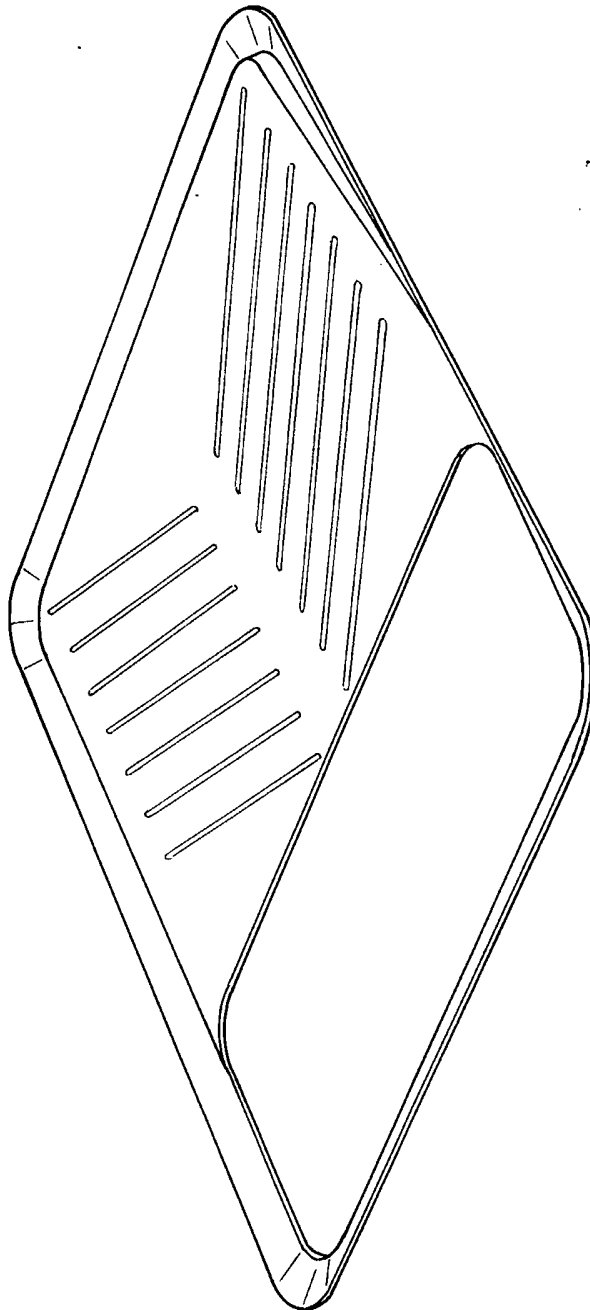


Fig. 9a

10/11

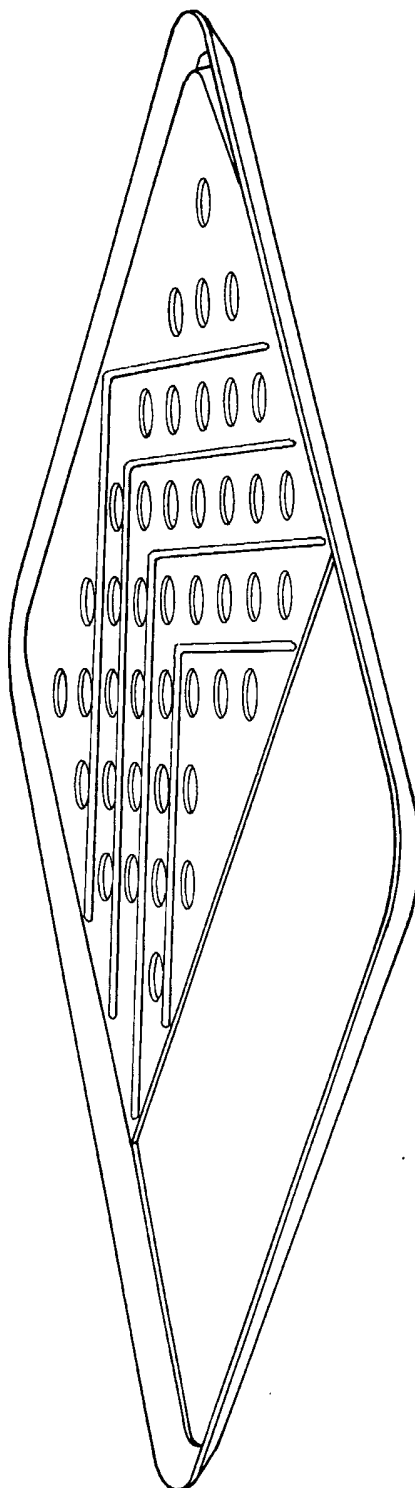


Fig. 9b

