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DISPOSABLE SCRUB BRUSH

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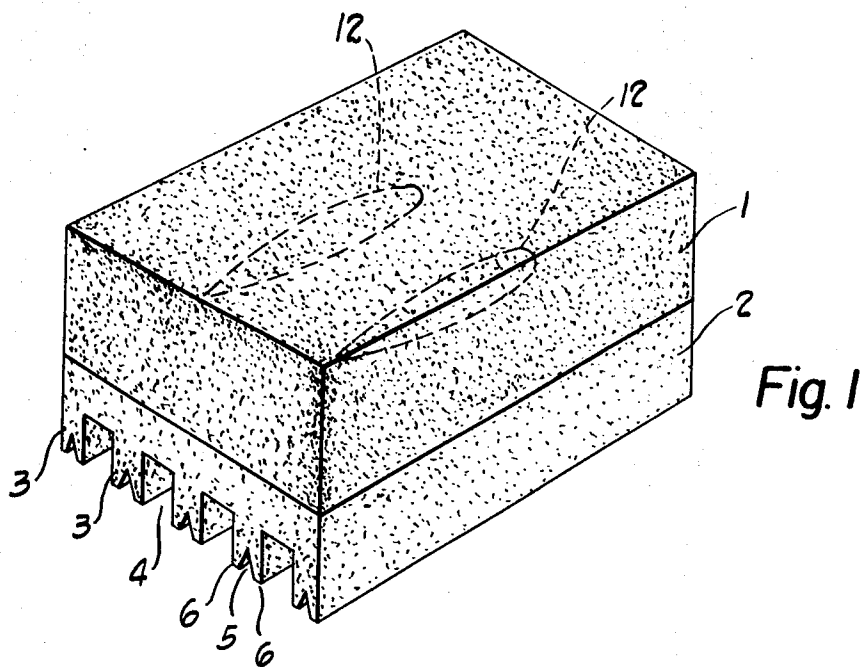


Fig. 2

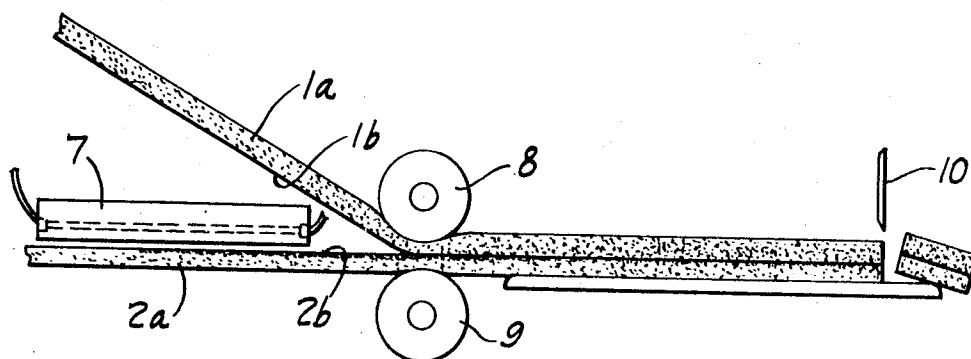
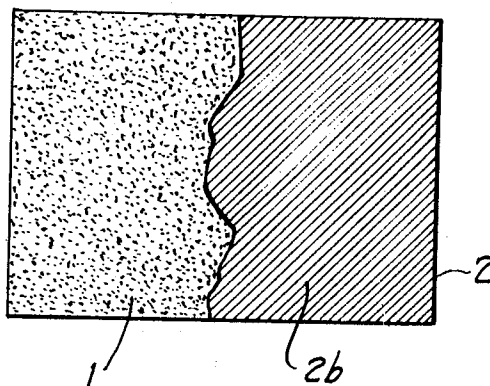


Fig. 3

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DISPOSABLE SCRUB BRUSH
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5 Claims

ABSTRACT OF THE DISCLOSURE

The disclosure herein is of a scrub unit which is intended for use in hospitals and under similar circumstances primarily where the unit is of such a construction and composition that the same may be disposed of if desired, after its scrubbing action has been accomplished. The unit basically comprises sections of different hardnesses and materials of generally cellular nature, such as various types of foam, one of the sections being of relatively soft material and the other section of substantially harder material with ridges provided to partially enfold and encircle body parts being scrubbed, and of flexible enough nature to partially surround the same, yet sufficiently stiff to carry out the scrubbing of the pores which is desired particularly in use in medical applications. The scrub unit also contemplates the provision of a soap or similar solution in the soft material, the adherence of the respective parts providing a partial barrier for the passage of the cleansing solution such as soap or the like from the soft material to the harder section.

It is a primary object of the instant invention to provide a scrub unit which is disposable, of sufficiently inexpensive construction as to warrant such ability to be disposed of, yet at the same time to be effective to carry out scrubbing because at least while the material is sufficiently stiff to cause the removal of dirt and other material from skin pores, the construction is that that the part of the stiff material element will surround and yield sufficiently only to effect the scrubbing action, with a softer material to cleanse more tender parts and at the same time to be able to supply a soap solution for the cleansing operation.

Another object of the invention is to so construct the scrub unit hereof that the same may be made of different materials in the sections, and caused to adhere together by softening the face of one of the parts and pressing the two parts together so that they will adhere, and so that no additional foreign material such as glue or the like, would be required to adhere the two parts together.

Another object of the invention is to provide a scrub unit in which the same is comprised of two sections; the first section of a relatively soft polyether which may be a derivative of urethane and preferably of 1.4 pounds per cubic foot density, adhered to a similar part which may be of relatively harder material, which in this instance is preferably of an expanded ethylene polymer.

