

A SURGICAL SCRUB APPLIANCE

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Background and Field of the Invention

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5 This invention relates to a surgical scrub appliance.

Before conducting an operation, surgical staff are required to "scrub up". This involves carefully and thoroughly washing the hands and arms up to the shoulder. Conventionally, dispensers of soap or other cleaning solutions have
10 been provided for this purpose. However, the act of using a dispenser can be a cause for contamination. Furthermore, the dispenser requires refilling and general servicing usually needing a contract with an outside firm leading to expense.

15 Proposals have been made, for example in US 5,312,197 and US 4,730,949 to provide surgical scrub brushes which includes a supply of antiseptic soap or other cleansing liquid. In US 5,312,197 the cleansing liquid is provided in an independent chamber to one side of the scrubbing brush. In US 4,730,949, the soap is provided in a reservoir between a sponge and a housing to which the
20 sponge is connected. Both proposals have the disadvantage that they are expensive to manufacture, with a separate independent member needing to be connected to the surgical brush of US 5,312,197 and an internal reservoir being provided in US 4,730,949. The presence of this internal reservoir also makes it very difficult to attach the sponge to the housing in a secure manner.

25 Furthermore, in both these proposals, a single reservoir is provided although it

is necessary to wash both arms with a single surgical scrubbing brush and it is difficult for the user to assess how much soap has / is able to be used for the first arm while leaving enough for the second.

- 5 It is an object of the invention to provide a surgical scrub appliance which alleviates at least one of the disadvantages of the prior art noted above.

Summary of the Invention

- 10 Statements of invention can be found in claims 1, 18 and 21.

According to the invention there is provided a surgical scrub appliance comprising a support to which a sponge is connected, the support forming at least one container for liquid, the container having a sealable opening.

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Since the container is formed as part of the support, the container contributes to the overall structure of the appliance.

The support may be rigid.

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In one preferred form, the opening may be sealed by a plug. In another preferred form, the opening is sealed by an elastomeric member with the elastomeric member preferably including a resealable dispensing opening and a resealable filling opening.

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Most preferably, the appliance further comprises a second container for liquid formed in the housing, the second container having a sealable opening which in a preferred form may be sealed by any of the techniques noted above.

5 Brief Description of the Drawings

Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings in which:

10 Figure 1 is an exploded three dimensional view of a first embodiment of the surgical scrub appliance of the invention;

Figures 2 and 3 are respectively a front view and side view of the brush of Fig. 1 (unexploded);

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Figure 4 is an exploded three dimensional view of a second embodiment of the surgical scrub appliance of the invention; and

Figures 5a – c are cross sectional three views of an elastomeric sealing
20 member of the embodiment.

Detailed Description of the Preferred Embodiment

With reference to Figs. 1 – 3 the first embodiment of the invention is shown
25 which comprises an injection molded plastics support 10 to which a sponge

made of foam material 20 is connected by an adhesive. The support 10 is formed by injection moulding from rigid or tough but flexible plastics material and is provided with a base 70 and two cavities 30, 40 which in use are filled with a liquid used during the surgical scrub procedure, for example an antiseptic skin cleanser such as Alphcidine scrub or skin conditioner. Each cavity 30, 40 is sealed by a plug 50, 60. On the outward facing surface of the base 70 of the support 10 a brush 80 is formed integral with the base 70.

In use, the surgeon, when scrubbing up, removes one cap 50 and uses the liquid therein to wash one arm. When he has finished, he grasps the appliance in that arm and removes the cap 60 of the second cavity 40 and then scrubs up that arm using the liquid in cavity 40.

Since the cavities 30, 40 are formed as part of the support 10, they contribute to the overall structure of the appliance and at the same time provide a firm surface to which the sponge 20 may be attached.

A second embodiment of the invention is shown in Figs. 4 and 5 and comprises an injection molded support 100 to which a sponge 120 is attached by an adhesive. Two cavities 130, 140 are formed in the support and are fillable, like the embodiment of Figs. 1 – 3 with liquid such as antiseptic skin cleaner. Each cavity 130, 140 is provided with an opening 135, 145 in which an elastomeric member 150, 160 is sealably fitted. Each member 150, 160 is provided with two openings, a dispensing opening 155, 165 and a filling opening 157, 167. A

brush 180 is integrally connected to the housing in the manner of the embodiment of Figs. 1 – 3.

Figures 5a – 5C show the dispensing operation of elastomeric member 150 with
5 Fig. 5a showing a cross sectional view through opening 135 with elastomeric member 150 in place, Fig. 5b being a close up of an edge of the elastomeric member showing how this is sealed against the support 100. Fig. 5c is similar to Fig. 5a showing a dispensing operation.

