



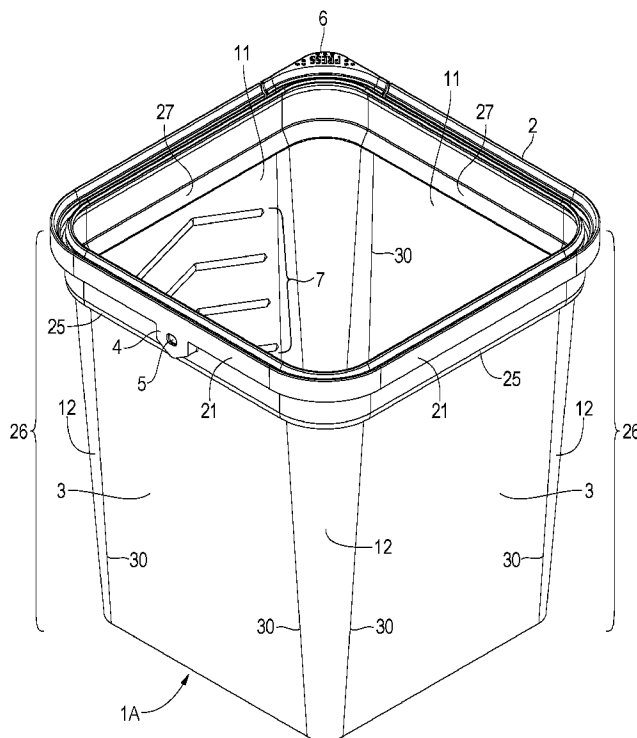
(12) **DEMANDE DE BREVET CANADIEN  
CANADIAN PATENT APPLICATION**

(13) **A1**

(86) Date de dépôt PCT/PCT Filing Date: 2017/08/01  
(87) Date publication PCT/PCT Publication Date: 2018/02/08  
(85) Entrée phase nationale/National Entry: 2019/02/01  
(86) N° demande PCT/PCT Application No.: US 2017/044940  
(87) N° publication PCT/PCT Publication No.: 2018/026839  
(30) Priorité/Priority: 2016/08/01 (US62/369,581)

(51) Cl.Int./Int.Cl. *B44D 3/12* (2006.01),  
*B65D 21/00* (2006.01), *B65D 21/02* (2006.01),  
*B65D 25/00* (2006.01), *B65D 43/02* (2006.01),  
*B65D 43/03* (2006.01)  
(71) Demandeur/Applicant:  
KW CONTAINER, US  
(72) Inventeurs/Inventors:  
SCHOLL, DARREN, US;  
CAMPBELL, KENNETH, US;  
RUKVINA, KEITH, US;  
BACON, DAVID, US  
(74) Agent: STIKEMAN ELLIOTT LLP

(54) Titre : RECIPIENT EN PLASTIQUE  
(54) Title: PLASTIC CONTAINER



**FIG. 1**

(57) **Abrégé/Abstract:**  
Non-cylindrical plastic paint container with handle.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(10) International Publication Number  
**WO 2018/026839 A1**

(43) International Publication Date  
08 February 2018 (08.02.2018)

(51) International Patent Classification:

*B44D 3/12* (2006.01)      *B65D 25/00* (2006.01)  
*B65D 21/00* (2006.01)      *B65D 43/02* (2006.01)  
*B65D 21/02* (2006.01)      *B65D 43/03* (2006.01)

(21) International Application Number:

PCT/US2017/044940

(22) International Filing Date:

01 August 2017 (01.08.2017)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/369,581      01 August 2016 (01.08.2016)      US

(71) Applicant: **KW CONTAINER** [US/US]; 1 Sanders Road, Troy, Alabama 36081 (US).

(72) Inventors: **SCHOLL, Darren**; 1 Sanders Road, Troy, Alabama 36081 (US). **CAMPBELL, Kenneth**; 1 Sanders Road, Troy, Alabama 36081 (US). **RUKVINA, Keith**; 1 Sanders Road, Troy, Alabama 36081 (US). **BACON, David**; 1 Sanders Road, Troy, Alabama 36081 (US).

(74) Agent: **BIRD, III, Joseph S.** et al.; 1819 Fifth Avenue North, Birmingham, Alabama 35203 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: PLASTIC CONTAINER

(57) Abstract: Non-cylindrical plastic paint container with handle.

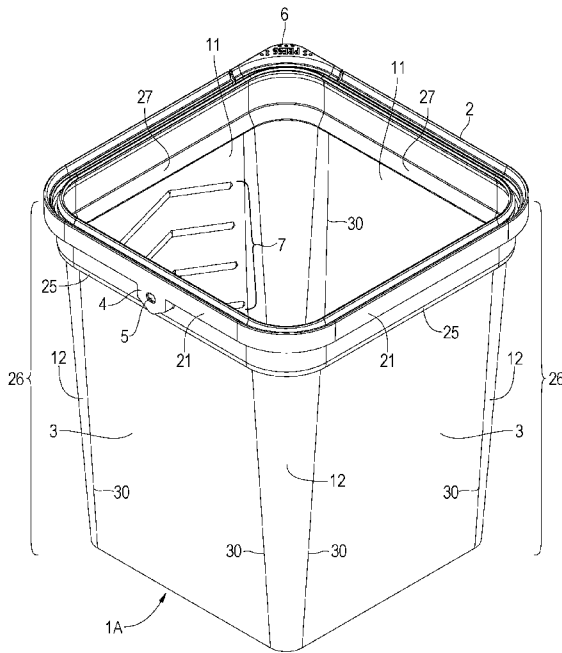


FIG. 1



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## PCT Patent Application

**Title: Plastic Container**

### Statement Concerning Priority

**[0001]** This application claims priority to, and the full benefit of, US provisional patent application no. 62/369,581 filed on August 1, 2016.

### Field of the Invention

**[0002]** The field of the invention is plastic containers for fluids.

### Background

**[0003]** Although the plastic container for fluids has evolved substantially in the last few years, there have been important needs unmet by the traditional cylindrical container.

**[0004]** One of the most important needs is to reduce transportation costs which the traditional cylindrical container has not solved. First, cylindrical containers have a large space between them even when touching, and this area means smaller volumes of the contents can be shipped in individual containers arranged within a space of a certain size, *e.g.*, the van of a large trailer, compared to in the present invention. Second, a cylindrical container, when empty, cannot be nested, so stacking multiple empty containers for shipment to plants where they are filled also greatly increases the number of unfilled units which can be loaded into a shipment.

**[0005]** Another longstanding issue is that of dried paint which accumulates within the U-shaped channel of a container rim after fluids such as paint dry after collecting in the rim, for example, after pouring or dripping from a paintbrush. Dried fluids or paint in the rim tends to make resealing a container difficult because the channel in the rim (for receiving the lid) can become obstructed.

**[0006]** Additionally, the stability of loaded containers when stacked has been a continuing concern.

**[0007]** Also, pouring paint into a roller pan produces wasted paint in that paint is slathered in the pan and dries there, or at least paint that adheres to the roller pan cannot be returned to the container.

**[0008]** Thus, there is a need for a plastic container to address the above issues.

**[0009]** The invention disclosed herein is a non-cylindrical plastic container which has several novel features providing advantages over the prior art. In one or more embodiments the plastic container is a modified rectangular prism or, more specifically, a modified square prism. The use of the term “modified” here means that the prism has a substantially rectangular or square 3-dimensional shape, except that at least a portion of the rectangular or square prism has four tapered sidewalls and, in this sense, the container is rectangular or square at its top and, in various embodiments, may have rounded corners or angular corners. The modified rectangular or square prism is thus a rectangular or square frustum. Additionally, other embodiments at the top may have shapes other than rectangular or square, as long as they are non-cylindrical.

### **Brief Description of the Figures**

**[0010]** Fig. 1 is a perspective view of one embodiment of the present invention without the lid.

**[0011]** Fig. 2 is a section view at 45 degrees of one embodiment of two buckets of the present invention without lids, one being nested inside the other.

**[0012]** Fig. 3 is a section view of one embodiment of the bucket of the present invention without the lid, in which one internal surface of a sidewall is shown having ridges in a chevron pattern, and showing a taper of the sidewalls, depicting a mouth of the bucket which is wider than the bottom of the bucket.

**[0013]** Fig. 4 is a section view of one embodiment of the present invention containing fluid with the lid sealed to the rim, and stacked on top of a lid of another instance of the invention, with circles around features enlarged in Figs. 4A and 4B.

**[0014]** Fig. 4A is an enlargement of a portion of Fig. 4, showing how the stacking loop is positioned on the lid just outside the stacking ridge when one of the present invention containers is stacked on top of another.

**[0015]** Fig. 4B is an enlargement of a portion of Fig. 4, showing the lid sealed to the rim, and the upper portion of a sidewall, the nesting ridge and the top most portion of the lower portion of a sidewall.

**[0016]** Fig. 5 is a top-down view of one embodiment of the bucket without the lid, showing the ridges (roller pan surfaces) on opposite internal walls, and also depicting how downward tapering of the sidewalls yields smaller dimensions for the bottom of the container compared to the dimensions of the mouth of the container, and the breakaway tab on the lower right corner.

**[0017]** Fig 5A is an enlargement of one embodiment of the breakaway tab.

**[0018]** Fig. 5B is a perspective view of one corner of one embodiment of the container with the lid seated in the rim, and the breakaway tab removed.

**[0019]** Fig. 6 is a view of the top of the lid, that is, the side of the lid facing outwardly when the lid is seated in the rim, and a depiction of the stacking ridge near the outer edge of the lid.

**[0020]** Fig. 7 is a side view of a section of the lid.

**[0021]** Fig. 8 is a section view of a portion of one embodiment of two lids, showing how they may be stacked separately from the bucket.

**[0022]** Fig. 9 is a bottom plan view of the bucket of the present invention.

**[0023]** Fig. 10 is a section view of an embodiment of the bucket comprising sidewalls which are continuous in slope, that is, without three portions as in Figs. 1-4, 4B and 5B.

**[0024]** Fig. 11 is more detailed view of the locking mechanism of the lid and the rim as in Figs. 4 and 4B.

**[0025]** Fig. 12 is a plan view of the front side of one embodiment of the handle.

**[0026]** Fig. 13 is a side view of the handle of Fig. 12.

**[0027]** Fig. 14 is a top view of the tab on the strap, i.e, looking down onto the tab.

**[0028]** Fig. 15 is a side view of the tab on the strap.

**[0029]** Fig. 16 is a plan view of the rear side of the handle as in Fig. 12.

**[0030]** Fig. 17 is a section view of the tab on the strap.

**[0031]** Fig. 18 is a perspective view of the handle inserted into the slots on the brackets with the handle resting against a sidewall.

**[0032]** Fig. 19 is a perspective view of the handle inserted into the slots on the brackets with the handle in an upright position as it would be carried by a user.

