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(54) **BULK CONTAINER WITH LIQUID BARRIER LIP**

Publication Classification

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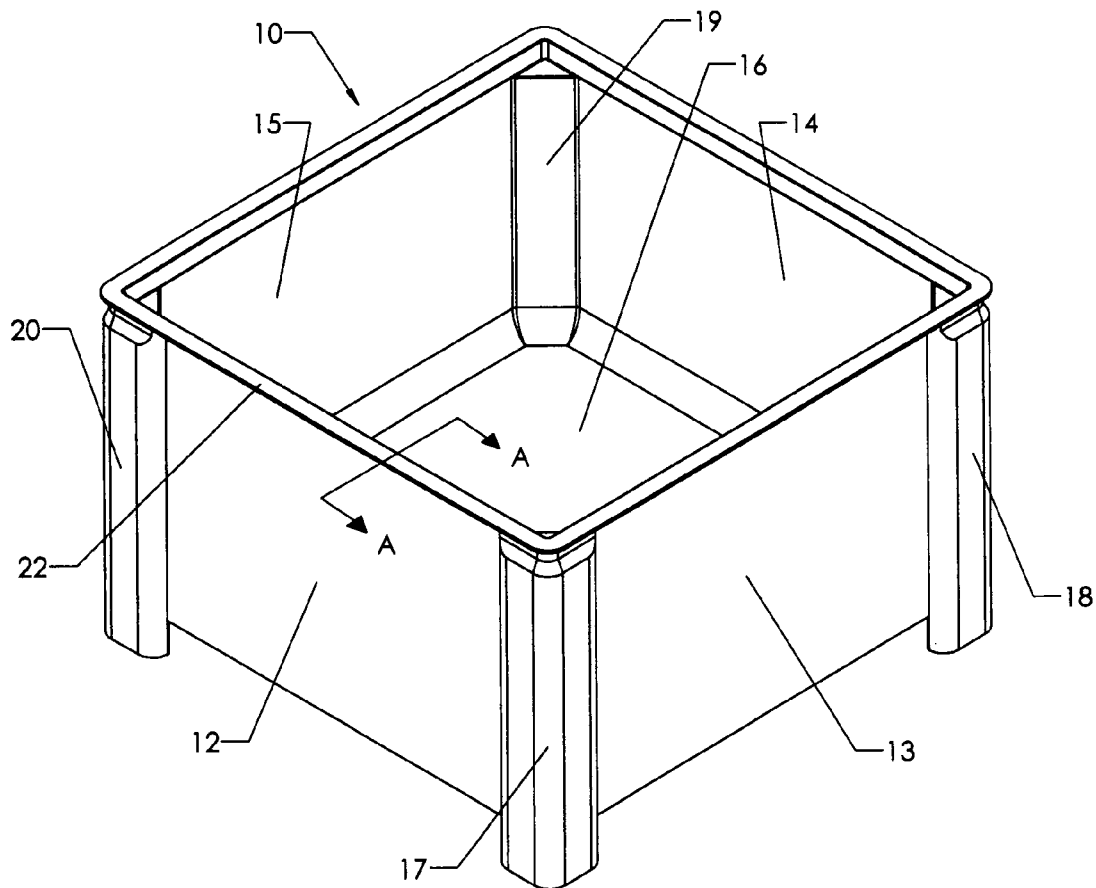
(57) **ABSTRACT**

A bulk container has a liquid barrier lip portion formed in an upper rim portion of the container side walls. The liquid barrier lip portion extends about the entire periphery of the container and provides a pooling region to prevent liquid condensate on the outside wall surfaces from coursing along the side walls and mixing with the container contents when the container is raised and tilted during unloading by a lifting and rotating mechanism.

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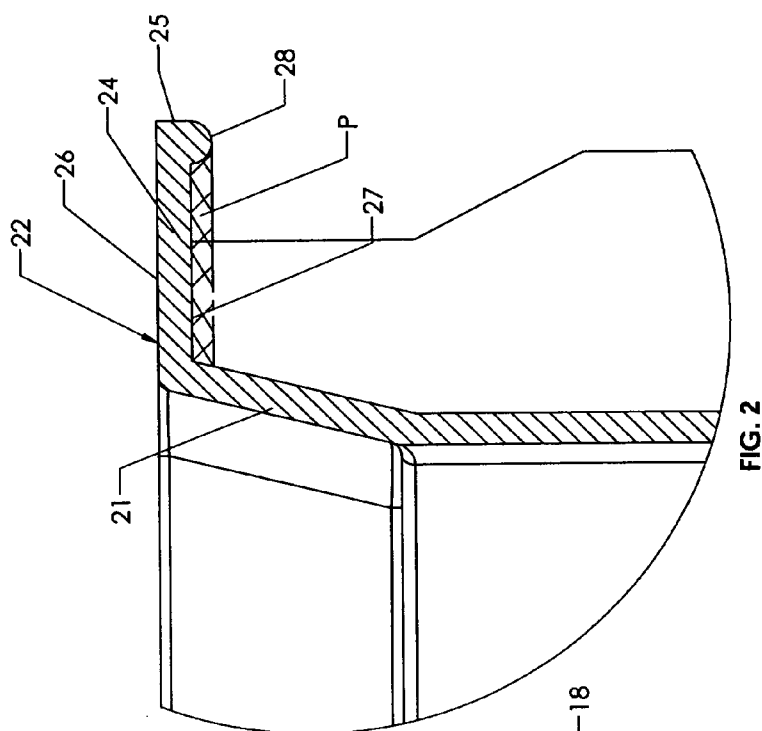


