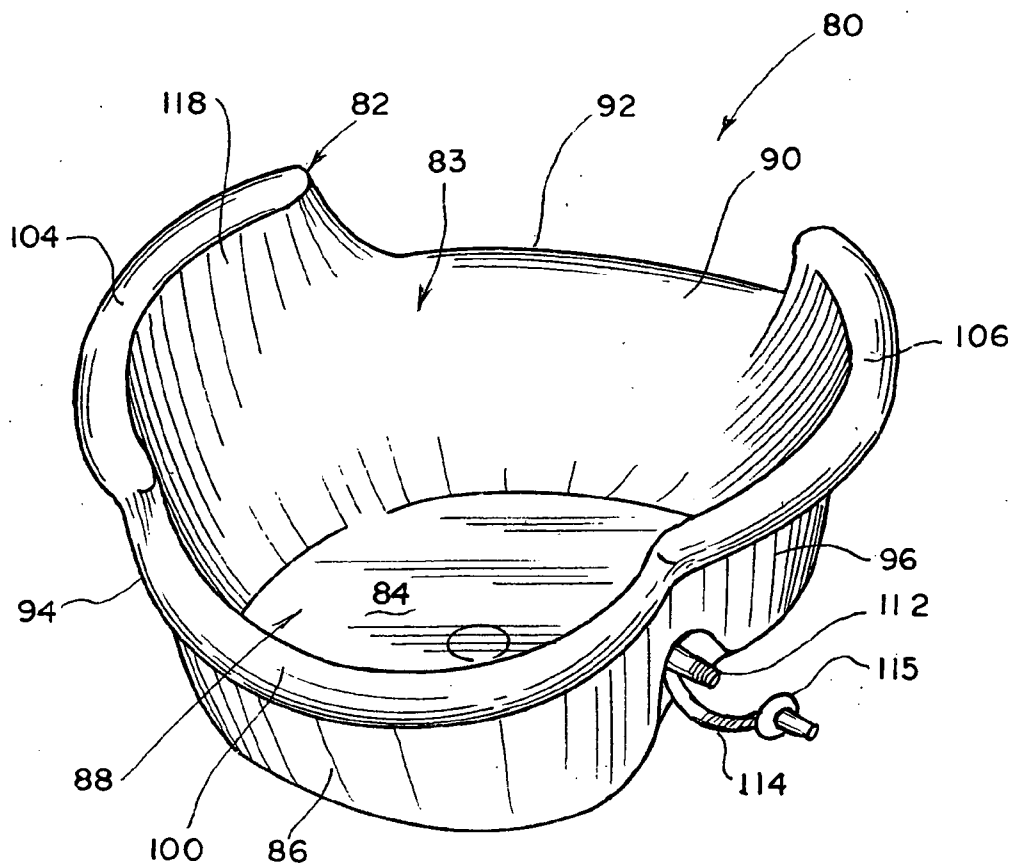




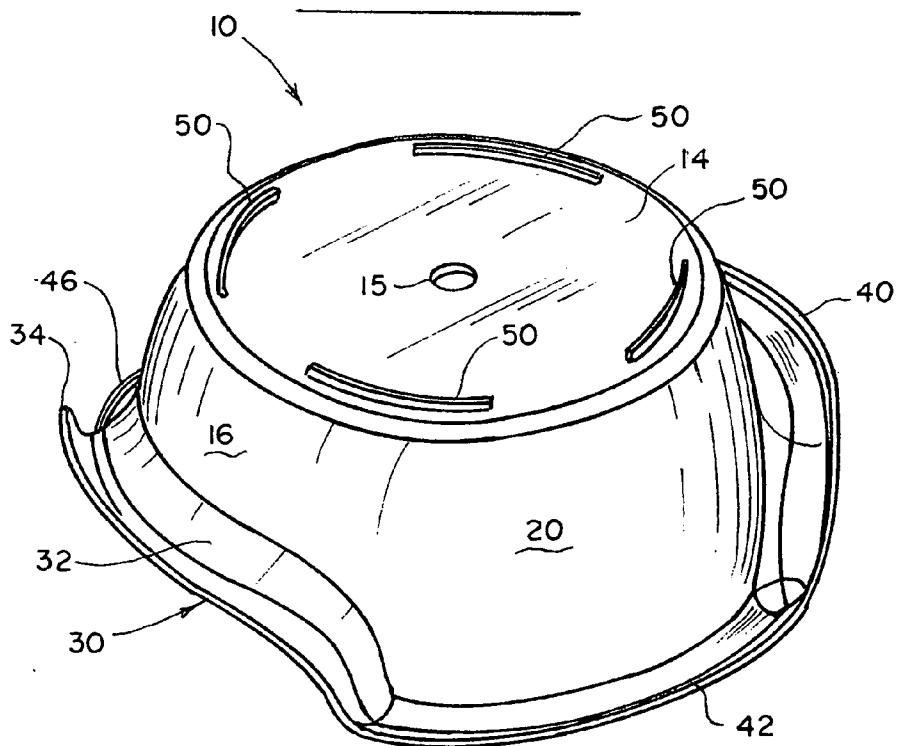
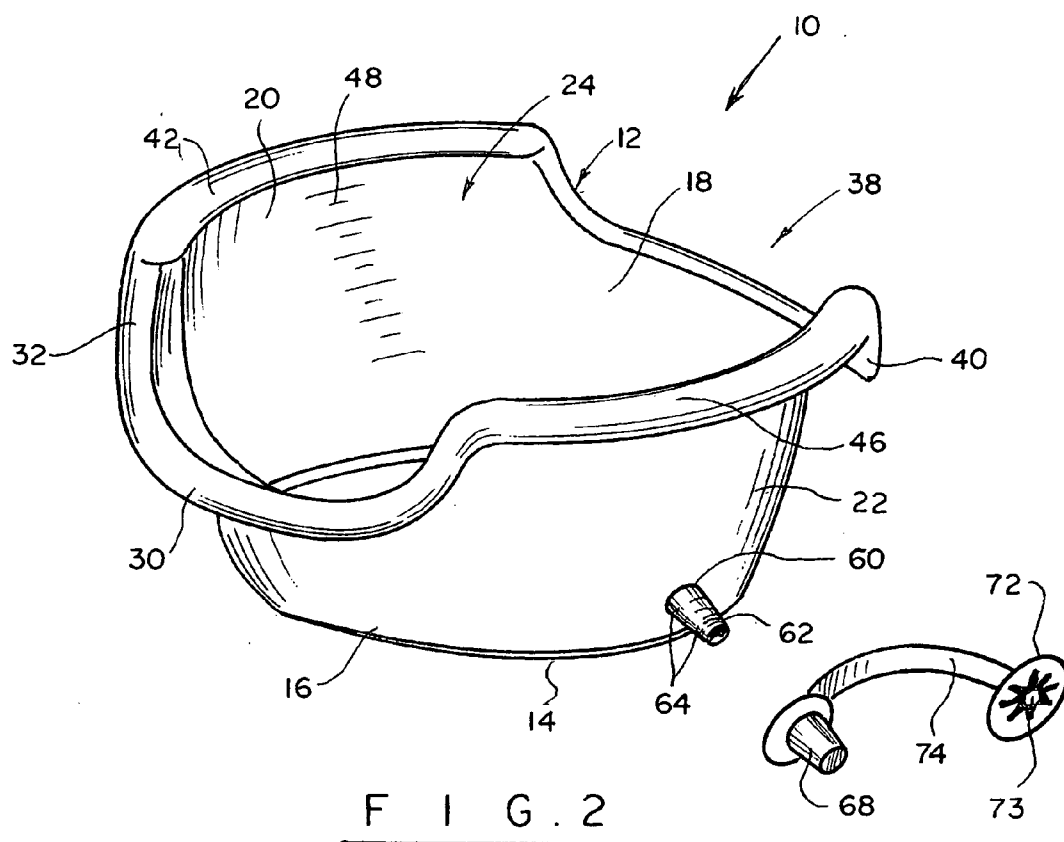
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