**[0033]** In one embodiment the invention is a plastic container **1** comprising a bucket **1A** and a lid **16** sized to fit the bucket, said bucket comprising a rim **2** near a

mouth **14** of the bucket, sidewalls **26**, corners **12**, and a bottom, each said sidewall having a width **29** and comprising two borders **30** integral, each border integral to one of the corners and also integral to the bottom **10**, each said sidewall also comprising an upper portion **15**, a nesting ridge **25** and a lower portion **3**, said upper portion comprising a first end near the mouth and a second end integral to the nesting ridge, and the lower portion comprising a first end integral to the nesting ridge and a second end integral to the bottom, each said lower portion of the sidewalls having a width **29** greater near the nesting ridge than at the bottom, such that the mouth of the bucket is wider than the bottom and one of the buckets may be nested inside another bucket when the lids are removed and the buckets are empty. The bucket and the lid are sized to fit each other and each has corners **12**. In one embodiment, the container comprises four sidewalls **26** and the mouth of the bucket, the rim and the lid are shaped as a rectangle or, in another embodiment, a square. The aforesaid shape of the bucket describes a rectangular frustum extending from near the nesting ridge to the bottom. In one embodiment, the corners **12** of the bucket **1A**, the rim **2** and the lid **16** are rounded. In one embodiment, the lower portion **3** of each of the sidewalls **26** comprises an internal surface **11**, and at least one of the internal surfaces **11** comprises ridges **7**. The ridges **7** can be disposed so that they are approximately horizontal or parallel to the bottom **10** of the bucket, that is, they are non-vertical. The shape of the ridges **7** can be selected from a group consisting of straight lines, curvy lines, wavy lines, a chevron, or a series of bumps or other shapes placed randomly or irregularly. Moreover, as used herein, "horizontal" or "parallel" means broadly that the ridges **7** are not vertical so that, when a paint roller is applied, the ridges are able to contact the majority of the width of the roller, so as to remove excess paint from the roller.

**[0034]** In one embodiment, the rim **2** comprises a breakaway tab **6** at one or more of the corners **12** which, when broken off the rim **2**, leaves no channel **20** in which fluids, such as paint, can collect and dry, hindering re-sealing of the lid **16**.

**[0035]** In one embodiment the lid **16** comprises an outer edge **28** and a stacking ridge **17** which is, in one embodiment, a continuous or nearly continuous ridge near the outer edge **28** of the lid, and the bucket **1A** further comprises a stacking loop **9** integral to the bottom **10**, the sidewalls **26** and the corners **12** of the bucket, the stacking loop **9** being slightly wider than the stacking ridge **17** of a lower container, so that the stacking loop **9** of one container can fit within close proximity

around the stacking ridge **17** and prevent a bucket filled with contents (stacked on top of another bucket) from sliding. The stacking ridge **17** and stacking loop **9** are sized such that stability can be achieved in stacking two or more containers by placing the stacking loop **9** of one bucket on the lid **16** of another of the containers adjacent to the stacking ridge.

**[0036]** In all the embodiments of the invention, the lid **16** further comprises a U-shaped channel **18** which, when installed, faces toward the bottom **10** and the rim **2** further comprises a U-shaped channel **20** which faces away from the bottom, the U-shaped channel **18** of the lid comprising three projections **E, F, I**, and the U-shaped channel **20** of the rim comprises three projections **D, G, H**, each of said projections of the lid corresponding to one of said projections of the rim, so that pressing the U-shaped channel of the lid into the U-shaped channel of the rim forms three complementary or corresponding pairs **A, B, C** of said projections from the lid and the rim.

**[0037]** In another embodiment the container comprises a bucket **1A** and a lid **16** sized to fit the bucket, said bucket **1A** comprising a rim **2** and sidewalls **26** defining a mouth **14** at an open end of the bucket, each of said sidewalls comprising a width **29** and two borders **30**, each said border being integral to one of the corners **12** and said sidewalls also integral to a bottom, each width being greater near the mouth than at the bottom, such that one of the buckets may be nested inside another bucket when the lids are removed and the buckets are empty. That is, the bucket in this embodiment has no nesting ridge but the sidewalls **26** comprise a continuous slope commencing near the mouth of the bucket, and the sidewalls **26** are, at their other end, integral to the bottom of the bucket. The aforesaid shape of the bucket describes a rectangular frustum extending from near the mouth, i.e, from inward slope notch **G**, to the bottom. Further, in this embodiment, the sidewalls **26** have no upper portion or lower portion. Embodiments of the bucket with sidewalls **26** having a continuous slope may also be rectangular or square, have rounded corners, have ridges **7** on one or more of the internal surfaces of the sidewalls, have a breakaway tab **6** on the rim, have a stacking ridge **17** on the lid **16**, and a stacking loop **9** on the bucket, all as described in embodiments above. This embodiment may be, at the top, any shape which is non-cylindrical. The bucket and the lid are sized to fit each other and each has corners **12**. The overall dimensions of the mouth of the bucket are wider at the top than at the bottom of the bucket, and the sidewalls **26** taper

inwardly to a bottom **10** which is narrower than the dimensions of the mouth **14** of the bucket. The tapering thus allows one version of the bucket, before being filled with fluid, to nest inside another instance of the bucket as needed, such as during shipment from the production facility to the paint producer's facility. This allows significant reduction in freight as opposed to prior art cans.

**[0038]** The invention, in one embodiment, has a breakaway tab **6** in one corner which will tear when pressed by the user thus turning this corner into a natural pour spout. The U-shaped channel on the rim of prior art containers, whether metal or plastic, fills up with paint during pouring. This is a cleanup issue for closing the container. Paint left in the U-shaped channel of the rim **2** then dries and makes the lid more difficult to open and close in future use. The breakaway tab **6**, along with moving the U-shaped channel **20** beyond the sidewall **26**, solves those issues. Moving the U-shaped channel beyond the sidewall also increases the size of the opening vis-à-vis a rim which is attached to the sidewall and extends inwardly from the sidewall.

**[0039]** There is at least one set of ridges **7** raised above the internal surface of at least one of the sidewalls **26**, which mimics the bottom of a traditional flat roller pan. This allows the bucket to be used with a 4" roller without a separate roller pan, thus being more convenient and reducing waste of paint left in a separate roller pan.

**[0040]** In one embodiment, the plastic container comprises a bucket and a lid sized to fit the bucket, said bucket comprising a rim, a bottom, a mouth at an open end defined by four sidewalls and each said sidewall comprising two borders and integral to one of four corners on each of said borders, each of said sidewalls further comprising an upper portion, a nesting ridge and a lower portion, said rim integral to said upper portions of the sidewalls and said rim comprising a breakaway tab, each said upper portion integral to one of the nesting ridges integral to one of the lower portions integral to the bottom, said lower portion having a width greater near the nesting ridge than at the bottom, such that one of the buckets can be nested in another of the buckets without the lid attached. The aforesaid shape of the bucket describes a rectangular frustum extending from near the nesting ridge to the bottom. In this embodiment with the four sidewalls and the four corners, the mouth, the lid and the rim are in the shape of a rectangle with rounded corners and, in a further embodiment, the rectangle is a square. Herein, the lid comprises a stacking ridge near an outer edge, and the bucket further comprises a stacking loop integral to the

bottom on the bottom's outer perimeter and sized slightly larger than the stacking ridge, so that the stacking loop of one instance of the bucket can be positioned for stability just outside the stacking ring of the lid of another container.

**[0041]** Exemplary embodiments of the invention are further described in the figures.

**[0042]** Fig. 1 is a first perspective view of one embodiment of the bucket **1A** without a handle or a lid **16** attached. The rim **2**, including its outer wall **21**, is affixed to the bucket comprising four sidewalls **26** (the three sections shown grouped together by brackets) which are generally planar and are comprised of an upper portion **15**, a nesting ridge **25**, and a lower portion **3**, each sidewall being integral to two corners **12** which may be, in different embodiments, rounded or angular. In Figs. 1-4 the upper portions **15** of the sidewalls **26** are approximately vertical, but the slope of the upper portion **15** may vary in other embodiments. Each lower portion **3** of the sidewalls is also integral to the bottom **10**. A bracket **4** is affixed to two opposite sides of the rim **2**, and each bracket has a hole **5** for receiving a handle having tabs **31**, **32**. The breakaway tab **6** may be labeled "Press," or something similar, and is molded to the upper corner of the rim **2**. The ridges **7**, partially shown, are raised projections on the internal surface **11** of one or more of the lower portions **3** of the sidewalls **26**, one of which is shown in Fig. 1. In one embodiment, there is one set of ridges **7** two or more internal surfaces **11**. The mouth **14** of the bucket **1A** is defined by the rim **2** and the upper portions **15** of the sidewalls **26**.

**[0043]** Fig. 2 is a section view of two buckets at 45 degrees which are not holding contents and which are nesting together. One set of ridges **7** is depicted on the internal surface **11** of the lower portion **3** of a sidewall **26** in the bucket which is nesting inside the other bucket. When one bucket is inserted into the other, the sidewall **26** and the stacking loop **9** of one bucket (which extends all around the bottom **10** of the bucket **1A**) descends as far as the width allowed between the internal surfaces of the other bucket, so that the bottom **10** of one container is near the bottom **10** of the other container. Figure 2 also shows, in one embodiment, the nesting ridge **25** on the inner bucket rests on the rim **2** of the bucket in which it nests. Other locations for a nesting ridge **25** on the upper bucket to rest on the lower bucket. On the internal side of the nesting ridge **25**, there is an inward slope **27** between the upper portion **15** and lower portion **3** of the sidewall **26** which narrows

the internal width of the bucket **1A**. The mouth **14** is the open end at the top of the bucket **1A**.

**[0044]** Fig. 3 is a section view of a single instance of the entire container **1**, that is, the bucket **1A** and the lid **16** which is inserted to seal the bucket. The rim **2** showing the ridges **7** on an internal surface **11** of the lower portion **3** of the sidewall **26** and the tapering of the sidewall **26** from a wider mouth **14**, in this embodiment, by the narrowing dimension of the inward slope **27** and the lower portion **3** which also slopes inwardly to a bottom **10**. Thus, the bottom **10** has a narrower width than the mouth **14**, which allows an upper bucket to nest inside a lower bucket, as shown in Fig. 2.

**[0045]** Fig. 4 is a section view showing an entire container **1**, the bucket **1A** and the lid **16**, holding fluid, and the loaded container **1** is positioned on top of a lid **16** for a lower bucket (not depicted). The stacking loop **17** is also shown in cross-section.