FIG. 1

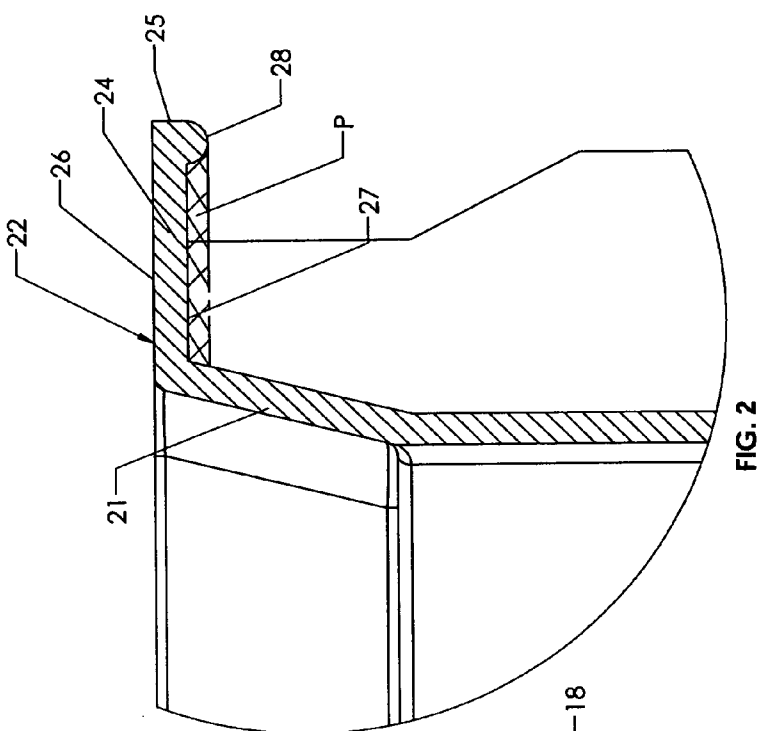


FIG. 2

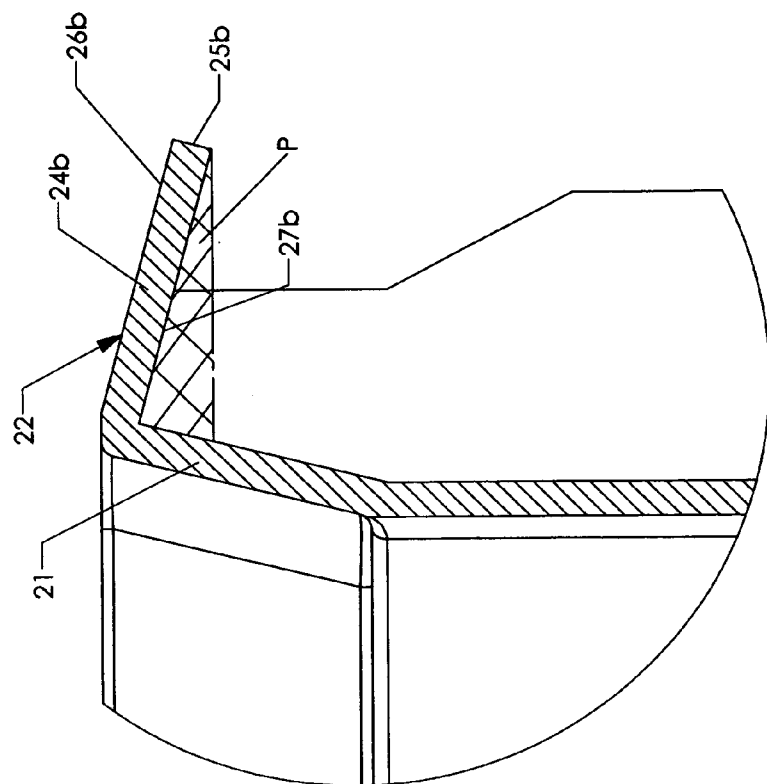


FIG. 4

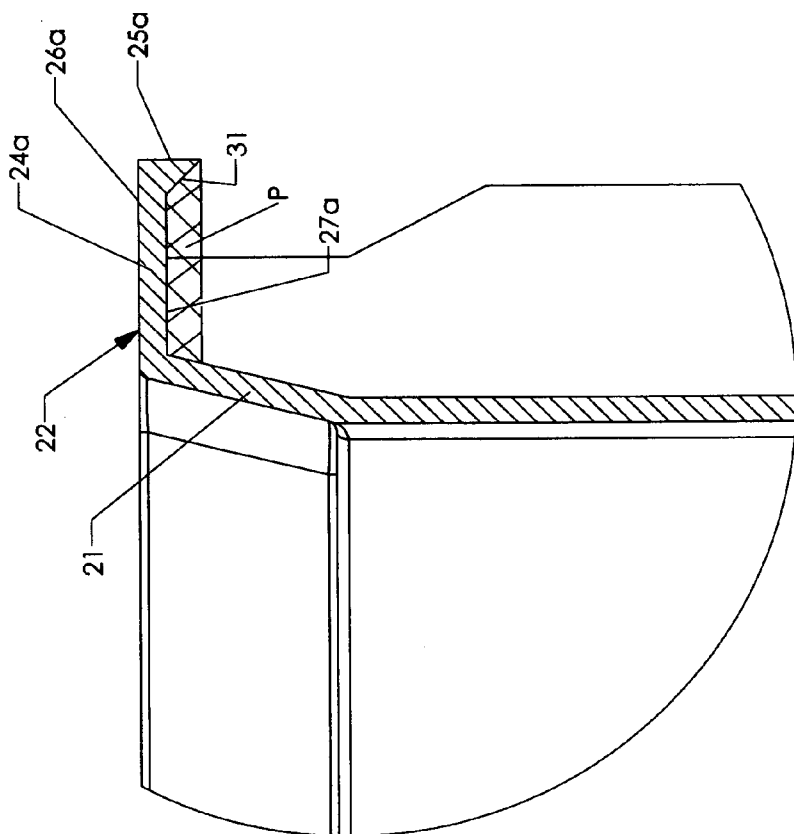


FIG. 3

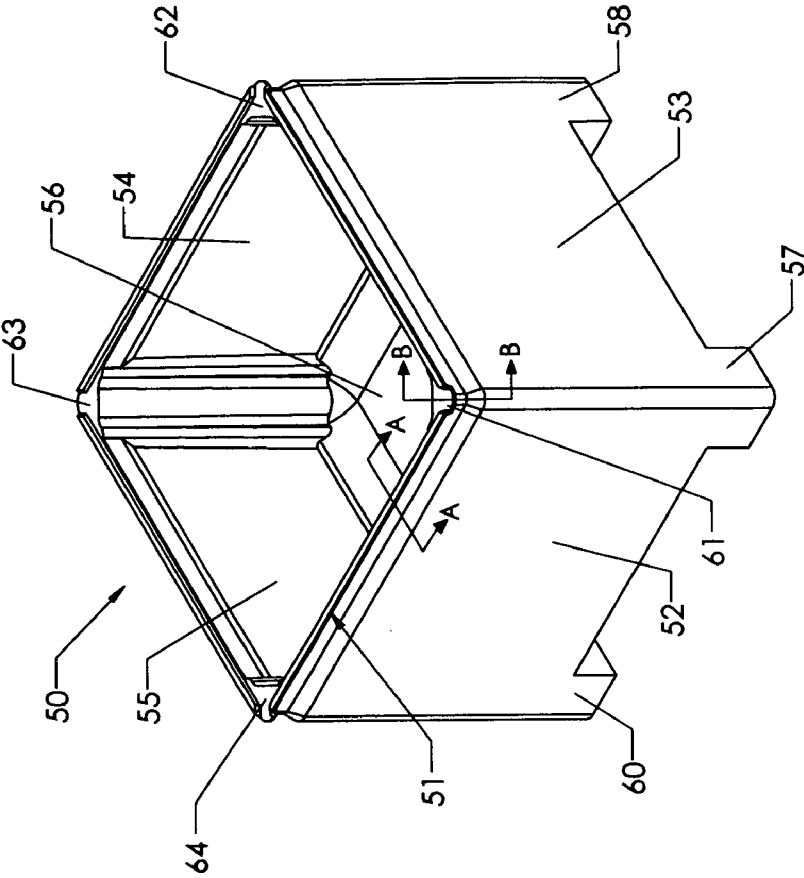


FIG. 5

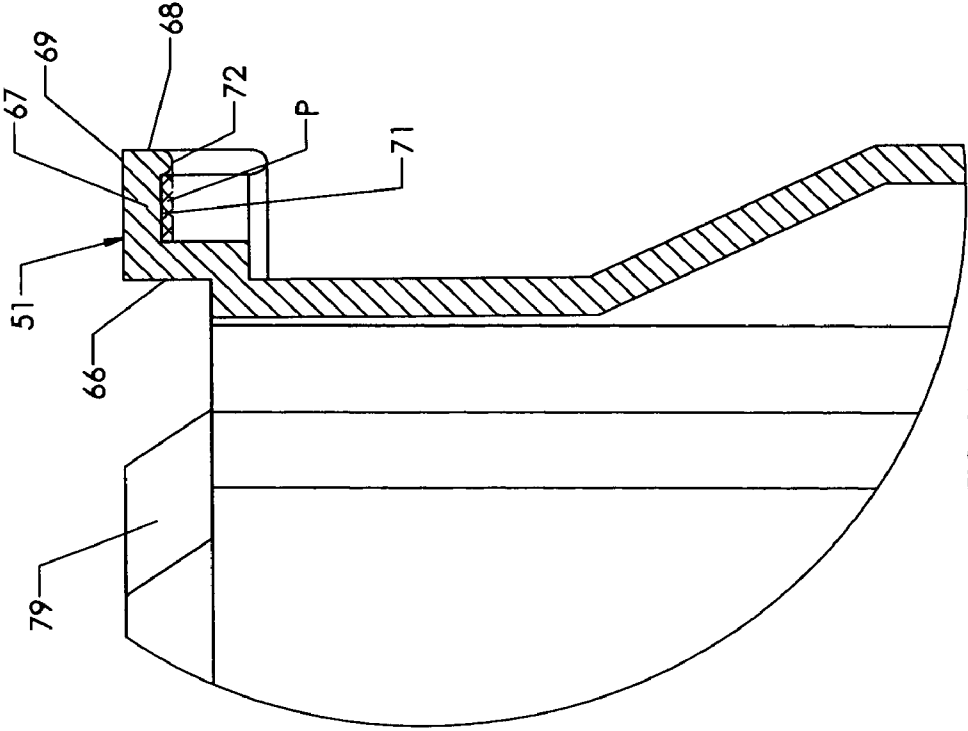