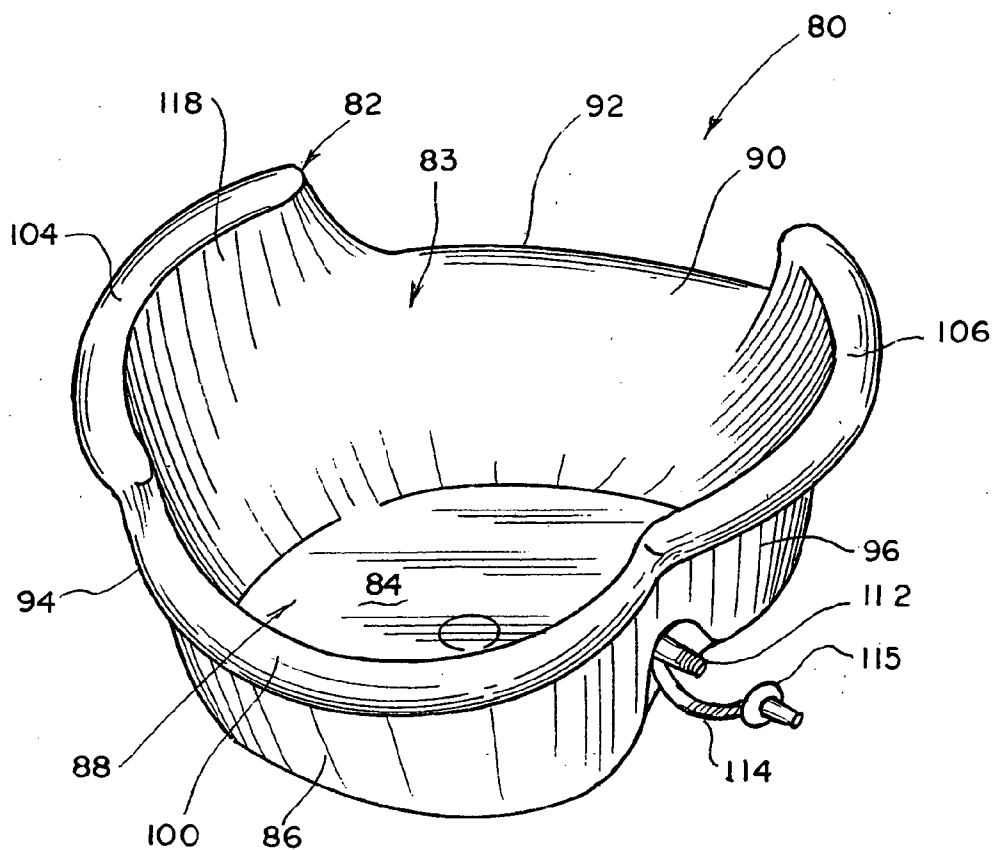
(19) **United States**(12) **Patent Application Publication**
Wiggins(10) **Pub. No.: US 2012/0222210 A1**(43) **Pub. Date: Sep. 6, 2012**(54) **SURGICAL IRRIGATION BASIN**(52) **U.S. Cl. 4/619**(76) **Inventor: Chris E. Wiggins, Pascagoula, MS (US)**(57) **ABSTRACT**(21) **Appl. No.: 12/932,556**