**[0046]** Fig. 4A is an inset of a portion of the section in Fig. 4 showing the lower portion **3** of the sidewall **26** and the stacking loop **9** of an upper bucket which is resting just outside a stacking ridge **17** on the lid **16** of a lower container. The stacking loop **9** is prevented from sliding by the barrier of the stacking ridge **17**. In one embodiment, the lid has a U-shaped channel **18** which faces toward the bottom **10** of the container when the lid **16** is installed, and a channel foot **19**.

**[0047]** Fig. 4B is an inset of the section view in Fig. 4 of the locking mechanism of the rim **2** and lid **16** in one embodiment of the container **1**, but other mechanisms are possible in other embodiments. A structure of the lid **2** including the ridge **E** and the bump **F** is inserted into a U-shaped channel **20** of the rim **2**. The bottom of the channel **20** is what is broken off when the breakaway tab **6** is separated from the rim **2**.

**[0048]** Fig. 5 is a top view looking down into a bucket **1A** having a rim **2** and a breakaway tab **6** but no lid attached. In one embodiment the bottom **10** (narrower than the mouth **14**) is integral to the sidewalls **26** (here shown as internal surfaces **11**) at the lines labeled **23**, and sets of ridges **7** are shown on two of the sloping internal surfaces **11** of the sidewalls **26**. The joiner of the sidewalls and the bottom may be angular or rounded in various embodiments.

**[0049]** Fig. 5A is a detailed view of the breakaway tab **6**, in one embodiment, which may be connected to the rim **2** by means of, in one embodiment,

breakable joints **22** along the outer wall **21** of the rim **2** and also by additional breakable joints **22** on each end of the breakaway tab molded to the outer wall **21** of the rim **2**. The user breaks off the breakaway tab **6** by pressing downwardly to tear these breakable joints **22**, the number of which may vary. Or instead, in another embodiment, there can be a general weakening of the channel **20** in the area of the breakaway tab **6** so that the entire bottom of the U-shaped channel **20** or the rim **2** in the area of the breakaway tab **6** comprises a single breakable joint **22**.

**[0050]** Fig. 5B is a detailed view of the lid **16** after the breakaway tab **6** is removed, in one embodiment, showing the breakable joints **22** after having been torn.

**[0051]** Fig. 6 is a top view of the lid **16** including the stacking ring **17** and the outer edge **28** of the lid.

**[0052]** Fig. 7 is a section view of the lid **16** showing the stacking ring **17**. The outer edge **28** of the lid is also shown.

**[0053]** Fig. 8 is a section view of two lids **16** as they stack for shipment. It also shows element **19** of the lid which is the outer wall of the U-shaped channel **18** of the rim **16**.

**[0054]** Fig. 9 is a bottom plan view of the bucket **1A**, showing that the bottom **10** is narrower than the upper part of the bucket as indicated by the rim **2**, in part because of the slope of the lower portion **3** of the sidewalls **26**.

**[0055]** Fig. 10 depicts an embodiment in which the sidewalls **26** and their internal surfaces **11** comprise a continuous slope starting from the mouth **14** and tapering down to a narrower width at the bottom, i.e., wherein the sidewalls do not have an upper and a lower portion and a nesting ridge as in, e.g., Figs. 1-4. This embodiment adopts the other features of the other embodiments described above, except for the upper and lower portions and the nesting ridge of the sidewalls.

**[0056]** Fig. 11 depicts the locking mechanism for embodiments of the convention herein. Fig. 11 shows the same structures of the lid and rim from Figs. 4 and 4B in more detail. Herein are shown three seal/latch combinations **A, B, C** (surrounded by circles for explanatory purposes only) produced by the coupling of corresponding pairs of projections from the lid's U-shaped channel **18** and the rim's U-shaped channel **20**. Fig. 11 shows the lid **16** as installed in (sealed to) the rim **2**. In seal/latch **A**, the top **H** of the sidewall **26**, which has an inward slope **J** compared to the upper portion **15** of the sidewall **26**, is engaged by a cleft **I**. In seal/latch **B**, the

inward slope notch **G** of the sidewall **26**, where the inward slope **J** of the upper portion **15** begins, is engaged by a bump **F**. In seal/latch **C**, a ridge **E** on the lid is engaged by a shoulder **D** on the rim **2**.

**[0057]** In one embodiment, upon installation of the lid **16**, there is over-travel **K**, i.e., unfilled volume in several places near combinations **A**, **B**, **C** to allow sufficient flexibility for the lid to be sealed and re-sealed to the rim with less damage to the structures if there were no spaces. The actual locations of the over-travel **K** may vary from those shown in Fig. 11, in that the movement of the lid and rim relative to each other are dynamic during and after insertion. In other embodiments of the invention, there may be less or even no over-travel in that the U-shaped channel **18** of the lid **16** and the U-shaped channel **20** of the rim **2** may be sized to fit as snugly as possible.

**[0058]** In another embodiment, the container **1** also comprises a handle **30**, which may be of unitary construction and made of plastic, comprising a strap **33** with tabs **31**, **32** projecting from the strap near either end. As shown in Figs. 12-19, each of the brackets **5** are affixed to the exterior of the bucket **1a** opposite one another and each bracket comprises a slot **4**. The tab **31**, **32** and slot **4** are sized and shaped to allow the tab **31**, **32** to pass with force through the slot **4** in one orientation, but to interlock such that the tab **31**, **32** cannot be removed from the slot in all other orientations, including when the handle **30** is in use in an upright position and bearing the load of the container **1**.

**[0059]** Referring to Figs. 12-17, the handle **30** comprises the strap **33** with tabs **31**, **32** projecting from the strap **33** near either end. In one embodiment not shown, each end of the strap **33** is integral to a cap recessed from the plane of the strap, in which the tabs **31**, **32** are located. In Figs 12-17, the tabs **31**, **32** project from the body of the strap **33**. The handle **30** is preferably symmetrical, with one end being a mirror image of the other, and therefore will be described with respect to one end only. It should be understood that such description is applicable to the corresponding features on the other end as well.

**[0060]** The strap **33** is sufficiently long with respect to the container **1** to form an arc above it, when the tabs are attached to the brackets, preferably with sufficient clearance between strap **33** and the lid **16** of the container for a person to grasp the handle without interference from the lid of the container.

**[0061]** The tab **31, 32** comprises a three-dimensional head **N** that tapers from a broader base **R** to a narrower top **M**. In one embodiment the head **N** is attached to the strap **33** or cap by a post **O**. The cross section of the head **N** of the tab **31, 32** may be of any shape that allows its insertion into the slot **4** of the bracket **5** in one orientation and which becomes interlocked with the bracket **5** at any other orientation, including without limitation an oval, rectangle or spheroid. This generally requires the cross section to have major and minor axes, with the major axis being longer than the minor axis. Thus, the shapes described below are in all respects illustrative.

**[0062]** The head **N** is a frustum which may be regular or irregular and the cross section defining its base may be any shape which generally has a major axis longer than a minor axis including, for example, a rectangle, an oval, squoval or a spheroid. The head **N** comprises a top **M**, opposing minor axis surfaces **P** defining the head's thickness in the direction of the minor axis, connected by opposing major axis surfaces **Q** defining its width in the direction of the major axis. In one embodiment, the surfaces **Q** of the head **N** taper from the broader base **R** to the narrower top **M**. As shown in Fig. 14, the thickness of the frustum need not be uniform from bottom to top and, in a preferred embodiment the thickness progressively decreases near the top **M**. In one embodiment, the cross section of the head **N** is rectangular and, in another embodiment, the shorter sides of the rectangle (in the direction of the minor axis) are convex. In one embodiment the major axis surfaces **Q** may be convex or arcuate. In the embodiment shown in Figs. 15, 17 the head **N** is of uniform cross section for some distance from the base **R**. In a preferred embodiment, the minor axis surfaces **P** may be convex, such that the cross section at the base **R** of the frustum is a rectangle with rounded corners and approaches a circle at the top **M**. This shape reduces deformation of the head **N** as it is inserted into the slot **4** of the bracket **5**. The post **O** of the tab **31, 32** may be substantially narrower than the width of the base **R** of the head **N**, and, in one embodiment, is circular in cross section. The tab **31, 32** is solid and of unitary construction with the strap **33** or the cap. The handle may rotate freely in a major arc defined by the opposite sides when the tabs **31, 32** are inserted into the slots **4**.

## Claims

I claim:

1. A plastic container, said container comprising a bucket and a lid sized to fit the bucket, said bucket comprising a rim at a mouth of the bucket, sidewalls, corners, and a bottom, said rim being integral at the top of each sidewall, each said sidewall having a width and comprising two borders integral on each of the borders to one of the corners and each sidewall also integral to the bottom, each said sidewall also comprising an upper portion, a nesting ridge and a lower portion, said upper portion comprising a first end near the mouth and a second end integral to the nesting ridge, and the lower portion comprising a first end integral to the nesting ridge and a second end integral to the bottom, each said lower portion of the sidewalls having a width greater near the nesting ridge than at the bottom, such that the mouth of the bucket is wider than the bottom and one of the buckets may be nested inside another bucket when the lids are removed and the buckets are empty.
2. The container as in claim 1 wherein the corners of the bucket, the rim and the lid are rounded.
3. The container as in claim 1 wherein the sidewalls are four in number and the mouth of the bucket, the rim and the lid are shaped as a rectangle.
4. The container as in claim 3 wherein the rectangle is a square
5. The container as in claim 1 wherein said lower portion of each of the sidewalls comprises an internal surface, and at least one of the internal surfaces comprises ridges.
6. The container as in claim 5 wherein the ridges are disposed approximately parallel to the bottom of the bucket.
7. The container as in claim 1 wherein the rim comprises a breakaway tab at one or more of the corners.

8. The container as in claim 1 wherein the lid comprises an outer edge and a stacking ridge near the outer edge, and the bucket further comprises a stacking loop integral to the bottom, the sidewalls and the corners of the bucket, said stacking loop being slightly wider than the stacking ridge, such that stability can be achieved in stacking two or more containers by placing the stacking loop of one container on the lid of another of the containers adjacent to the stacking ridge.
9. The container as in claim 1 wherein the lid further comprises a U-shaped channel and the rim further comprises a U-shaped channel, the U-shaped channel of the lid comprising three projections and the U-shaped channel of the rim comprises three projections, each of said projections of the lid corresponding to one of said projections of the rim, so that pressing the U-shaped channel of the lid into the U-shaped channel of the rim forms three complementary pairs of said projections from the lid and the rim.
10. A plastic container, said container comprising a bucket and a lid sized to fit the bucket, said bucket comprising a rim and sidewalls defining a mouth near an open end of the bucket, the rim being integral to the top of each sidewall, each of said sidewalls comprising a width and two borders, each said border being integral to one of the corners and said sidewalls also integral to a bottom, each width being greater near the mouth than at the bottom, such that one of the buckets may be nested inside another bucket when the lids are removed and the buckets are empty.
11. The container as in claim 10 wherein the corners of the bucket, the rim and the lid are rounded.
12. The container as in claim 10 wherein the sidewalls are four in number and the mouth of the bucket, the rim and the lid are shaped as a rectangle.
13. The container as in claim 12 wherein the rectangle is a square.