The fact that one of the sections is considerably softer than the other is an object which provides for the cleansing of different parts of the body so that those parts requiring substantial removal of foreign matter therefrom can be operated on by the harder material, and those which are not so formed, may be cleansed by the softer material.

Another object of the invention is to provide the second section of the harder material with a series of ridges which are substantially equally spaced and sufficiently spaced to permit the same to partially enfold and encircle body parts to effect the cleansing operation with the elements being further relived as to stiffness, if desired, by

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the inclusion of V-shaped grooves in the ridges so formed as heretofore stated.

Another object of the invention is to provide a way of adhering materials of different forms without the use of any secondary adhesive, at the same time providing a permanent enough connection so that in use they will not separate, and the entire unit of sufficiently low cost to warrant disposal thereof as is desirable where the same is used in a medical area.

Other and further objects of the invention will be understood from a consideration of the specification appended hereto and disclosed in the drawing wherein:

FIG. 1 is a perspective view of the scrub unit of this invention.

FIG. 2 is a plan view partially in section, to indicate the area of adherence of the respective parts.

FIG. 3 is a diagrammatic disclosure of one suggested method of effecting the adherence and formation of the individual scrub units.

Referring now to FIG. 1, the scrub unit of this invention includes a first section generally designated 1, of substantially rectilinear configuration, which is preferably formed of a relatively soft material such as a soft polyether and which may be a derivative of urethane of 1.4 pounds per cubic foot density.

This material will therefore be a relatively soft material to the touch and yet sufficiently rigid to perform some cleansing of skin areas for example, particularly where the same may be tender or the like.

Adhered to the lower face of the section designated 1, is a second section designated 2, which is of a substantially harder material of foam-like nature, preferably an expanded ethylene polymer and of generally the same overall rectilinear configuration. However, the section 2 is provided at what may be termed the lower face thereof, with a series of ridges generally designated 3, which are of rectangular form in cross-section and provide rectangular grooves 4 therebetween. The ridges are spaced from each other about the same distance as the thickness of such ridges.

These ridges 3 are of substantial height so that when the hand is being scrubbed for example, the ridges will accept finger areas therebetween in the grooves 4, and yield sufficiently to partially encircle the fingers, for example.

In order to provide for even greater flexibility if desired, V-shaped grooves such as 5 may be formed in the faces of the ridges 3, and extending therealong so that the ends 6 provided by such V-shaped grooves, will be even more flexible than the main body of the ridges 3.

It is contemplated that these grooves 5 will only be used where specifically desired for certain cleansing operations and may even be necessary therefor.

It is desirable to adhere the sections 1 and 2 together without a special adhesive material since the scrub unit might then be contaminated by possible toxic factors of an adhesive and further the unit is desirably manufactured under clinically clean circumstances, the disclosure of FIG. 3 indicates a method of effecting such adherence, having in mind the foregoing conditions.

If, for example, the material of section 1 is provided in a long strip-like form, and that of section 2 similarly, the material of section 2 as indicated in FIG. 3 at 2a, may be passed beneath a heater designated 7, so that the surface 2b will be heated sufficiently to a melting point that the material in strip form designated 1a, upon being contacted with the material of the strip 2a along the surface 1b, as by passing between rollers such as 8 and 9, whereby pressure is applied upon the respective strips, will be adhered together upon the cooling of the heated portion 2b.

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Thereafter the now adhered strips 1a and 2a may be caused to be sheared in uniform lengths as by a knife such as 10 which may be reciprocated vertically for such purpose.

The disclosure of FIG. 2 is intended to indicate that the area designated 2b is of somewhat denser form than even the body of the section 2 as effected by the heating operation just described.

Since it may be distinctly desirable to provide a unit in which the cleansing agent is already incorporated, as suggested by FIG. 1 in the dotted lines, a solution for this purpose such as a soap solution or any preferred detergent may be caused to be deposited in the section 1 along the dotted line indication, or as by the dotted line indication and designated 12. There may be two of these areas 12, and this may be introduced into the section 1 as by a special needle having provision for soap or similar detergent material to pass therethrough into the body of the section 1.

It is of course understood that the actual form of the dotted line areas 12 is purely representative and the solution, if introduced, may actually be in a less clearly defined area or areas as will be obvious.

The scrub unit now in the form shown in FIG. 1, is preferably packaged so that it is clinically clean and any suitable type of container may be used therefor.

It is possible under some circumstances that general conditions may be desired in which case sterile packaging may be resorted to. The scrub units will often be used and disposed of without any further use, and thus particularly in operative procedures sterility may be demanded and can of course be provided by those skilled in the art.

I claim:

1. In a scrub unit of the class described, in combination, a first section comprised of a relatively soft cellular foam material, and a second section of substantially stiffer expanded foam material adhered to the first section, said second section having a series of spaced generally parallel ridges extending from end to end of the section, said ridges being generally rectangular in cross-section and of substantial height and spaced from each other about the same distance as the thickness of said ridges, whereby to

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accept and bend sufficiently to partially surround fingers and like body parts to flexibly engage the same, whereby to abrade and cleanse the skin thereon upon longitudinal movement therealong, in a direction substantially parallel to said ridges.

2. The combination as claimed in claim 1, wherein the ridges are formed with V-shaped grooves extending along the faces at the free ends of the ridges.

3. The combination as claimed in claim 1, wherein the first section is formed of a soft polyether, and the second section is composed of an expanded ethylene polymer.

4. The combination as claimed in claim 3, wherein the foam materials of the sections are porous, a cleansing agent is injected in the first section and the area of adherence provides a partial barrier to the passage of a dissolved cleansing agent from one section to the other.

5. The combination as claimed in claim 4, wherein the first section is impregnated with a cleansing agent having the characteristics of soap, and susceptible of combining with a liquid to provide for cleansing the part being scrubbed by the unit.

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