A surgical irrigation basin is formed as a round bowl with outwardly flaring upwardly extending peripheral wall. A front cutout is formed in the peripheral wall, and a back cutout is formed in a back portion of the peripheral wall. The front cutout has greater depth than the back cutout. A wide resting ledge is formed along the front cutout to make it more comfortable for the patient. The upper edge of the peripheral wall portions is provided with outwardly extending and downwardly curving lips. Measuring indicia is formed on the inner surface of the peripheral wall to allow health care providers to determine the amount of liquid collected in the basin. A spigot is fitted into the peripheral wall for draining the irrigation fluids.

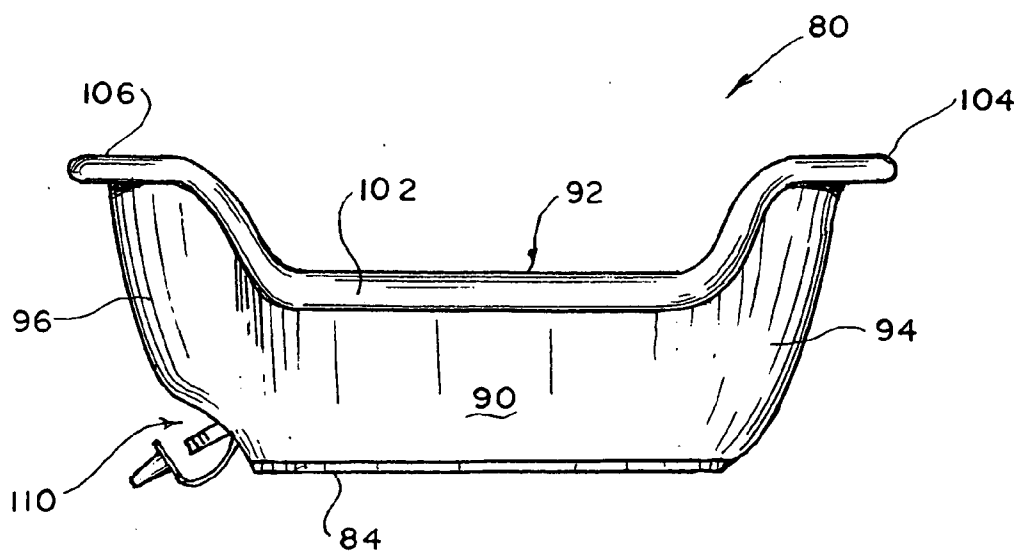
(22) **Filed: Mar. 1, 2011****Publication Classification**(51) **Int. Cl. A47K 1/04 (2006.01)**

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F I G . 4



F I G . 5

SURGICAL IRRIGATION BASIN

BACKGROUND OF THE INVENTION

[0001] The present invention relates to surgical equipment, and more particularly to equipment used for irrigating wounds on the human body.

[0002] Flesh wounds and bone fractures are common injuries that are treated in an emergency medical facility. Such wounds require irrigation of the affected site. An irrigation device is used to direct an irrigation fluid, such as for instance, water, saline, or a solution including antibacterial compounds and/or antibiotics at the wound area to remove contaminants, tissue and/or bone fragments from the wound. Medical personnel irrigate such wounds to flush out any contaminants from the wound prior and/or subsequent to conducting a medical procedure on the wound area.

[0003] In the course of performing surgical operations it is also common practice to periodically irrigate the incision and exposed areas of the body cavity with a warmed sterile irrigation solution. Conventionally, one or more bottles of the irrigation solution are warmed and poured into a sterile, open, uninsulated basin that is placed on the sterile field in the operating room. Operating personnel use a large sterile syringe or similar device to deliver the solution to the wound area.

[0004] The irrigation fluid that has been used in cleaning the wound must be collected in a controlled manner to contain blood and other bodily fluids flowing from the wound because of potential contamination with chemicals and pathogens, including AIDS and Hepatitis C. The collected liquids are collected in a basin that is placed under the wounded portion of the body. Conventional irrigation basins are configured as rectangular containers with upwardly extending walls that have relatively narrow top edges. The walls are of substantially the same size. When the patient's arm or leg is rested on the top edge, there is a strong possibility of the irrigation fluid and the bodily fluids of being splashed back on the patient or medical personnel. Besides, the narrow top edge is often uncomfortable for a patient.

[0005] Another problem associated with the conventional basins is the lack of drainage. Since the amount of irrigation fluid used during the surgical procedure may be significant, the basin becomes heavy for the health care worker to lift. The danger of splashing of the liquid from the basin increases when the irrigation basin needs to be moved from the procedure table or bed.