14. The container as in claim 10 wherein each said sidewall comprises an internal surface, and at least one of the internal surfaces comprises ridges.
15. The container as in claim 14 wherein the ridges are disposed approximately parallel to the bottom of the bucket.
16. The container as in claim 10 wherein the rim comprises a breakaway tab at one or more of the corners.
17. The container as in claim 10 wherein the lid comprises an outer edge and a stacking ridge near the outer edge, and the bucket further comprises a stacking loop integral to the bottom, the sidewalls and the corners of the bucket, said stacking loop being slightly wider than the stacking ridge, such that stability can be achieved in stacking two or more containers by placing the stacking loop of one container on the lid of another of the containers adjacent to the stacking ridge.
18. A plastic container comprising a bucket and a lid sized to fit the bucket, said bucket comprising a rim, a bottom, a mouth at an open end defined by four sidewalls and each said sidewall comprising two borders and integral to a corner on each of said borders, the rim being integral to the top of each sidewall, each of said sidewalls further comprising an upper portion, a nesting ridge and a lower portion, said rim integral to said upper portions of the sidewalls and said rim comprising a breakaway tab, each said upper portion integral to one of the nesting ridges integral to one of the lower portions integral to the bottom, said lower portion having a width greater near the nesting ridge than at the bottom, such that one of the buckets can be nested in another of the buckets without the lid attached.
19. The plastic container as in claim 18 wherein the mouth, the lid and the rim are in a shape of a rectangle and the corners are rounded.
20. The plastic container as in claim 19 wherein the rectangle is a square.

21. The plastic container as in claim 18 wherein the lid comprises a stacking ridge near an outer edge, and the bucket further comprises a stacking loop integral to the bottom on an outer perimeter and sized slightly larger than the stacking ridge, so that the stacking loop of one instance of the bucket can be positioned for stability just outside the stacking ring of the lid of another container.