10 The elastomeric member 150 includes a peripheral support portion 190. A movable sealing flap 192 is separated from the support portion 190 by a slit 193 formed on three sides of the flap 192 and is joined to support portion 190 by means of a bridge portion 195, as shown in Fig. 4. The sealing flap 192 effects a seal against support portion 190 along slit 193 when in the position shown in
15 Figs. 4 and 5a. This seal may be augmented by applying a sealing tape or such like over the portion 192 if required. The flap 192 has a finger actuation projection 194. The support portion rests upon a peripheral lip 196 of the opening 135. The lip 196 is flat apart from two opposed arcuately recessed portions 197. The peripheral side 198 of the opening 130 adjacent the lip 196 is
20 provided with a bead 199 which engages with a peripheral hollow 200 of the member 150. At one end of side 198, a further lip 202 is provided to retain the elastomeric member 150 in place. The portion of side 198 below bead 199 is also a slight interference fit in opening 135 to improve the sealing effect, with the portion of side 198 above bead 199 being a snug non-interference fit.

In use, as shown in Fig. 5c, the thumb of the user engages the finger actuation projection 194 causing the sealing flap 192 to be depressed thus allowing liquid to escape from the container 130. The arcuate portion 197 of lid 196 allows part 190a of the support portion 190 to also be depressed allowing a larger opening for liquid than would otherwise be the case.

The filling openings 157, 167, which are in the form of star-shaped slits allow a filling member to be inserted into the cavities 130, 140 after the elastomeric members 150, 160 have been fitted in place in openings 135, 145. When the filling member is withdrawn, the filling opening closes behind it thus sealing the cavity. This provides advantages in mass production of the brush since the cavities to be filled after the elastomeric members have been fitted, leading to a much cleaner filling method.

The embodiments of the invention as described are not to be construed as limitative. For example, the cavities may be sealed by any other convenient means, for example using a metal foil seal in the manner of a yoghurt pot. Furthermore, only a single cavity or more than two cavities may be provided depending on need. Furthermore, the cavities may be filled with the same liquid, for example, soap, disinfectant or skin conditioner or may be filled with different liquids depending on need. The sealing means for the cavities may be colour coded.

Claims

1. A surgical scrub appliance comprising a support having a first surface to which a sponge is connected and a second surface to which a brush is
5 connected, the support forming at least one container for liquid, the container having a sealable opening disposed in a third surface to which neither the brush nor the sponge is connected.
2. An appliance as claimed in claim 1 wherein the support is rigid.
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3. An appliance as claimed in claim 1 or claim 2 further comprising means for sealing the opening.
4. An appliance as claimed in claim 3 wherein the means for sealing the
15 opening includes a plug.
5. An appliance as claimed in claim 3 wherein the means for sealing the opening includes an elastomeric member.
- 20 6. An appliance as claimed in claim 5 wherein the elastomeric member includes a sealable dispensing opening.
7. An appliance as claimed in claim 6 wherein the elastomeric member has a movable flap sealing the dispensing opening.

8. An appliance as claimed in any one of claims 5 to 7 wherein the elastomeric member includes a resealable filling opening.
9. An appliance as claimed in any one of claims 5 to 8 wherein the support
5 includes a lip upon which the elastomeric member is disposed.
10. An appliance as claimed in claim 8 as dependent on claim 6 or claim 7 wherein the lip is recessed away from the elastomeric member in at least one region adjacent the dispensing opening.
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11. An appliance as claimed in any one of claims 5 to 10 wherein the opening has a bead running along at least part of the periphery thereof adapted to engage the elastomeric member.
- 15 12. An appliance as claimed in any one of claims 5 to 11 wherein the elastomeric member includes a portion which is an interference fit in the opening.
13. An appliance as claimed in claim 12 as dependent on claim 11 wherein
20 the portion lies to one side of the bead.
14. An appliance as claimed in claim 3 wherein the means for sealing the opening includes a metal foil.
- 25 15. An appliance as claimed in any one of the preceding claims wherein the

support forms at least one further container for liquid having a sealable opening.

16. An appliance as claimed in any one of the preceding claims
5 wherein the brush is formed as part of the support.
17. An appliance as claimed in claim 15 wherein the openings are sealed with respective colour coded sealing means.
- 10 18. A surgical scrub appliance comprising a support to which a sponge is connected, the support forming two containers for liquid, each container having a sealable opening.
- 15 19. A surgical scrub appliance as claimed in claim 18, wherein the sponge is connected to a first surface of the support, and wherein the appliance further comprises a brush connected to a second surface of the support.
- 20 20. A surgical scrub appliance as claimed in claim 19, wherein the sealable openings are disposed on a third surface to which neither the brush nor the sponge is connected.
21. A surgical scrub appliance comprising a support to which a sponge is connected and an elastomeric member, the support forming at least one container for liquid, the container having a sealable opening arranged to

be sealed by the elastomeric member which includes a sealable dispensing opening.

22. A surgical scrub appliance as claimed in claim 21, wherein the sponge is
5 connected to a first surface of the support, and wherein the appliance
further comprises a brush connected to a second surface of the support.
23. A surgical scrub appliance as claimed in claim 22, wherein the sealable
opening is disposed on a third surface to which neither the brush nor the
10 sponge is connected.