[0006] The present invention contemplates elimination of drawbacks associated with prior designs and provision of an irrigation basin that allows the patient's wounded arm or a leg to be comfortably retained in a cutout formed in the basin wall, while at the same time minimizing the splash back factor.

SUMMARY OF THE INVENTION

[0007] It is, therefore, an object of the present invention to provide a surgical irrigation basin that has means for comfortably accommodating the patient's limb.

[0008] It is another object of the invention to provide a surgical irrigation basin that has a means for draining the basin in the location where the irrigation liquid is collected.

[0009] It is a further object of the invention to provide a surgical irrigation basin that has a means of visually observing the amount of liquid collected in the basin during the surgical procedure.

[0010] These and other objects of the invention are achieved through a provision of A surgical irrigation basin is formed as a round bowl with outwardly flaring upwardly extending peripheral wall. A front cutout is formed in the peripheral wall, and a back cutout is formed in a back portion of the peripheral wall. The front cutout has greater depth than the back cutout. A wide resting ledge is formed along the front cutout to make it more comfortable for the patient.

[0011] The upper edge of the peripheral wall portions is provided with outwardly extending and downwardly curving lips. Measuring indicia is formed on the inner surface of the peripheral wall to allow health care providers to determine the amount of liquid collected in the basin. A spigot is fitted into the peripheral wall for draining the irrigation fluids.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] Reference will now be made to the drawings, wherein like parts are designated by like numerals, wherein

[0013] FIG. 1 is a perspective view of the irrigation basin according to the first embodiment of the present invention, with a patient's arm shown in phantom lines.

[0014] FIG. 2 is a perspective view of the irrigation basin of the first embodiment, with the cap assembly detached therefrom.

[0015] FIG. 3 is a perspective bottom view of the irrigation basin according to the first embodiment of the present invention.

[0016] FIG. 4 is a perspective view of the irrigation basin according to the second embodiment of the present invention.

[0017] FIG. 5 is a back view of the irrigation basin of the second embodiment.

DETAIL DESCRIPTION OF THE INVENTION

[0018] Turning now to the drawings in more detail, numeral 10 designates the irrigation of the first embodiment of the invention. The basin 10 comprises a housing 12 having generally bowl-shaped configuration. The housing 12 has a bottom 14 and upwardly extending wall portions oriented at a generally obtuse angle in relation with the bottom 14 slightly flaring at the upper part. The upwardly extending wall portions comprise a front wall portion 16, a back wall portion 18, a first side wall portion 20, and a second side wall portion 22. The front wall portion 16, the back wall portion 18, the first side wall portion 20, and the second side wall portion 22 are unitary connected to each other at least along the lower parts thereof.

[0019] Of course, the housing 12 can have other shapes, such as, but without limitation, round, oval, kidney, rectangular, and square. The wall portions can be formed to extend substantially vertically from the bottom 14, if desired.

[0020] The bottom 14 and the wall portions 16-22 define a cavity 24 in the center of the housing 12. The slightly flaring wall portions minimize splashing of the irrigation fluids. A generally U-shaped front cutout or cradle 30 is formed in the front wall portion 16. The front cutout 30 has a predetermined depth and radius of curvature. A resting ledge 32 follows the contour of the front cutout 30, while extending outwardly from the front wall portion 16. The ledge 32 has a predetermined width and a downwardly depending curved lip 34. As

a result, the patient's limb, for instance an arm 36 having a wound 37, can rest comfortably on the ledge 32.

[0021] The back wall portion 18 is provided with a back cutout 38, which similarly has a generally U-shaped configuration and a predetermined depth, which is at least slightly smaller than the depth of the front cutout 30. The top edge of the back wall portion 18 is provided with a wide curved lip 40 of a pre-determined width.

[0022] In one aspect of the invention, the back cutout 38 is smaller in depth than the front cutout 30, and the width of the lip 40 is somewhat smaller than the width of the ledge 32. In some cases, the patient's limb may be positioned to extend over the entire basin, in which case the ledge 32 and the upper lip 38 provide comfortable support for the limb. The front cutout 32 and the back cutout 38 are preferably aligned along their centers with the geometric center 15 of the bottom 14.