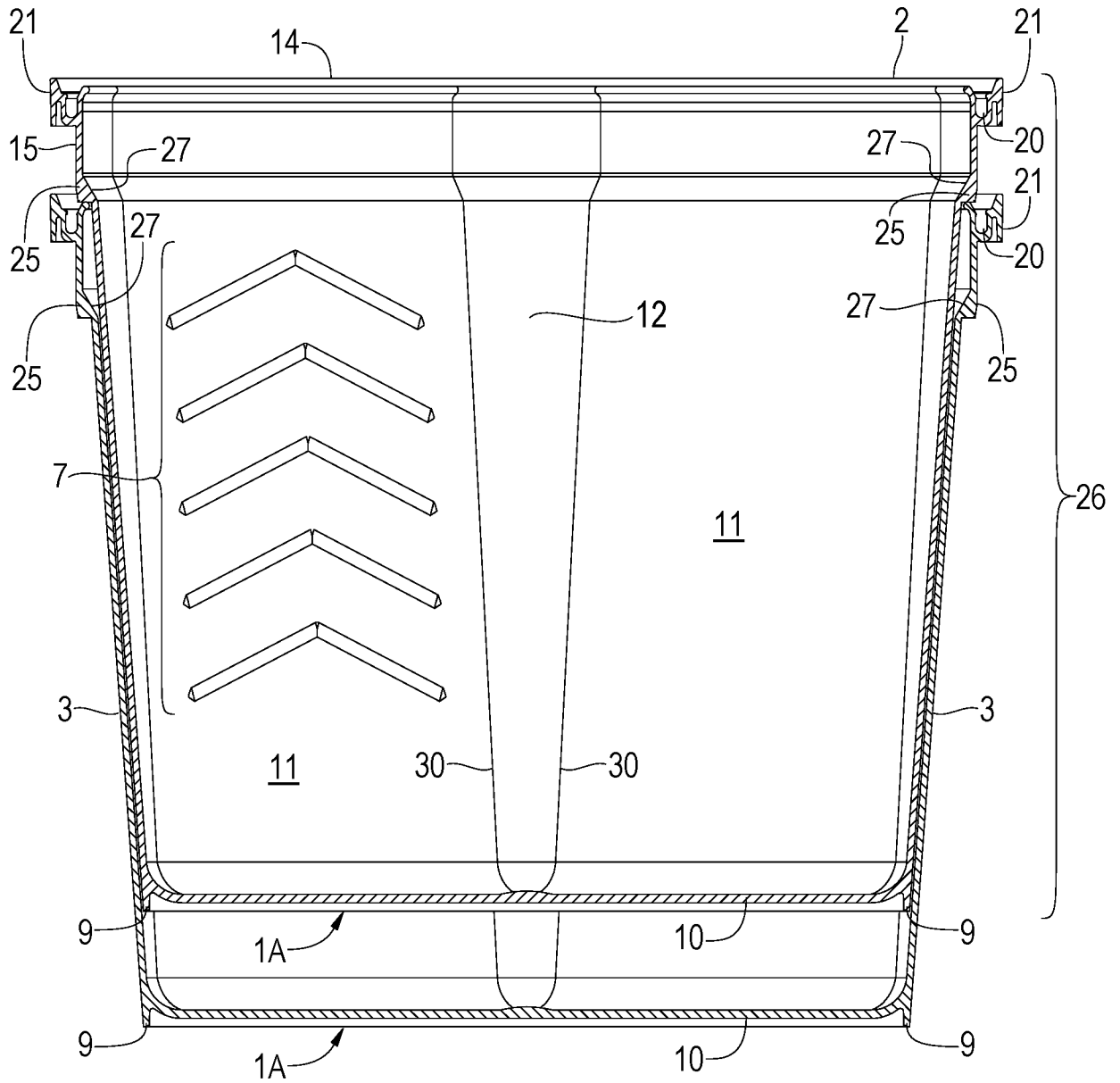


FIG. 2

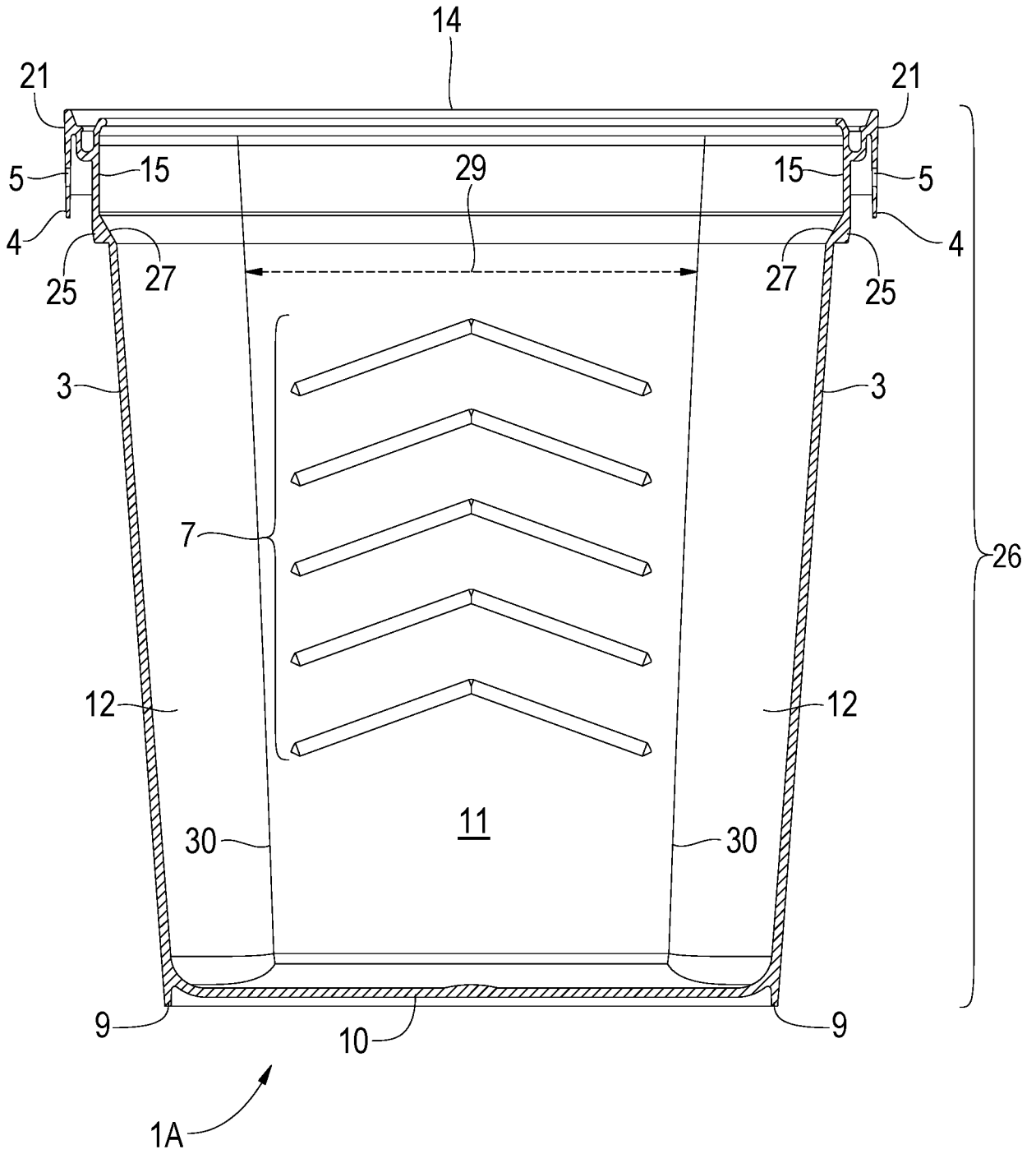


FIG. 3

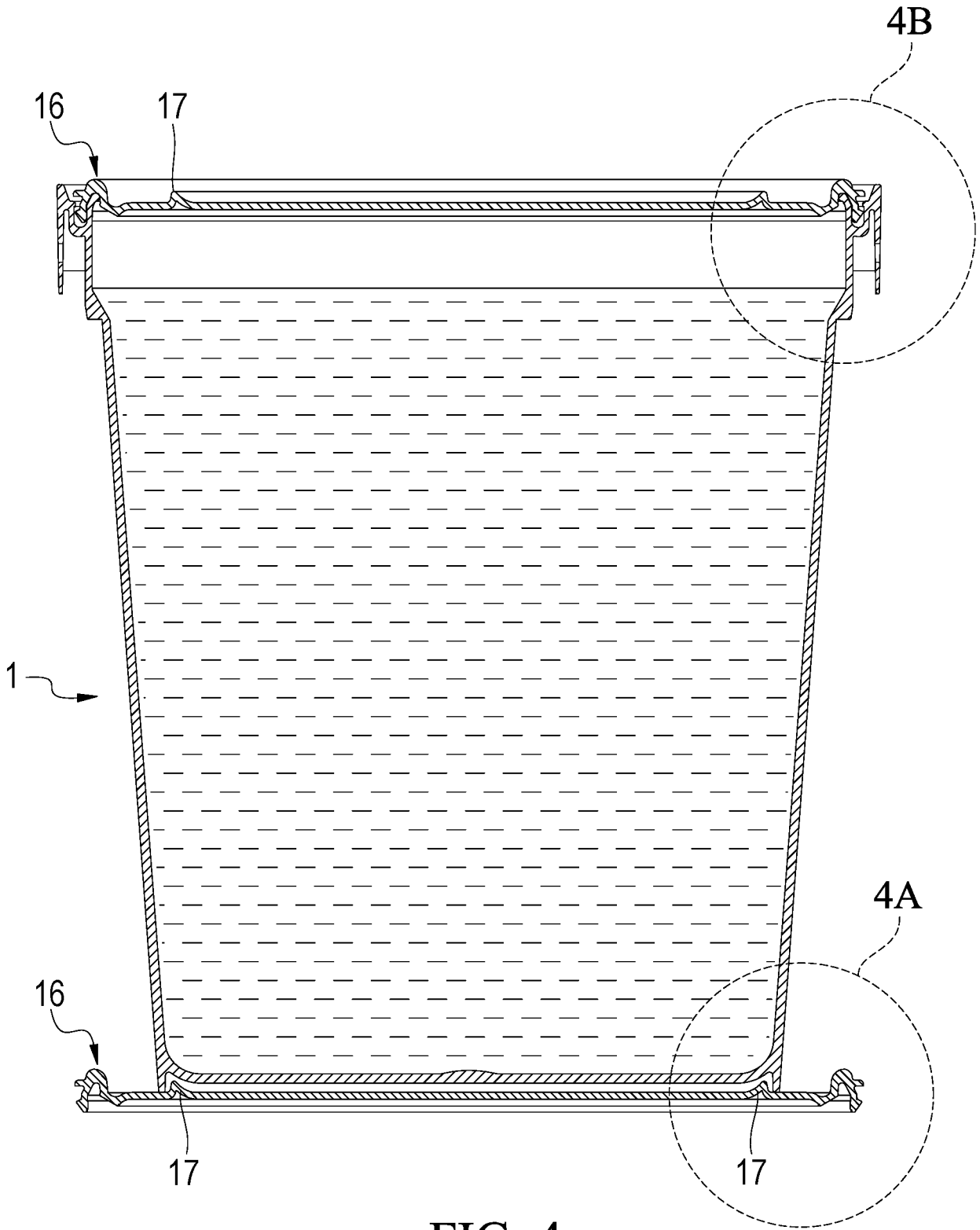


FIG. 4

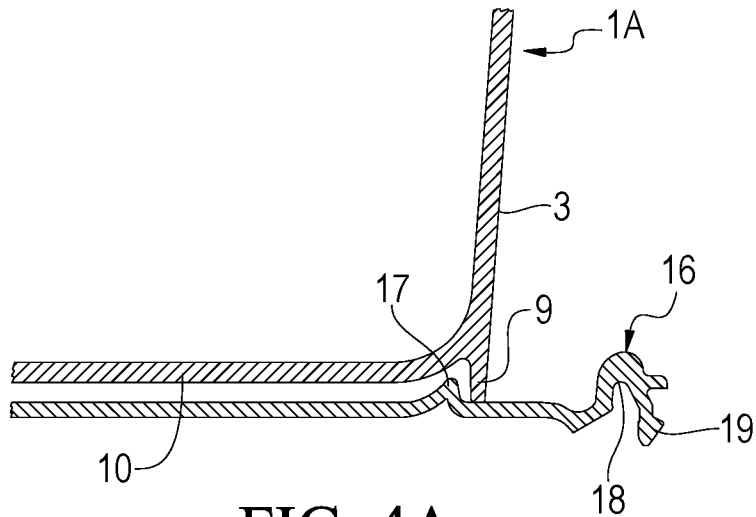


FIG. 4A

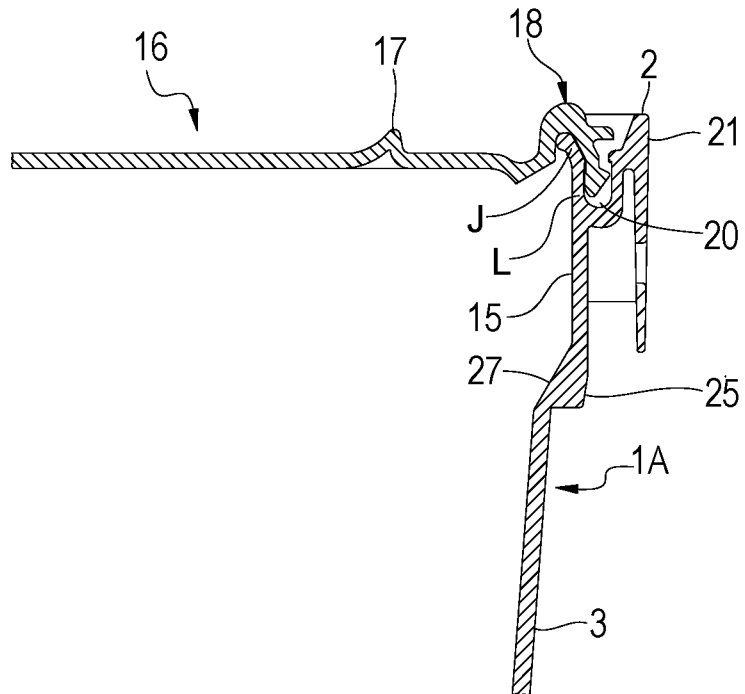


FIG. 4B

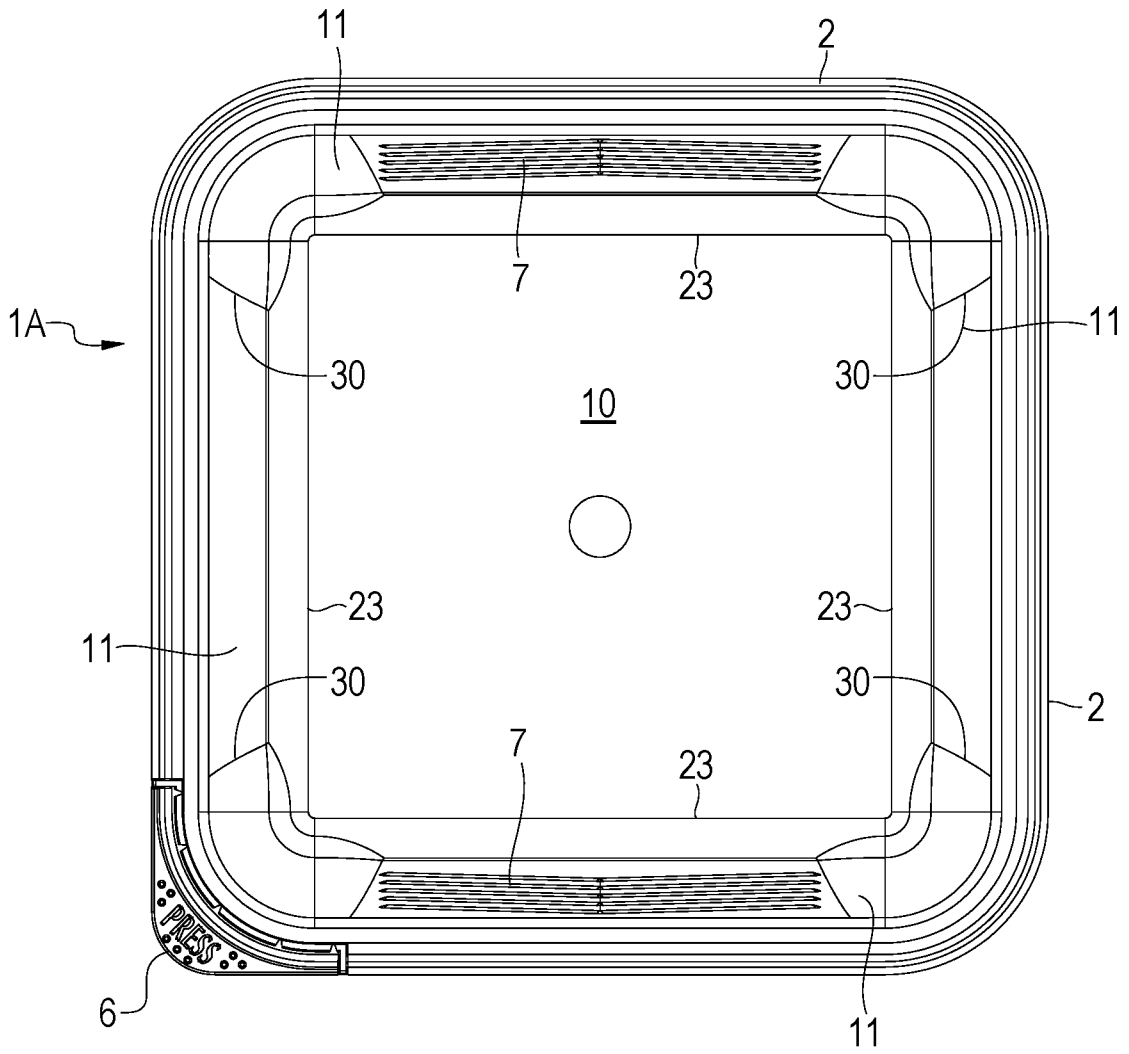


FIG. 5

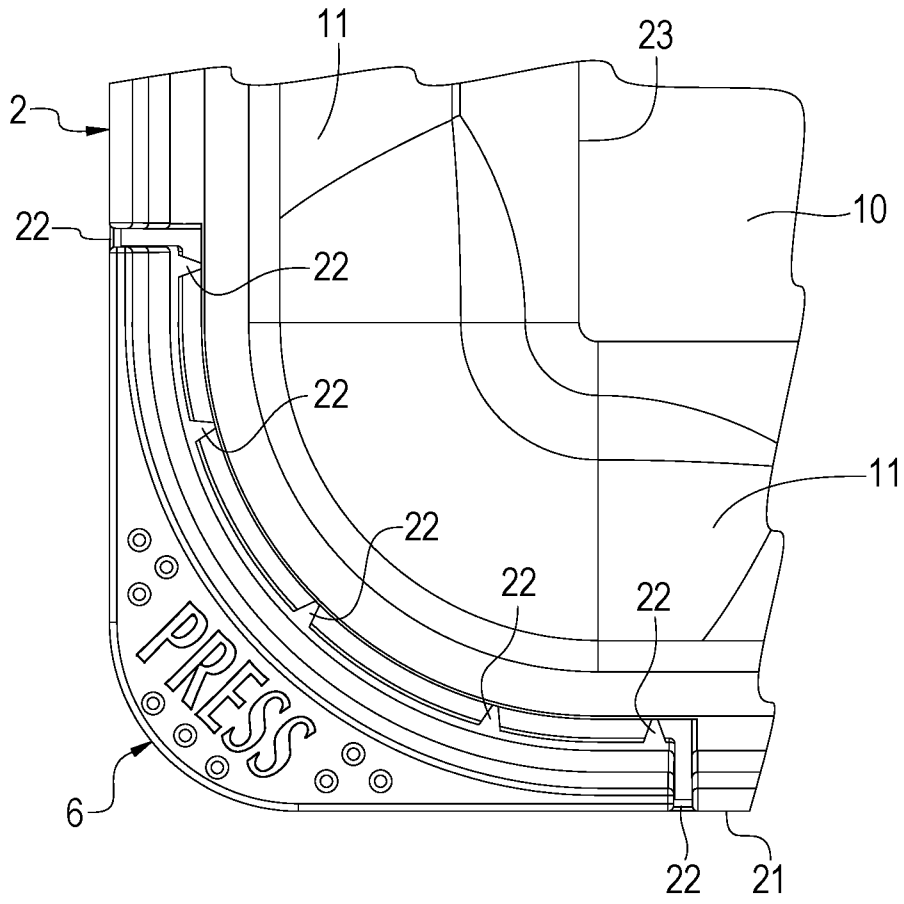