FIG. 6

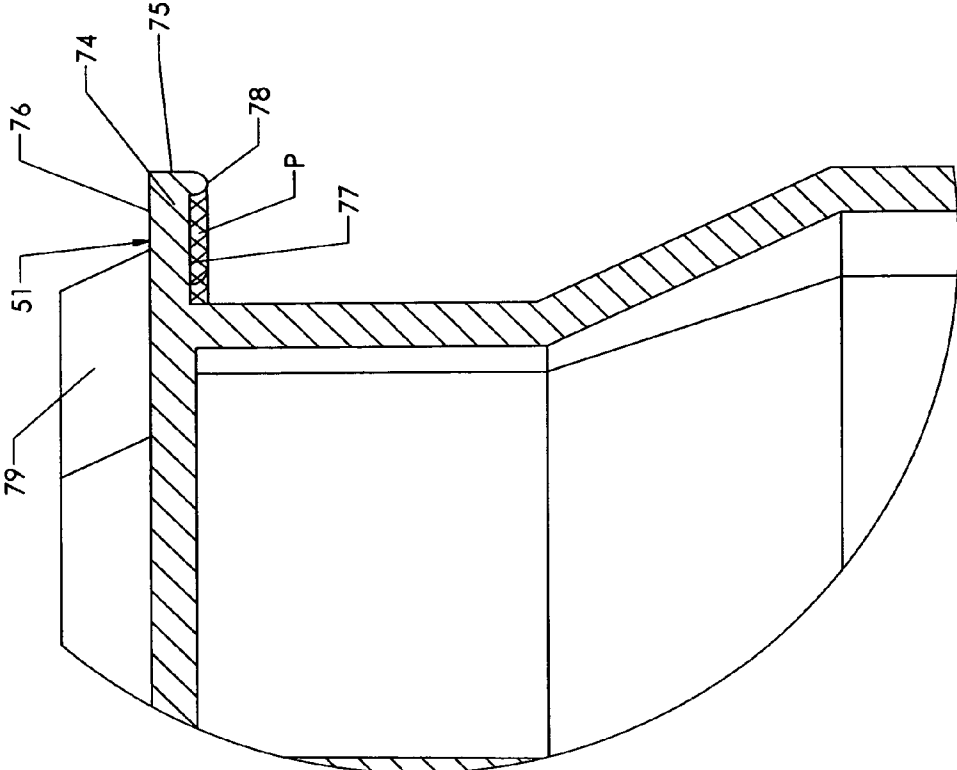


FIG. 7

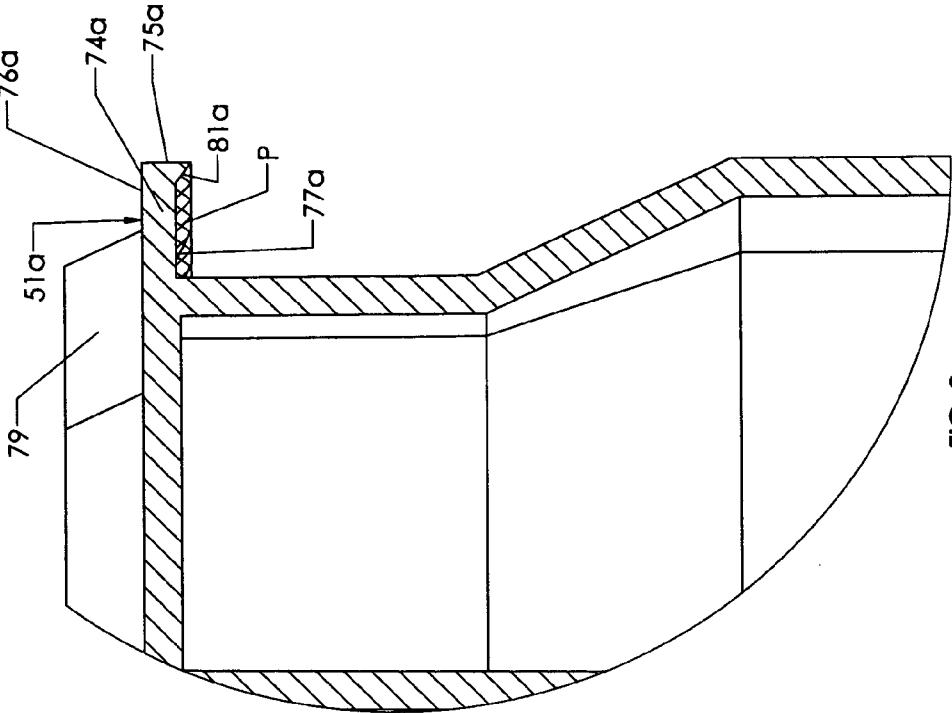


FIG. 9

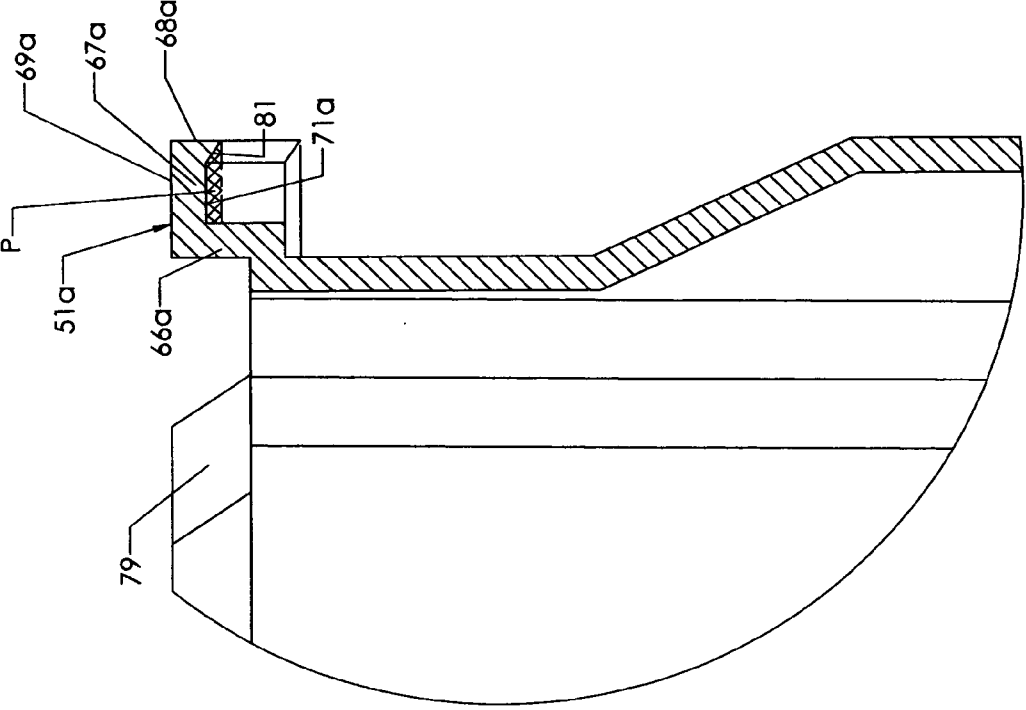


FIG. 8

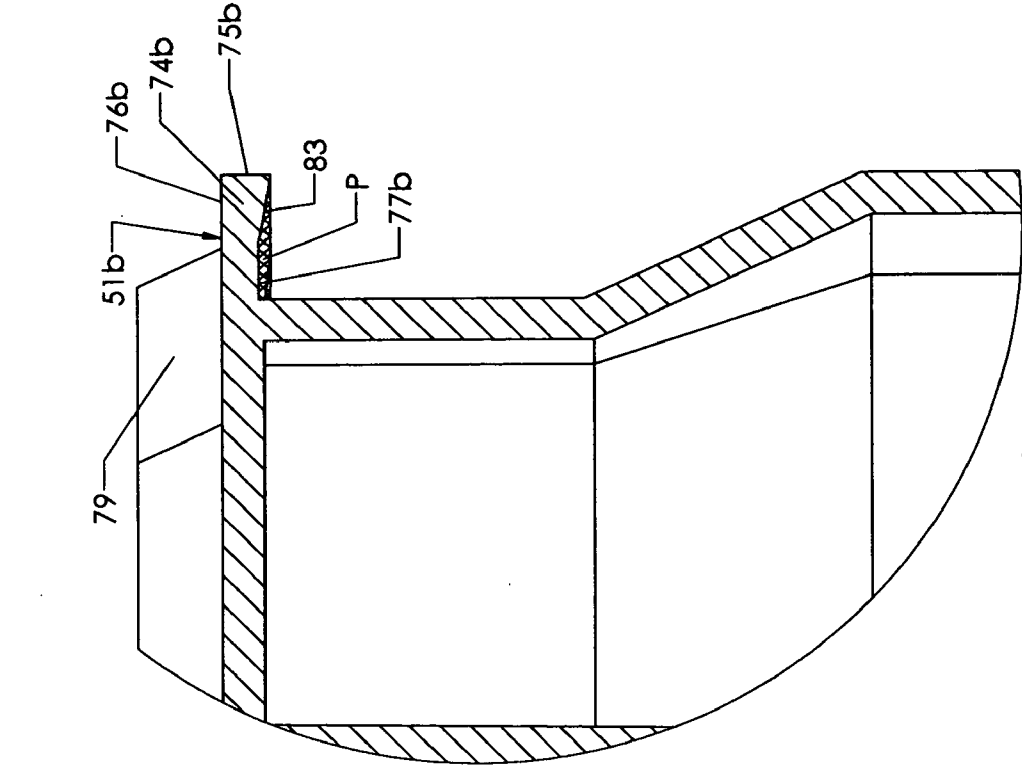


FIG. 10

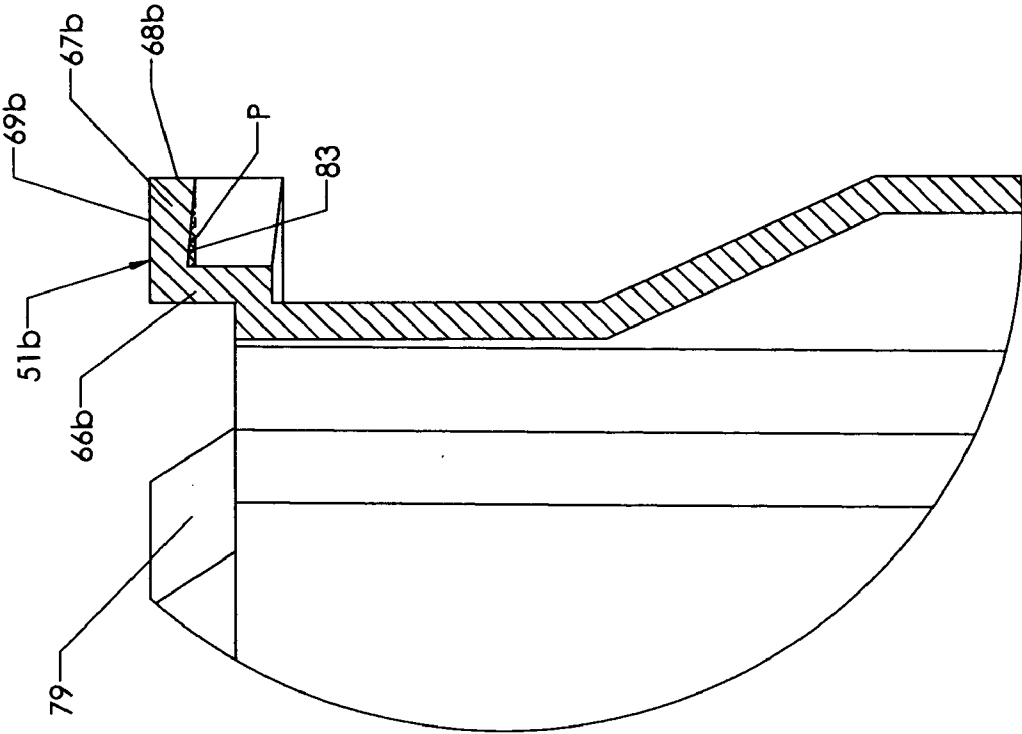


FIG. 11