[0023] The upper edges of the first side wall portion 20 and the second side wall portion 22 are provided with downwardly curved lips 42 and 46, respectively. The curved lips 40, 42, 46 and the ledge 32 are unitary connected, forming one continuous curved surface, which is more comfortable for the patient in comparison to convention straight edge irrigation basins. At the same time the lips and the ledge provide grasping elements for the medical personnel when the basin 10 is manipulated.

[0024] The inner surfaces of the front wall portion 16, the back wall portion 18, the first side wall 20 and the second side wall 22 can be provided with measuring indicia 48, which allows to visually determine the amount of liquid in the basin. This liquid must be collected and disposed of in a safe manner. The measuring indicia 48 may be formed by using paint, engraving or any other suitable means.

[0025] The bottom 14 of the housing 12 may be provided with a plurality of raised feet 50 that provide stability and slip resistance during use of the irrigation basin 10. The feet 50 have curved configuration generally following the curvature of the bottom 14, as can be seen in FIG. 3. If desired a single raised support can be secured on the bottom outer surface of the housing 12. The number of feet can differ though depending on the manufacturing preference.

[0026] An opening 60 is formed in the second side wall 22 of the housing 12. A tubular spigot 62 is fitted in the opening 60 in fluid communication with the chamber 24. The spigot 62 allows draining of all or part of the irrigation fluid collected in the chamber 24. One or more step-up ridges 64 are provided on the exterior of the spigot 62 for better sealing with a closing member, such as a cap 68. The spigot 62 can be placed near the bottom 14 or higher along the side wall 22 if the basin 10 is to be stackable. The spigot 62 can be positioned on the first side wall 20 of the housing 12, if desired.

[0027] The cap 68 forms a part of a detachable spigot-closing assembly 70, which also comprises a mounting member 72 and a connector 74. The cap 68 is hollow is sized and shaped to fit over at least a portion of the spigot 62. The mounting member is formed from a flexible resilient material with an irregularly shaped central opening 73. When the mounting member is placed over the spigot 62 it is moved into contact with the second side wall 22, as shown in FIG. 1. The edges of the mounting member that define the opening 73 frictionally engage the spigot and securely position the spigot-closing assembly 70 on the spigot 62.

[0028] The connecting member 74 is affixed between the cap 68 and the mounting member 72, retaining the cap in relation to the spigot 62. The connecting member 74 is formed

from a flexible bendable material, which allows the cap 68 to be moved toward and away from the mounting member 72.

[0029] The housing 12 is preferably made of a non-corrosive material, such as hard plastic material, polyurethane or polypropylene, stainless steel and the like. The material is preferably hypo-allergenic. The spigot-closing assembly 70 is preferably made of flexible plastic. The material of the basin and the cap assembly is preferably suitable for sterilization for use in medical procedures. The basin 10 can be made re-useable.

[0030] Turning now to the second embodiment of the instant invention illustrated in FIGS. 4 and 5, the irrigation basin 80 of the second embodiment comprises a housing 82 having a bottom 84 and upwardly extending, outwardly flaring peripheral wall portions. The bottom 84 and the wall portions define an inner chamber 83 for collection of the irrigation fluid. A front wall portion 86 is provided with a deep cutout 88, and a back wall portion 90 is provided with a cutout 92, which is not as deep as the cutout 88. The peripheral wall also comprises a first side wall portion 94 and a second side wall portion 96.

[0031] A ledge 100 is formed along the top edge of the cutout 88 of the front wall portion 86. The ledge 100 serves as a resting surface for the patient's arm of leg. The ledge 100 has a downwardly turned curved edge to prevent discomfort to the patient. Peripheral lips or flanges 102, 104, and 106 are formed along the top edges of the cutout 92, the first side wall portion 94 and the second side wall portion 96, respectively. In one aspect, the lips or flanges 102, 104, and 106 each have smaller width than the ledge 100.