FIG. 5A

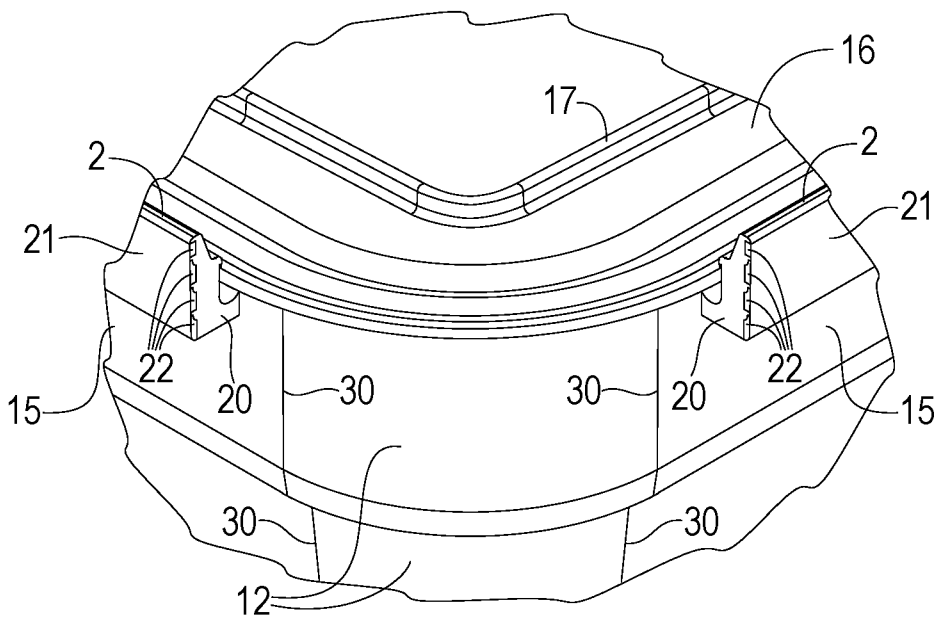


FIG. 5B

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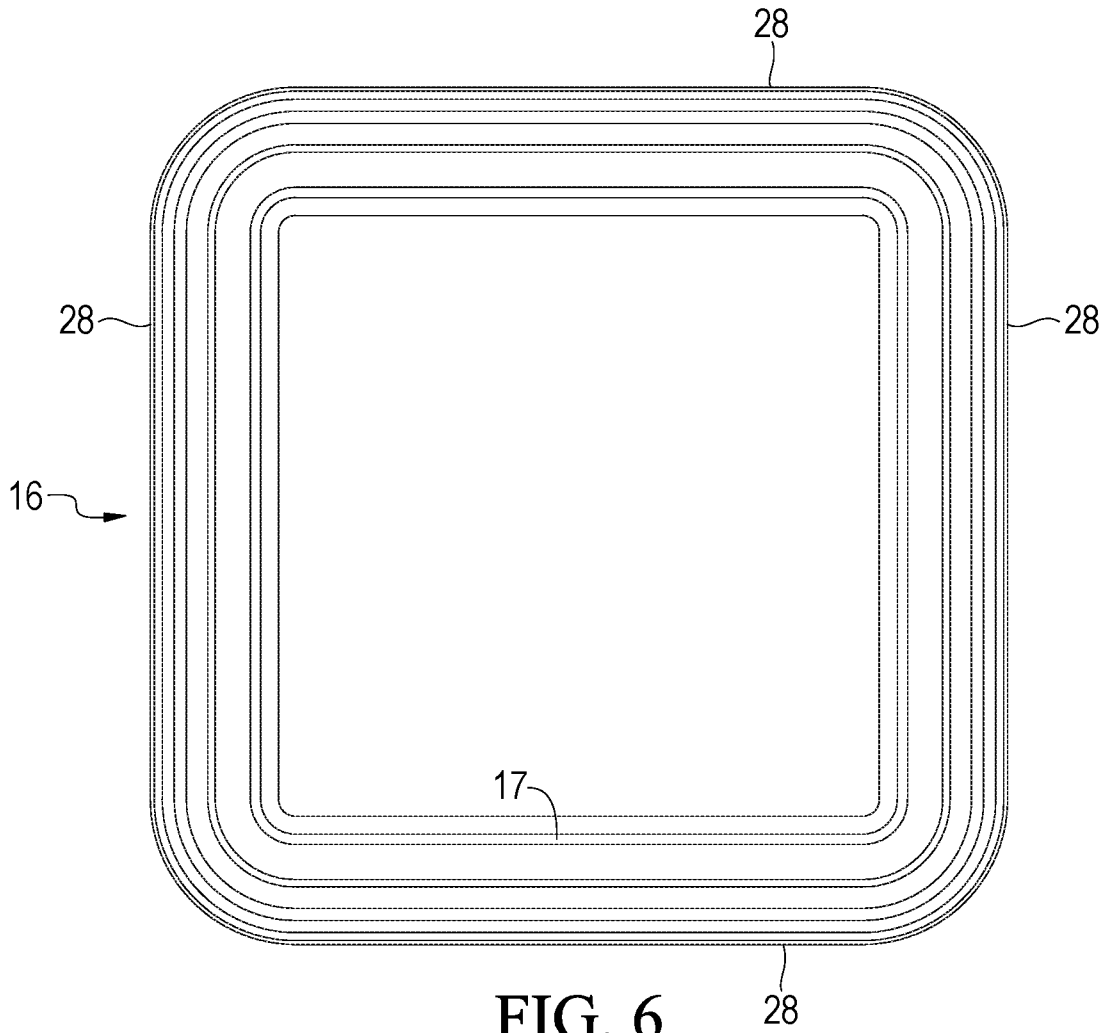


FIG. 6



FIG. 7

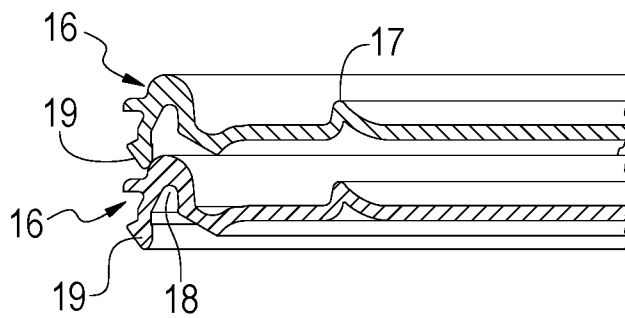


FIG. 8

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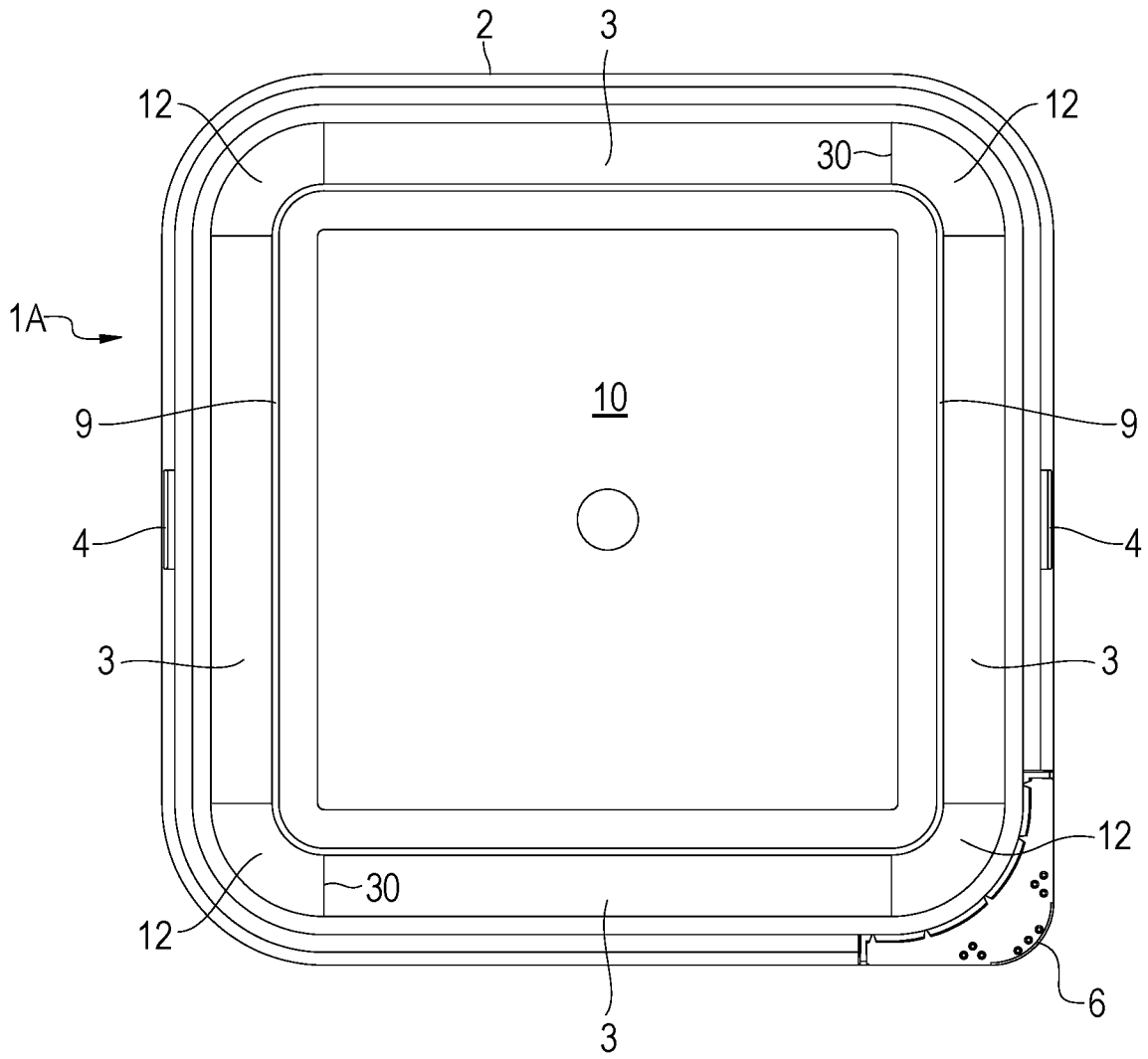