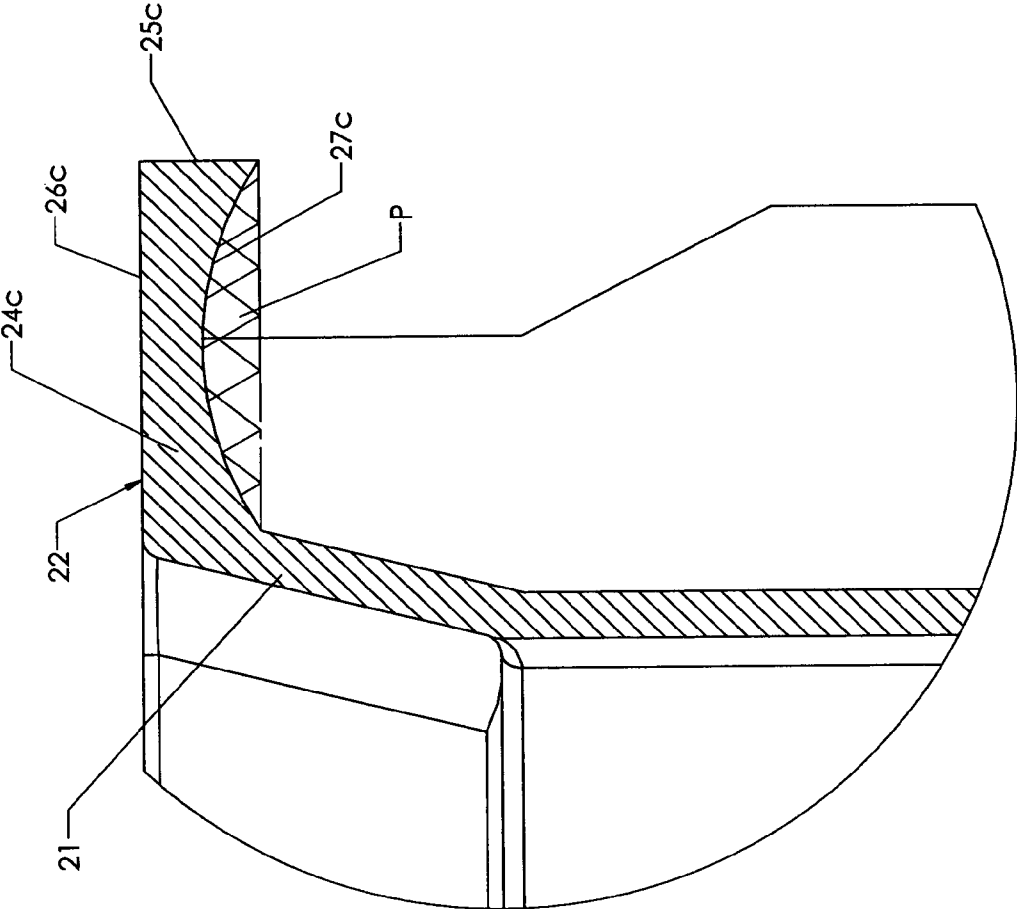


FIG 12

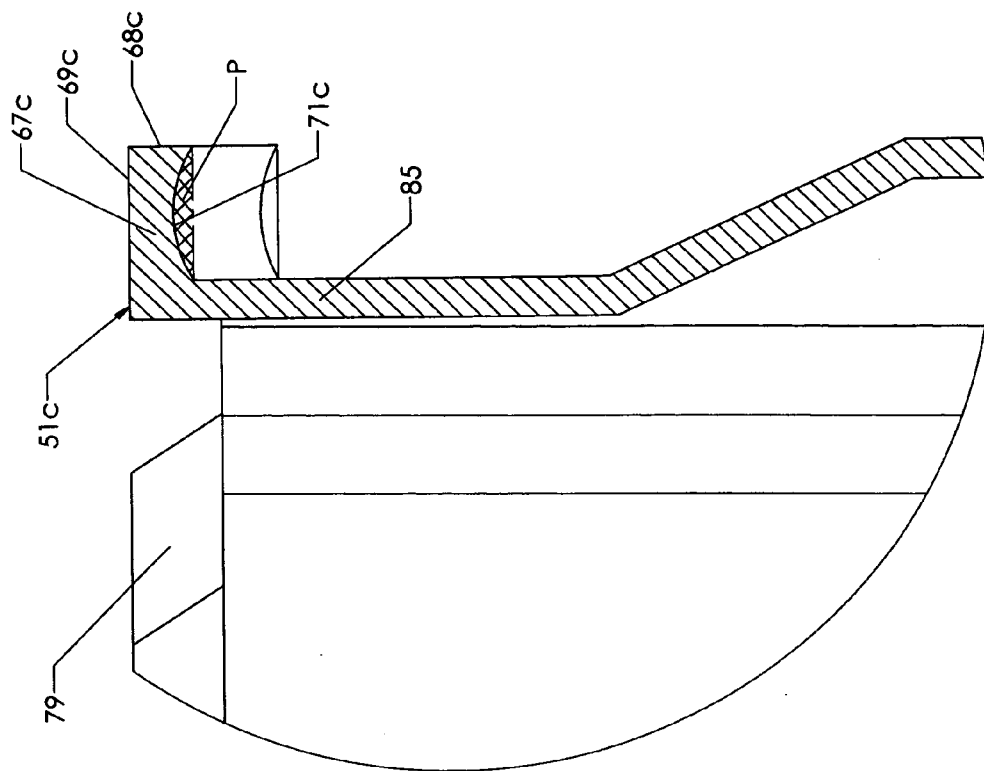


FIG. 14

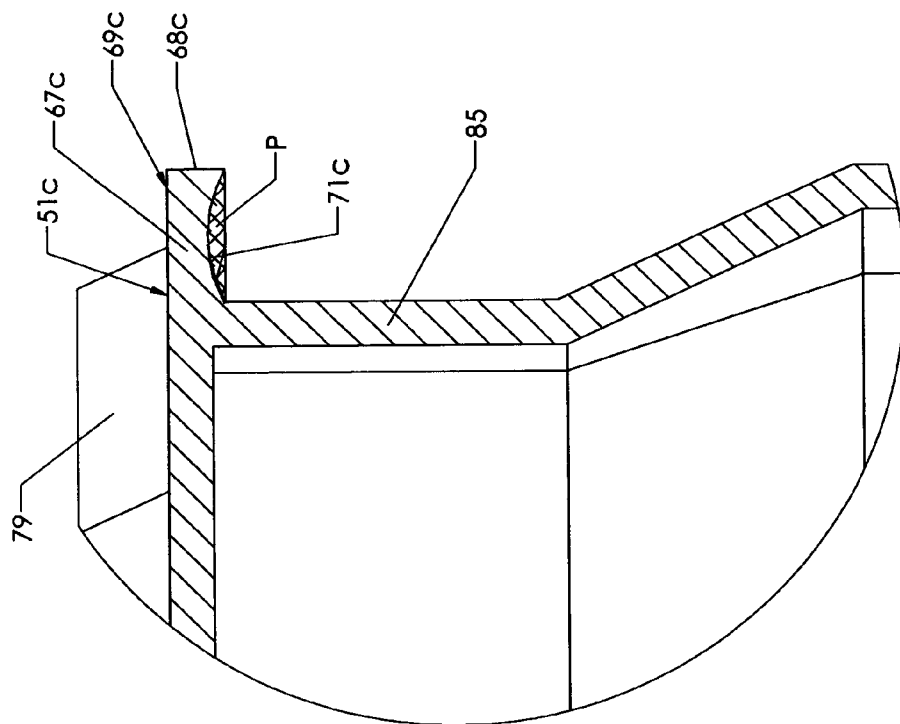


FIG. 13

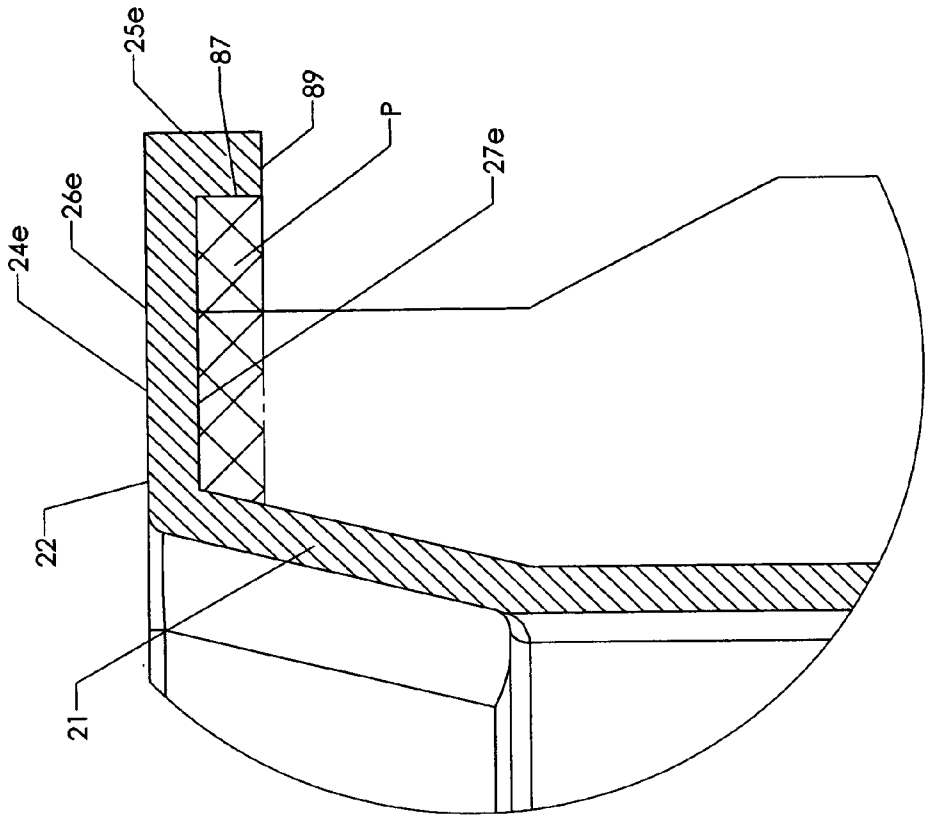


FIG. 15

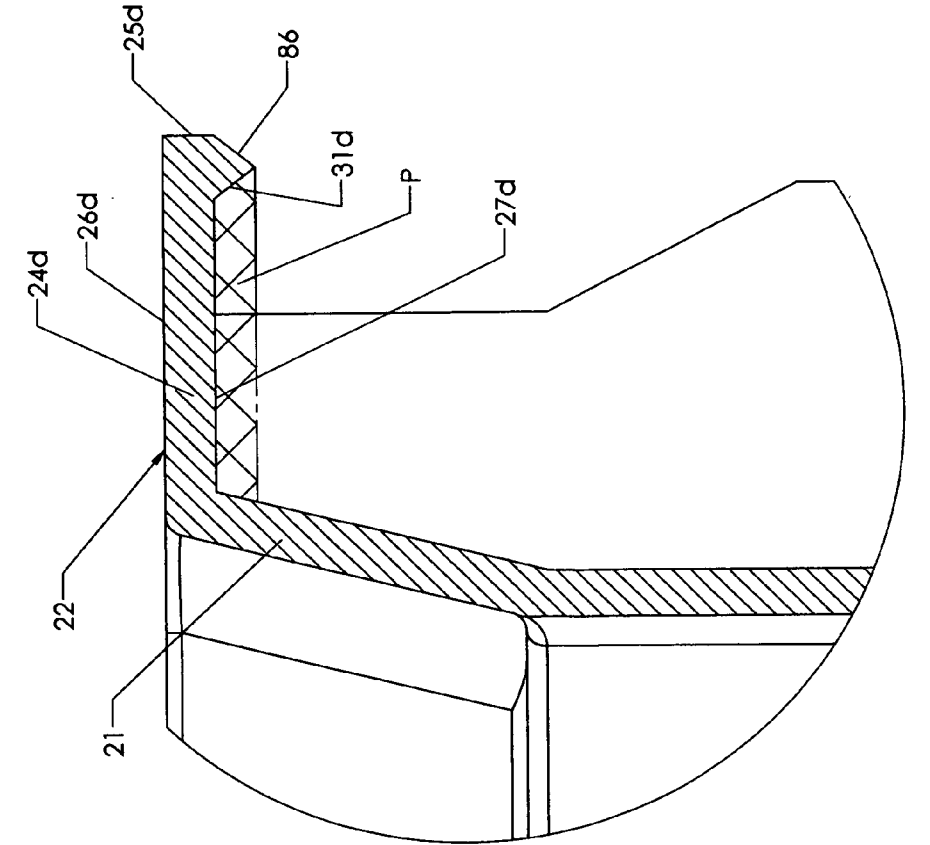


FIG. 16

BULK CONTAINER WITH LIQUID BARRIER LIP

BACKGROUND OF THE INVENTION

[0001] This invention relates to bulk containers of the type used to store and transport large quantities of food items, such as agricultural produce, and industrial and other products.