[0032] The second side wall portion 96 is provided with a recess 110, which is defined by an inwardly concave part of the second side wall portion 96. A spigot 112 is fitted in the recess 110 such that the spigot 112 fits within the horizontal extension of the recess 110 without extending outwardly of the horizontal extension of the second side wall 96. In this manner, the basin 80 can be more easily stacked for storage or transportation.

[0033] A spigot-closing assembly 114 may be either affixed to the housing 82 or detachably releasably secured thereto. In one aspect, a cap may be substituted by a plug 115, which is sized and shaped to fit into the opening in the spigot 112. A connector member 116 is secured to the cap/plug to prevent its loss.

[0034] Optional measuring indicia 118 are provided on the inner surface of one or more wall portions of the housing 82. As with the first embodiment of the invention, the measuring indicia can be deposited on the inner wall with paint, can be engraved on the wall or formed by any other convenient method.

[0035] Similarly to the basin 10, the basin 80 can be formed from a non-corrosive material such as stainless steel or hard plastic. The basin 80 is made re-usable and can be sterilized. The spigot sealing assembly may be formed detachable from a flexible plastic material. If desired, the bottom 84 can be provided with raised feet, similar to the feet 50 of the basin 10. If desired, a suction device (not shown) may be connected to the spigots 62 and 112 to expedite drainage from the basin 10 and 80.

[0036] Many changes and modifications can be made in the design of the present invention without departing from the spirit thereof. I, therefore, pray that my rights to the present invention be limited only by the scope of the appended claims.