FIG. 9

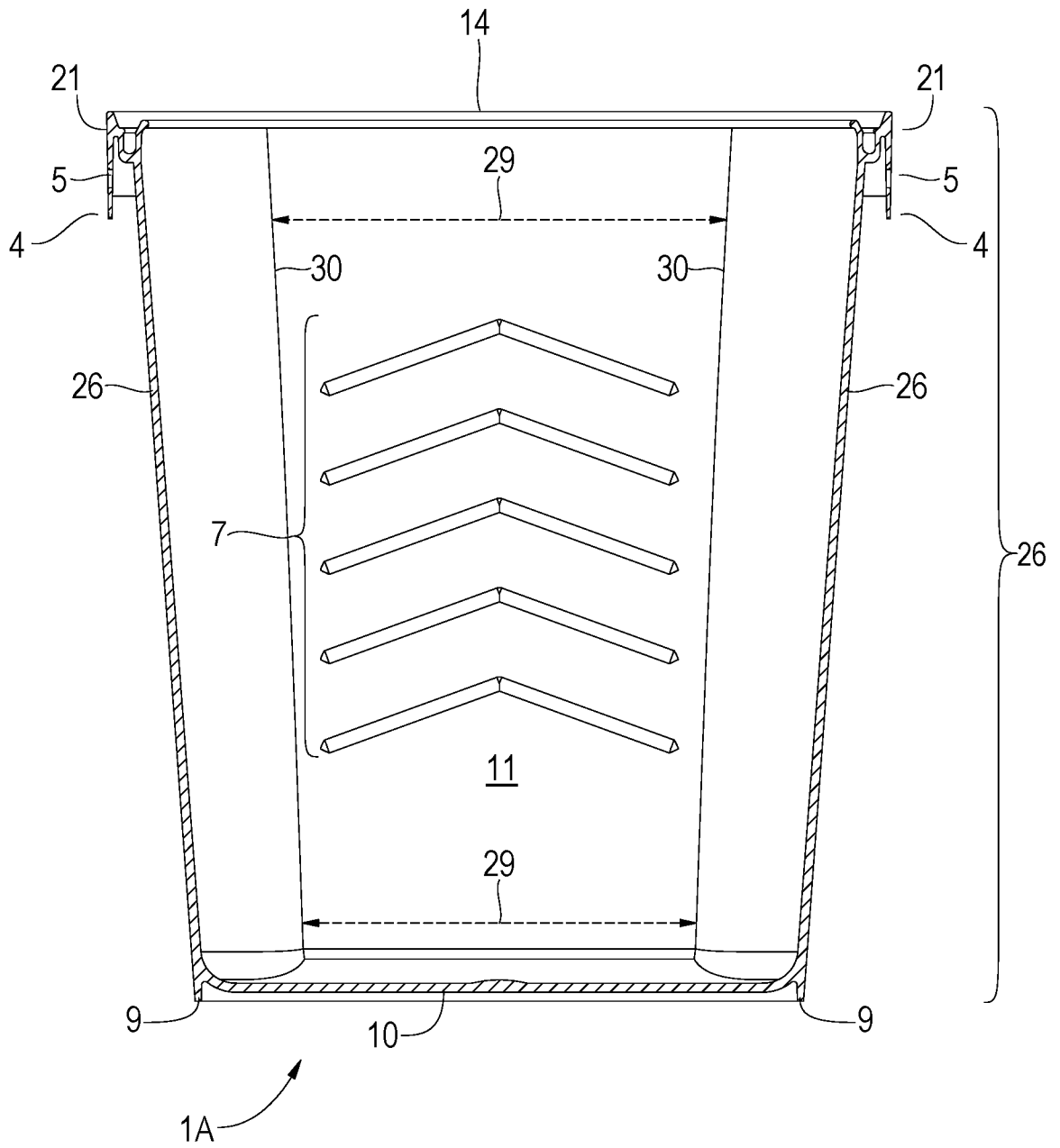
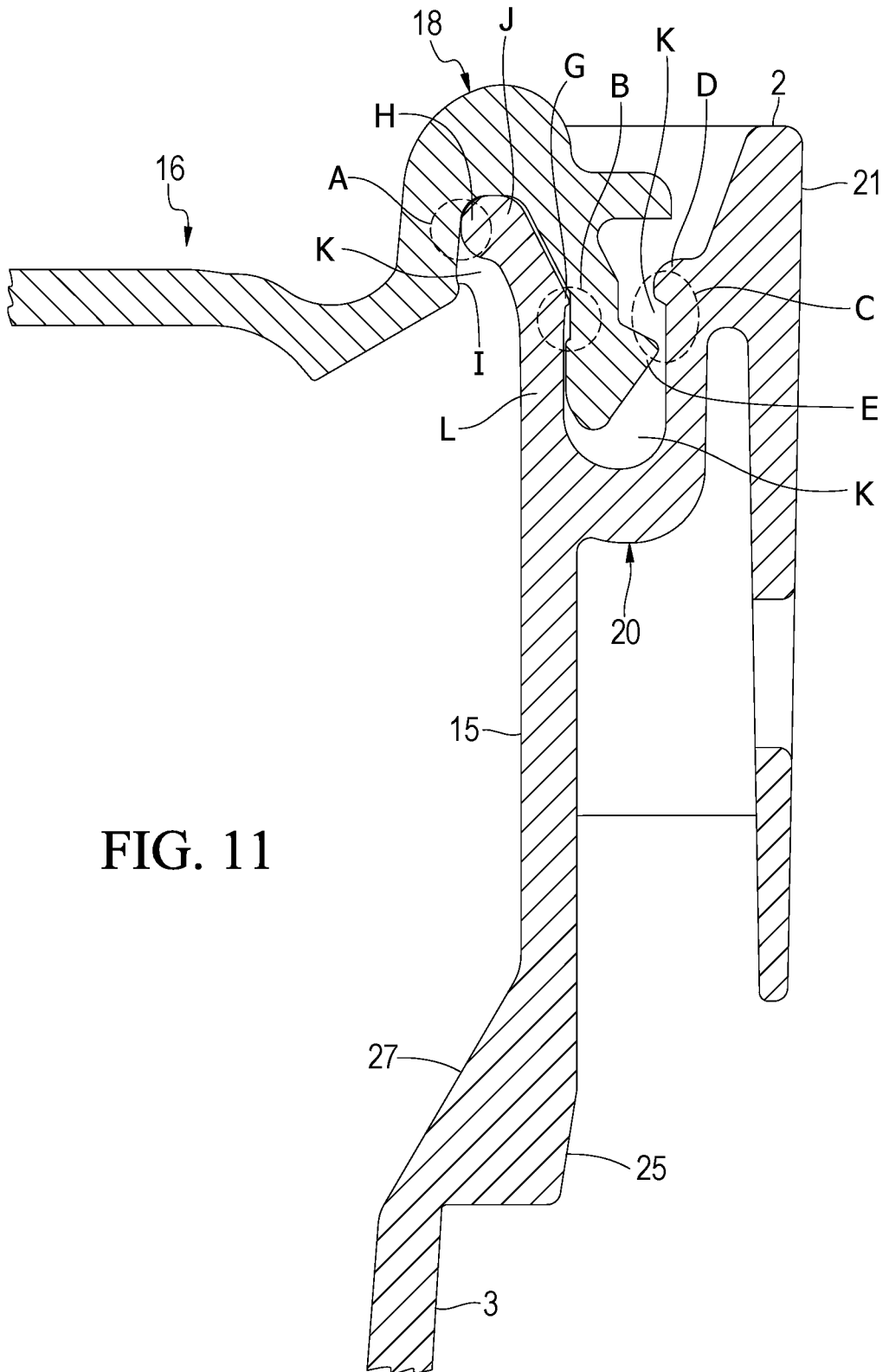


FIG. 10

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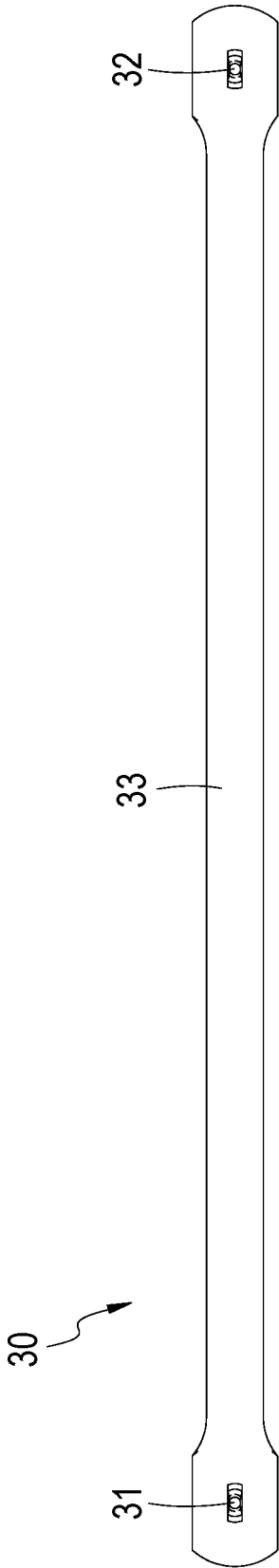