[0002] Bulk containers are used for the storage and transport of large quantities of various kinds of items, such as agricultural produce, various other food items, industrial products and the like. Representative examples of such containers are disclosed in U.S. Pat. No. 5,180,064 issued Jan. 19, 1993 for "CONTAINER" and U.S. Pat. No. 5,439,113 issued Aug. 8, 1995 for "BULK CONTAINER", the disclosures of which are hereby incorporated by reference. Such containers are typically a unitary structure fabricated by injection molding, rotational molding, or other molding techniques, using a suitable molding material such as high density polyethylene, polypropylene or other suitable polyolefins. Typical lateral dimensions for bulk containers of this type are on the order of forty to forty-eight inches by forty-eight inches; typical height dimensions range from about twenty five to about forty inches. As will be appreciated, bulk containers having this size range have a capacity of more than one thousand pounds, and such containers are manipulated by means of heavy duty moving machinery, such as fork lifts, when loaded.

[0003] Bulk containers of this type are quite durable, and have smooth interior wall surfaces, which reduces the probability of damage to delicate items, such as fruits and vegetables, during filling, storage, and unloading. Consequently, such containers have been found to be especially useful for the storage and transport of agricultural produce and other food items.

[0004] When a bulk container filled with contents is unloaded, the container is first lifted by a lifting mechanism, such as a fork lift, and then tilted about a tilt axis. As the tilt angle increases, the contents begin to spill out under the influence of gravity into the desired depository. Thereafter, the tilt angle is increased until the bulk container is emptied of its contents. The tilt axis is usually parallel to two facing walls and normal to the other two facing walls. One of the two walls which are parallel to the tilt axis is lowered during the tilting motion, while the other facing wall is raised. During this unloading procedure, any liquid condensate on the outer surfaces of the outside walls can course down the outer surfaces of the side walls and possibly mix with the deposited items. If mixing occurs and the items are comestibles-such as agricultural produce, poultry, pizza dough, or other food items, the items can be contaminated by the external liquid condensate and must either be washed completely or discarded. While known bulk containers typically incorporate a strengthening peripheral rim portion which extends completely about the upper wall portions of the container, this rim portion provides no significant protection against liquid condensate mixing.

SUMMARY OF THE INVENTION

[0005] The invention comprises an improved bulk container having a liquid barrier lip which eliminates the problem of liquid condensate run-off and mixing with deposited items when unloading a bulk container.

[0006] In a broadest aspect, the invention comprises a bulk container having front, rear, side and bottom sections forming a containment volume with upper corner portions. An upper rim portion extends about the upper periphery of the front, rear, and side sections, with the upper rim portion having an outwardly extending segment with an outer edge surface, an upper surface, and a lower surface. The upper rim portion has a liquid barrier lip portion located along the lower surface thereof, the liquid barrier lip portion providing a pooling region for collecting liquid coursing along said sections when the container is lifted and tilted during unloading.

[0007] Several alternate embodiments are provided. In a first embodiment, the liquid barrier lip portion has a convex surface, preferably arcuate, extending between the lower surface and the outer edge surface of the upper rim portion. In a second embodiment, the liquid barrier lip portion comprises an angled essentially flat lip surface which extends downwardly and outwardly along the lower surface of the upper rim portion and terminates at the lower end of the outer edge surface of the upper rim portion. In a third embodiment, the liquid barrier lip portion comprises a segment of the lower surface of the upper rim portion which is angled downwardly in the outward direction to provide a sloping undersurface which terminates at the lower end of the outer edge of the upper rim portion. In a fourth embodiment, the liquid barrier lip portion comprises a concave surface formed in the lower surface of the upper rim portion and terminating adjacent the lower end of the outer edge surface of the upper rim portion. In a fifth embodiment, the outer edge surface of the upper rim portion has an inwardly angled lower portion terminating in a lower end, and the liquid barrier lip portion comprises a segment of the lower surface of the upper rim portion which is angled downwardly in the outward direction to provide a sloping undersurface which terminates at the lower end of the outer edge of the upper rim portion. In a sixth embodiment, the liquid barrier lip portion comprises a downwardly depending surface extending from the lower surface of the upper rim portion to a free end and a wall surface extending outwardly from the free end to a lower end of the outer edge surface of the upper rim portion.

[0008] The container is preferably a unitary molded structure, and the liquid barrier lip portion is integrally formed in the upper rim portion.

[0009] The invention is incorporated into a first type of bulk container having an upper rim portion which extends about the periphery in substantially a single plane; and a second type of bulk container having downwardly depending recessed corner portions. In this latter type of bulk container, the liquid barrier lip portion extends around each of the corner portions below the recess.

[0010] Bulk containers provided with a liquid barrier lip portion according to the invention prevent liquid condensate on the outside surfaces of the side wall from coursing along these surfaces and mixing with the contents of the container during tilting and unloading of a container.

[0011] For a fuller understanding of the nature and advantages of the invention, reference should be made to the ensuing detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a top corner perspective view of a first bulk container incorporating the invention;

[0013] FIG. 2 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a first embodiment of the lip for the bulk container of FIG. 1;

[0014] FIG. 3 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a second embodiment of the lip for the bulk container of FIG. 1;

[0015] FIG. 4 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a third embodiment of the lip for the bulk container of FIG. 1;

[0016] FIG. 5 is a top corner perspective view of a second bulk container incorporating the invention;

[0017] FIG. 6 is an enlarged sectional view taken along lines A-A of FIG. 5 illustrating the side wall profile of the first embodiment of the lip for the bulk container of FIG. 5;

[0018] FIG. 7 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the first embodiment of the lip for the bulk container of FIG. 5;

[0019] FIG. 8 is an enlarged sectional view taken along lines A-A of FIG. 5 illustrating the side wall profile of the second embodiment of the lip for the bulk container of FIG. 5;

[0020] FIG. 9 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the second embodiment of the lip for the bulk container of FIG. 5;

[0021] FIG. 10 is an enlarged sectional view taken along lines A-A of FIG. 5 illustrating the side wall profile of the third embodiment of the lip for the bulk container of FIG. 5;

[0022] FIG. 11 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the third embodiment of the lip for the bulk container of FIG. 5;

[0023] FIG. 12 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a fourth embodiment of the lip for the bulk container of FIG. 1;

[0024] FIG. 13 is an enlarged sectional view taken along lines A-A of FIG. 5 illustrating the side wall profile of the fourth embodiment of the lip for the bulk container of FIG. 5;

[0025] FIG. 14 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the fourth embodiment of the lip for the bulk container of FIG. 5;

[0026] FIG. 15 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a fifth embodiment of the lip for the bulk container of FIG. 1; and

[0027] FIG. 16 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a sixth embodiment of the lip for the bulk container of FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0028] Turning now to the drawings, FIG. 1 is a top corner perspective view of a first bulk container incorporating the

invention. As seen in this Fig., a bulk container 10 has four upstanding side walls 12-15 interconnected at the bottom by a base wall 16. Each corner of bulk container 10 is provided with an upwardly extending corner portion 17-20. The lower extremities of corner portions 17-20 extend below the lower surface of bottom wall 16 to provide a clearance opening with the surface on which bulk container 10 rests in order to provide adequate clearance space for the tines of a fork lift or other heavy duty lifting mechanism when the bulk container 10 is to be moved. A peripheral rim portion 22 extends along the top portion of side walls 12-15 and corner portions 17-20. Bulk container 10 is preferably a unitary structure fabricated by injection molding, rotational molding or other known molding techniques, using a suitable molding material such as high density polyethylene, polypropylene or other suitable polyolefins. The combination and arrangement of side walls 12-15 and base wall 16 forms an open containment volume for the bulk storage of a wide variety of items, including comestible items such as agricultural produce (fruits and vegetables), poultry, and pizza dough. Typical lateral dimensions for bulk container 10 are on the order of forty to forty-eight inches by forty-eight inches; typical height dimensions range from about twenty five to about forty inches. As will be appreciated, bulk containers having this size range have a capacity of more than one thousand pounds of produce, and such containers are manipulated by means of heavy duty machinery, such as fork lifts, when loaded.