1. A surgical irrigation basin, comprising:
a housing having a bottom and upwardly extending peripheral wall, said peripheral wall comprising a front wall portion, a back wall portion, a first side wall portion and a second side wall portion;
said front wall portion being provided with a generally U-shaped front cutout having a predetermined depth, said back wall portion being provided with a generally U-shaped back cutout having a predetermined depth, and wherein the depth of the front cutout is at least slightly greater than the depth of the back cutout.
2. The irrigation basin of claim 1, wherein a resting ledge of a predetermined width is unitary formed along an edge of the front cutout, said ledge extending outwardly from the edge of the front cutout.
3. The irrigation basin of claim 2, wherein a curved lip a predetermined width is unitary formed along an edge of the back cutout, and wherein the width of the resting ledge is at least slightly greater than the width of the curved lip.
4. The irrigation basin of claim 1, wherein measuring indicia is provided on an inner surface of the peripheral wall.
5. The irrigation basin of claim 1, wherein the peripheral wall flares at least slightly outwardly at its upper part.
6. The irrigation basin of claim 1, further comprising a spigot fitted into the peripheral wall, said spigot being configured for drainage of irrigation fluids from the housing.
7. The irrigation basin of claim 6, further comprising a spigot-closing assembly configured for detachable securing on said spigot.
8. The irrigation basin of claim 7, wherein said spigot-closing assembly comprises a mounting member configured for engagement with the spigot, a cap configured for capping the spigot, and a connecting member secured between the mounting member and the cap.
9. The irrigation basin of claim 8, wherein said spigot is provided with step-up ridges on an exterior surface thereof, said step-up ridges being configured for sealing engagement with the cap.
10. The irrigation basin of claim 6, further comprising a sealing assembly configured for detachable securing on said spigot.
11. The irrigation basin of claim 10, wherein said sealing assembly comprises a mounting member configured for engagement with the spigot, a plug configured for sealing engagement with the spigot, and a connecting member secured between the mounting member and the plug.
12. The irrigation basin of claim 6, wherein said peripheral wall is formed with a recess defined by an inwardly concave part of the peripheral wall, and wherein the spigot is fitted within the recess.
13. A surgical irrigation basin, comprising:
a housing having a bottom and upwardly extending peripheral wall, said peripheral wall comprising a front wall portion, a back wall portion, a first side wall portion and a second side wall portion;
said front wall portion being provided with a generally U-shaped front cutout having a predetermined depth, said back wall portion being provided with a generally U-shaped back cutout having a predetermined depth, and wherein the depth of the front cutout is at least slightly greater than the depth of the back cutout; and
a spigot fitted into the peripheral wall, said spigot being configured for drainage of irrigation fluid collected in the housing.
14. The irrigation basin of claim 13, wherein a resting ledge of a predetermined width is unitary formed along an edge of the front cutout, said ledge extending outwardly from the edge of the front cutout.
15. The irrigation basin of claim 13, wherein said peripheral wall is formed with a recess defined by an inwardly concave part of the peripheral wall, and wherein the spigot is fitted within the recess.
16. The irrigation basin of claim 13, wherein measuring indicia is provided on an inner surface of the peripheral wall.
17. The irrigation basin of claim 13, wherein the peripheral wall flares at least slightly outwardly at its upper part.
18. The irrigation basin of claim 13, further comprising a spigot-closing assembly configured for detachable securing on said spigot.
19. The irrigation basin of claim 18, wherein said spigot-closing assembly comprises a mounting member configured for engagement with the spigot, a cap configured for capping the spigot, and a connecting member secured between the mounting member and the cap.
20. The irrigation basin of claim 19, wherein said spigot is provided with step-up ridges on an exterior surface thereof, said step-up ridges being configured for sealing engagement with the cap.
21. The irrigation basin of claim 18, wherein said spigot-closing assembly comprises a mounting member configured for engagement with the spigot, a plug configured for sealingly engaging the spigot, and a connecting member secured between the mounting member and the plug.
22. A surgical irrigation basin, comprising:
a housing having a bottom and upwardly extending peripheral wall, said peripheral wall being provided with a recess; and
a drain spigot fitted into the peripheral wall and extending within said recess outwardly from the housing.
23. The irrigation basin of claim 21, wherein said housing has a generally bowl-shaped configuration with upwardly flaring peripheral wall.
24. The irrigation basin of claim 21, wherein said peripheral wall comprises a front wall portion, a back wall portion, a first side wall portion and a second side wall portion, and wherein said front wall portion is provided with a generally U-shaped front cutout and said back wall portion is provided with a generally U-shaped cutout.
25. The irrigation basin of claim 23, wherein said front cutout has a predetermined depth, said back cutout has a predetermined depth, and wherein the depth of the front cutout is at least slightly greater than the depth of the back cutout.
26. The irrigation basin of claim 24, wherein a resting ledge of a predetermined width is unitary formed along an edge of the front cutout, said ledge extending outwardly from the edge of the front cutout, said resting ledge being configured for supporting a limb of a patient.
27. The irrigation basin of claim 21, wherein a resting ledge of a predetermined width is unitary formed along an edge of the front cutout, said ledge extending outwardly from the edge of the front cutout.
28. The irrigation basin of claim 21, wherein said recess is defined by an inwardly concave part of the peripheral wall.
29. The irrigation basin of claim 21, wherein the spigot extends outwardly from the peripheral wall of the housing while fitting with the recess formed in the peripheral wall.
30. The irrigation basin of claim 21, wherein measuring indicia is provided on an inner surface of the peripheral wall.

31. The irrigation basin of claim **21**, wherein the peripheral wall flares at least slightly outwardly at its upper part.

32. The irrigation basin of claim **21**, further comprising a spigot-closing assembly configured for detachable securing on said spigot.

33. The irrigation basin of claim **31**, wherein said spigot-closing assembly comprises a mounting member configured for engagement with the spigot, a cap configured for capping the spigot, and a connecting member secured between the mounting member and the cap.

34. The irrigation basin of claim **33**, wherein said spigot is provided with step-up ridges on an exterior surface thereof,

said step-up ridges being configured for sealing engagement with the cap

35. The irrigation basin of claim **33**, wherein the mounting member is configured for detachable engagement with the spigot.

36. The irrigation basin of claim **33**, wherein said spigot-closing assembly comprises a mounting member configured for engagement with the spigot, a plug configured for sealingly engaging the spigot, and a connecting member secured between the mounting member and the plug.

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