FIG. 12

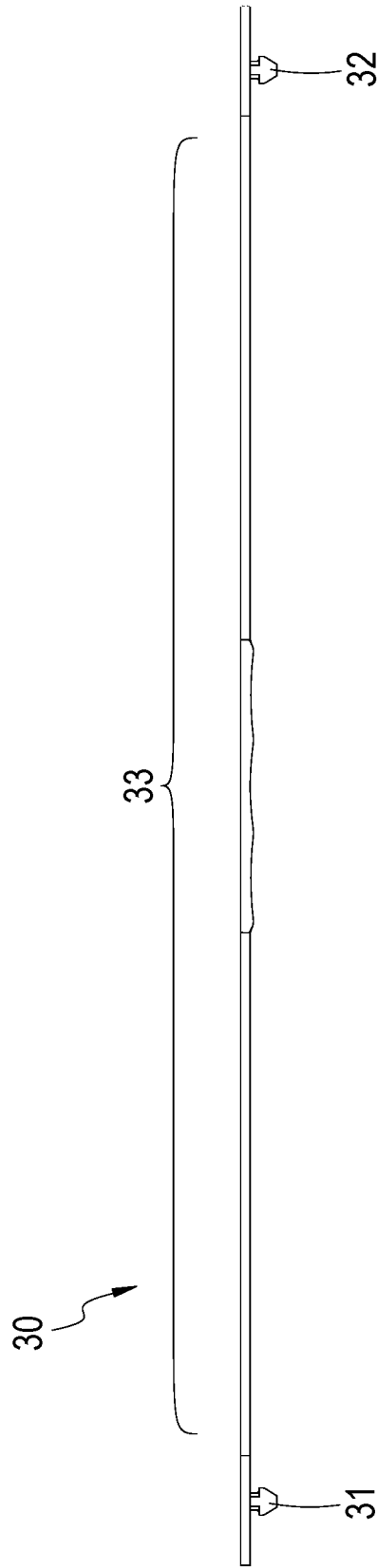
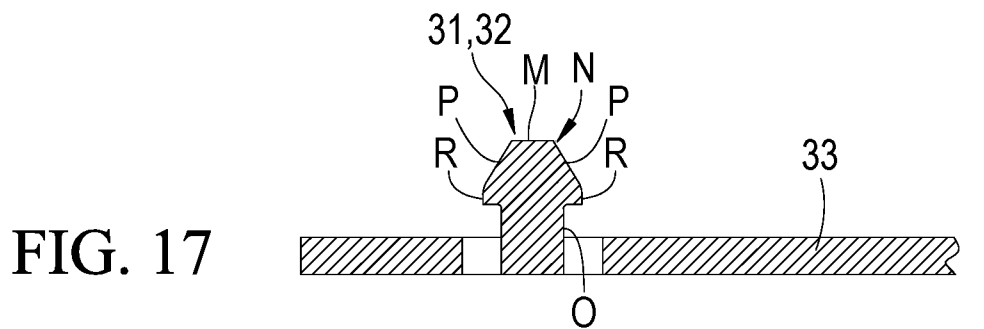
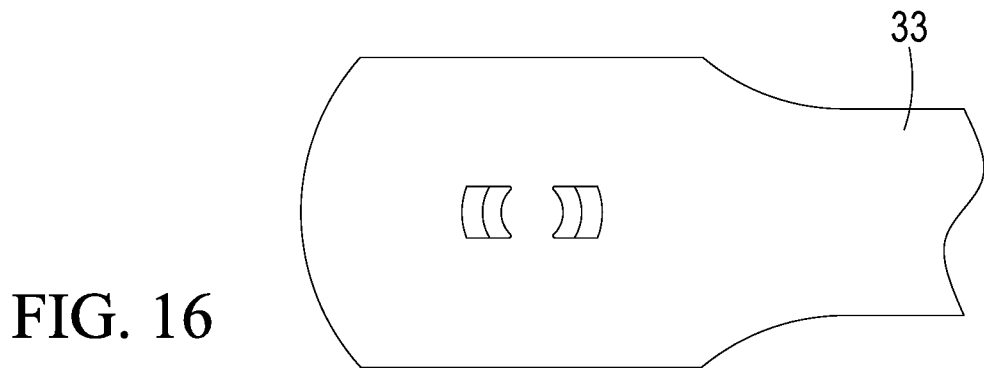
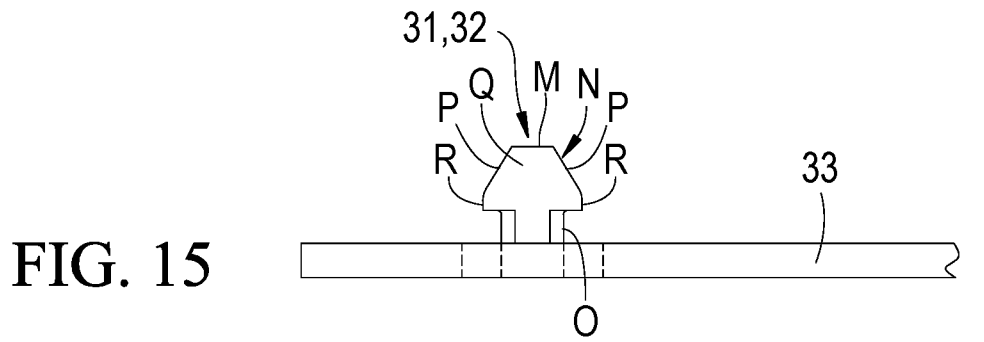
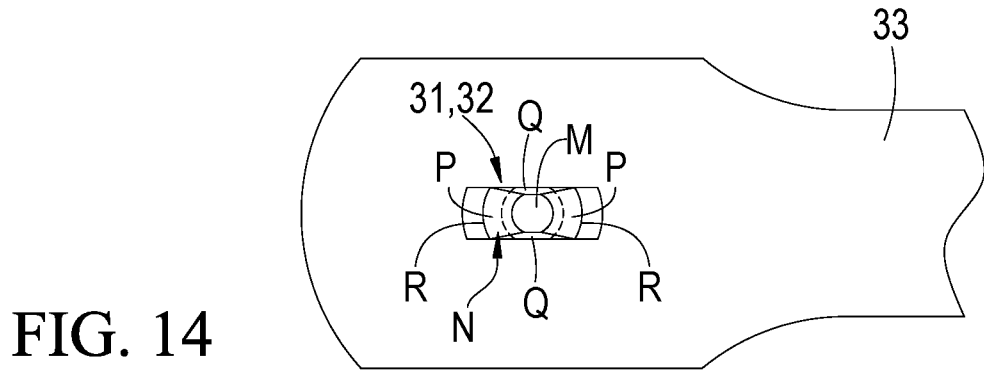


FIG. 13

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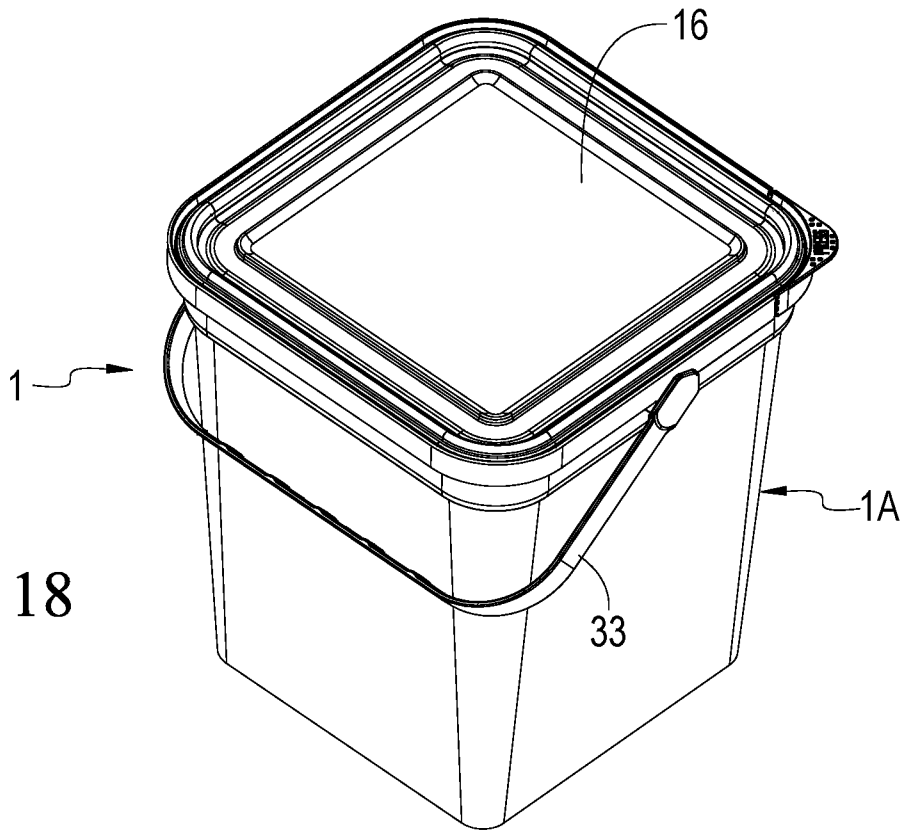


FIG. 18

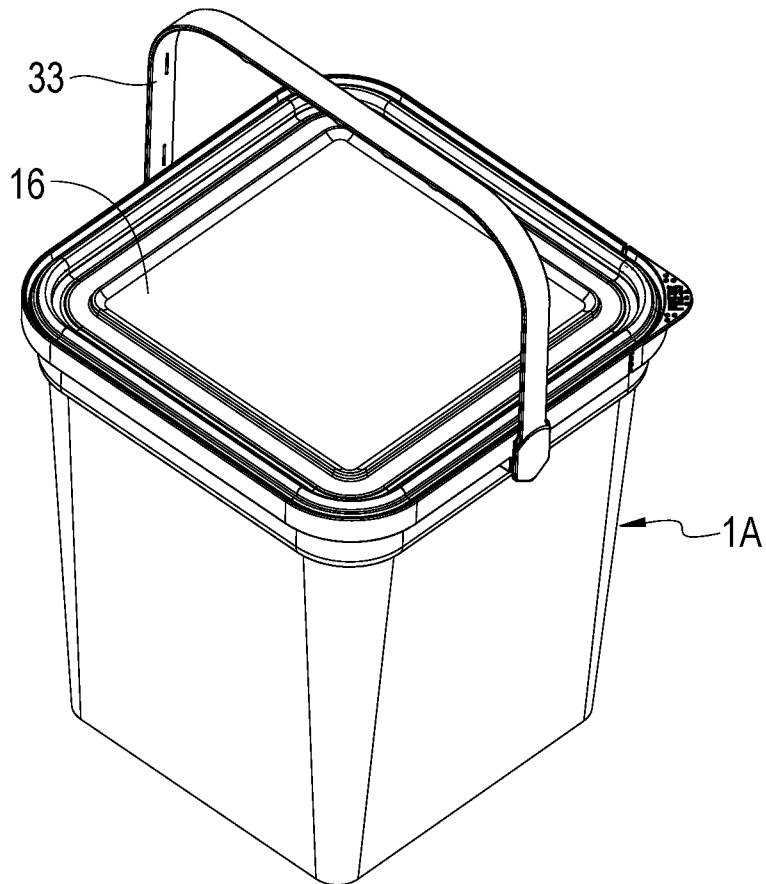


FIG. 19