[0029] During unloading, bulk container 10 is raised by a fork lift or other lifting mechanism and increasingly tilted until the contents begin to spill out under the influence of gravity into the desired depository. Thereafter, the tilt angle is increased until the bulk container 10 is emptied of its contents. The tilt axis is usually parallel to two facing walls and normal to the other two facing walls. One of the two walls which are parallel to the tilt axis is lowered during the tilting motion, while the other facing wall is raised. To prevent any liquid condensate on the outer surfaces of the outside walls 12-15 from coursing down the outer surfaces of the side walls and mixing with, and potentially contaminating, the deposited contents, a peripherally extending liquid barrier lip is incorporated into peripheral rim portion 22.

[0030] FIG. 2 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a first embodiment of a liquid barrier lip. As seen in this Fig., an upwardly extending outwardly angled upper wall segment 21 blends into peripheral rim portion 22. Peripheral rim portion 22 has an outwardly extending segment 24 terminating in an outer edge 25. Segment 24 has an essentially flat upper surface 26, and an essentially flat lower surface 27 terminating at the outer end in a downwardly depending, convex arcuate lip surface 28 which blends into outer edge 25. This profile extends about the entire periphery of rim portion 22. The volume defined by the intersection of an imaginary plane tangent to the apex of arcuate surface 28 and the outer surface of upper wall segment 21 comprises a pooling region P (illustrated by cross-hatching in FIG. 2) for containing liquid condensate.

[0031] When bulk container 10 is tilted during the process of unloading the contents, any liquid condensate residing on the outer surface of that one of walls 12-15 which is lowered courses down the outer surface and is collected in pooling

region P. Any liquid condensate residing on the outer surfaces of the remaining walls may course along these surfaces, but is prevented from reaching the area of content spill by the combination of the pooling region P of these walls and the tilting geometry. Should the amount of liquid condensate collected in the pooling region P of the lowered wall exceed the volumetric capacity of the pooling region P, any excess flows over arcuate lip surface 28 away from the direction of content spill. Thus, no liquid condensate can mix with the deposited contents.

[0032] FIG. 3 is a view similar to FIG. 2 showing an alternate embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 22 has an outwardly extending segment 24a terminating in an outer edge 25a. Segment 24a has an essentially flat upper surface 26a, and an essentially flat lower surface 27a terminating at the outer end in an angled essentially flat lip surface 31 which extends downwardly and outwardly and terminates at the lower end of edge 25a. This profile extends about the entire periphery of rim portion 22. The pooling region P is illustrated by cross-hatching. The embodiment of FIG. 3 functions in essentially the same manner as the FIG. 2 embodiment.

[0033] FIG. 4 is a view similar to FIG. 2 showing another alternate embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 22 has an outwardly extending segment 24b terminating in an outer edge 25b. Segment 24b has an essentially flat upper surface 26b, and an essentially flat lower surface 27b extending outwardly and terminating at the lower end of edge 25b. Segment 24b is angled downwardly in the outward direction to provide a sloping undersurface 27b, which partially defines the pooling region P of bulk container 10 for confining liquid condensate when tilting occurs.

[0034] FIG. 5 is a top corner perspective view of a second type of bulk container incorporating the invention. This version incorporates the upper corner nesting recesses and lower nesting protrusions described in detail in aforementioned U.S. Pat. No. 5,439,113. As seen in this Fig., a bulk container 50 has four upstanding side walls 52-55 interconnected at the bottom by a base wall 56. Each corner of bulk container 50 is provided with a downwardly extending corner portion 57-60 which extends below the lower surface of bottom wall 56 to afford clearance with the surface on which bulk container 50 rests in order to provide adequate clearance space for the tines of a fork lift when the bulk container 50 is to be moved. A peripheral rim portion 51 extends along the top portion of side walls 52-55. At the corners, peripheral rim portion 51 has a downward excursion defining corner recesses 61-64 with sloping walls. Bulk container 50 is preferably a unitary structure fabricated by injection molding, rotational molding, or other known molding techniques, using a suitable molding material such as high density polyethylene, polypropylene or other suitable polyolefins. The combination and arrangement of side walls 52-55 and base wall 56 forms an open containment volume for the bulk storage of a wide variety of items, including comestible items such as agricultural produce (fruits and vegetables), poultry, and pizza dough. Typical lateral and height dimensions, as well as loading capacity, for bulk container 50 are similar to the FIG. 1 embodiment. Use and handling are also similar. However, Bulk container 50 differs

from bulk container 10 of FIG. 1 in that container 50 has the corner recesses required for providing the interlocking, interstacking capability.

[0035] Bulk container 50 is provided with a liquid barrier lip having sectional lip profiles essentially identical to those shown in FIGS. 24 for bulk container 10. The major difference lies in the fact that peripheral rim portion 51 incorporates a downward excursion at the corners 61-64.

[0036] FIG. 6 is an enlarged sectional view taken along lines A-A of FIG. 5 illustrating the side wall profile of a first embodiment of the liquid barrier lip having the arcuate profile of the FIG. 2 embodiment. This sectional view is taken along the side wall 52. As seen in this Fig., peripheral rim portion 51 has an upwardly directed extension 66 blending into an outwardly extending segment 67 terminating in an outer edge 68. Segment 67 has an essentially flat upper surface 69 and an essentially flat lower surface 71 terminating at the outer end in a downwardly depending, convex arcuate lip surface 72 which blends into outer edge 68. This profile extends along those sections of peripheral rim portion 51 which traverse the region between corners of bulk container 50. Pooling region P is illustrated by cross-hatching in FIG. 6. Visible in FIG. 6 is the facing one 79 of the angled sloping surfaces at one of the recessed corners.

[0037] FIG. 7 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the arcuate embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 51 has an outwardly extending segment 74 terminating in an outer edge 75. Segment 74 has an essentially flat upper surface 76 and an essentially flat lower surface 77 terminating at the outer end in a downwardly depending, convex arcuate lip surface 78, which is a continuation of arcuate surface 72 and blends into outer edge 75. Pooling region P is illustrated by cross-hatching in FIG. 7. Also visible in this Fig. is corner surface 79.

[0038] FIGS. 8 and 9 are views similar to FIGS. 6 and 7 illustrating the adaptation of the second liquid barrier profile embodiment of FIG. 3 to the bulk container 50. As seen in FIG. 8, the run of peripheral rim portion 51a between corners has a profile which includes an upwardly directed extension 66a blending into an outwardly extending segment 67a terminating in an outer edge 68a. Segment 67a has an essentially flat upper surface 69a and an essentially flat lower surface 71a terminating at the outer end in an angled essentially flat lip surface 81 which extends downwardly and outwardly and terminates at the lower end of edge 68a. This profile extends along those sections of peripheral rim portion 51a which traverse the region between corners of bulk container 50. Pooling region P is illustrated by cross-hatching. Visible in FIG. 8 is the facing one 79 of the angled sloping surfaces at one of the recessed corners.

[0039] FIG. 9 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the second embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 51a has an outwardly extending segment 74a terminating in an outer edge 75a. Segment 74a has an essentially flat upper surface 76a and an essentially flat lower surface 77a terminating at the outer end in an angled essentially flat lip surface 81a which extends downwardly and outwardly and terminates at the lower end of edge 75a.

[0040] FIGS. 10 and 11 are views similar to FIGS. 6 and 7 illustrating the adaptation of the third liquid barrier profile

embodiment of FIG. 4 to the bulk container 50. As seen in FIG. 10, the run of peripheral rim portion 51b between corners has a profile which includes an upwardly directed extension 66b blending into an outwardly extending segment 67b terminating in an outer edge 68b. Segment 67b has an essentially flat upper surface 69b, and an essentially flat tapered lower surface 83 which tapers downwardly in the outward direction and terminates at the lower end of edge 68b. The downward taper of lower surface 83 provides a sloping undersurface, which partially defines the pooling region P of bulk container 50 for confining liquid condensate when tilting occurs.

[0041] FIG. 11 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the third embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 51b has an outwardly extending segment 74b terminating in an outer edge 75b. Segment 74b has an essentially flat upper surface 76b and an essentially flat lower surface 77b terminating at the outer end in an angled essentially flat tapered lower lip surface 83 which tapers downwardly in the outward direction and terminates at the lower end of edge 75b.

[0042] FIGS. 12-16 illustrate other liquid barrier lip profiles. FIG. 12 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a fourth embodiment of a liquid barrier lip. As seen in this Fig., an upwardly extending outwardly angled upper wall segment 21 blends into peripheral rim portion 22. Peripheral rim portion 22 has an outwardly extending segment 24c terminating in an outer edge 25c. Segment 24c has an essentially flat upper surface 26c, and a concave lower surface 27c which terminates at the lower end of outer edge 25c. This profile extends about the entire periphery of rim portion 22. The pooling region P is illustrated by cross-hatching.

[0043] FIGS. 13 and 14 illustrate the fourth liquid barrier lip profile as incorporated into bulk container 50 of FIG. 5. As seen in FIG. 13, an upper portion 85 of each of side walls 52-55 blends into an outwardly extending segment 67c terminating in an outer edge 68c. Segment 67c has an essentially flat upper surface 69c and a concave lower surface 71c terminating at the lower end of outer edge 68c. This profile extends along those sections of peripheral rim portion 51 which traverse the region between corners of bulk container 50. Pooling region P is illustrated by cross-hatching. Visible in FIG. 13 is the facing one 79 of the angled sloping surfaces at one of the recessed corners.

[0044] FIG. 14 is an enlarged sectional view taken along lines B-B of FIG. 5 illustrating the corner wall profile of the fourth embodiment of the liquid barrier lip. As seen in this Fig., peripheral rim portion 51c has an outwardly extending segment 67c terminating in an outer edge 68c. Segment 67c has an essentially flat upper surface 69c and a concave lower surface 71c terminating at the lower end of outer edge 68c. Pooling region P is illustrated by cross-hatching in FIG. 14. Also visible in this Fig. is corner surface 79.

[0045] FIG. 15 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a fifth embodiment of a liquid barrier lip. As seen in this Fig., an upwardly extending outwardly angled upper wall segment 21 blends into peripheral rim portion 22. Peripheral rim portion 22 has an outwardly extending segment 24d terminating in an outer edge 25d. The lower end of outer edge 25d blends into an

inwardly angled downwardly depending segment 86. Segment 24d has an essentially flat upper surface 26d, and an essentially flat lower surface 27d terminating at the outer end in an angled essentially flat lip surface 31d which extends downwardly and outwardly and terminates at the lower end of segment 86. This profile extends about the entire periphery of rim portion 22. The pooling region P is illustrated by cross-hatching.

[0046] FIG. 16 is an enlarged sectional view taken along lines A-A of FIG. 1 illustrating a sixth embodiment of a liquid barrier lip. As seen in this Fig., an upwardly extending outwardly angled upper wall segment 21 blends into peripheral rim portion 22. Peripheral rim portion 22 has an outwardly extending segment 24e terminating in an outer edge 25e. Segment 24e has an essentially flat upper surface 26e, and an essentially flat lower surface 27e terminating at the outer end in a downwardly extending flat surface 87. The lower ends of outer edge 25e and surface 87 are joined by a lower surface 89. This profile extends about the entire periphery of rim portion 22. The pooling region P is illustrated by cross-hatching. The manner in which the embodiments of FIGS. 15 and 16 are incorporated into bulk container 50 of FIG. 5 is the same as already described with reference to the previously described embodiments.

[0047] As will now be apparent, bulk containers provided with a liquid barrier lip according to the invention afford a low cost solution to the problem of external surface liquid condensate mixing with container contents during unloading. The barrier can be formed into the peripheral rim portion during the container molding process at only nominal cost by providing appropriate tooling. In use, the liquid barrier lip provides a pooling region for collecting any external surface liquid condensate during unloading. This prevents any mixing of liquid condensate with bulk container contents during the unloading process.

[0048] While the invention has been described with reference to particular preferred implementations, various modifications, alternate constructions and equivalents may be employed without departing from the spirit of the invention. For example, other lip profiles than those illustrated and described above may be employed, if deemed necessary or desirable. In addition, although extensions 66, 66a, and 66b have been described and illustrated as essentially vertical segments, they may be angled outwardly in a manner similar to upper wall segments 21, if desired. Moreover, other methods of manufacturing the invention may be employed. For example, vacuum forming of plastic materials and tool stamping are two alternate techniques for making containers incorporating the invention. Further, the invention may be incorporated into existing containers by adding the liquid lip barrier using suitable retrofitting techniques, such as ultrasonic welding, gluing, adhesive bonding, hot welding, staking, riveting, bolting, etc. Therefore, the above should not be construed as limiting the invention, which is defined by the appended claims.

What is claimed is:

1. In a bulk container having front, rear, side and bottom sections forming a containment volume with upper corner portions, said front, rear, and side sections having an upper rim portion extending about the upper periphery of said container, said upper rim portion having an outwardly extending segment with an outer edge surface, an upper

surface, and a lower surface; the improvement comprising a liquid barrier lip portion located along said lower surface of said upper rim portion providing a liquid pooling region for collecting liquid coursing along said sections when said container is tilted.

2. The invention of claim 1 wherein said container is a unitary molded structure and said liquid barrier lip portion is integrally formed in said upper rim portion.

3. The invention of claim 1 wherein said liquid barrier lip portion has a convex surface extending between said lower surface and said outer edge surface of said upper rim portion.

4. The invention of claim 3 wherein said convex surface is arcuate.

5. The invention of claim 1 wherein said liquid barrier lip portion comprises a concave surface formed in said lower surface and terminating adjacent said outer edge surface.

5. The invention of claim 1 wherein said liquid barrier lip portion comprises an angled essentially flat lip surface which extends downwardly and outwardly along said lower surface of said upper rim portion and terminates at a lower end of said outer edge surface of said upper rim portion.

6. The invention of claim 1 wherein said liquid barrier lip portion comprises a segment of said lower surface of said upper rim portion which is angled downwardly in the outward direction to provide a sloping undersurface and terminates at the lower end of said outer edge surface of said upper rim portion.

7. The invention of claim 6 wherein said outer edge surface has an inwardly angled lower portion terminating in said lower end.

8. The invention of claim 1 wherein said liquid barrier lip portion comprises a downwardly depending surface extending from said lower surface of said upper rim portion to a free end, and a wall surface extending outwardly from said free end to a lower end of said outer edge surface.

9. The invention of claim 1 wherein said upper corner portions of said bulk container each has a downwardly

depending recess; and wherein said liquid barrier lip portion extends around each of said corner portions below said recess.

10. The invention of claim 9 wherein said container is a unitary molded structure and said liquid barrier lip portion is integrally formed in said upper rim portion.

11. The invention of claim 9 wherein said liquid barrier lip portion has a convex surface extending between said lower surface and said outer edge surface of said upper rim portion.

12. The invention of claim 11 wherein said convex surface is arcuate.

13. The invention of claim 9 wherein said liquid barrier lip portion comprises a concave surface formed in said lower surface and terminating adjacent said outer edge surface.

14. The invention of claim 9 wherein said liquid barrier lip portion comprises an angled essentially flat lip surface which extends downwardly and outwardly along said lower surface of said upper rim portion and terminates at a lower end of said outer edge surface of said upper rim portion.

15. The invention of claim 9 wherein said liquid barrier lip portion comprises a segment of said lower surface of said upper rim portion which is angled downwardly in the outward direction to provide a sloping undersurface and terminates at a lower end of said outer edge surface of said upper rim portion.

16. The invention of claim 15 wherein said outer edge surface has an inwardly angled lower portion terminating in said lower end.

17. The invention of claim 9 wherein said liquid barrier lip portion comprises a downwardly depending surface extending from said lower surface of said upper rim portion to a free end, and a wall surface extending outwardly from said free end to a lower end of said outer edge surface.

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