

[54] BODY SCRUBBING ARTICLES

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[51] Int. Cl. A46b 5/04

[58] Field of Search 15/227; 401/7, 68, 401/201; 134/6

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[57] ABSTRACT

Somewhat pressure-deformable articles such as scrubbing pads or mittens have a flexible surface area of resiliently upstanding (nylon) loops, which are used in conjunction with detergent material to scrub a person's skin without abrading it, thus to remove such difficultly cleanable substances as printer's ink, mechanic's grime and grease, etc. Such scrubbing article, being water-repellent is itself cleaned simply by a flow of hot water. The mitten has a valved liquid-detergent pouch in its palm from which portions can be expelled simply by the wearer pressing his hand against the skin surface being cleaned; the palmar finger area outward from the pouch is covered by the upstanding loops for scrubbing. The alternate scrubbing pad is formed with separate portions of (a) readily-compressible backing material and (b) relatively rigid backing material each of which is covered by the napped sheet material; the former portion enables easy conformance with contacted skin curvature, and the latter provides a firm area for greater frictional application in scrubbing.

7 Claims, 6 Drawing Figures

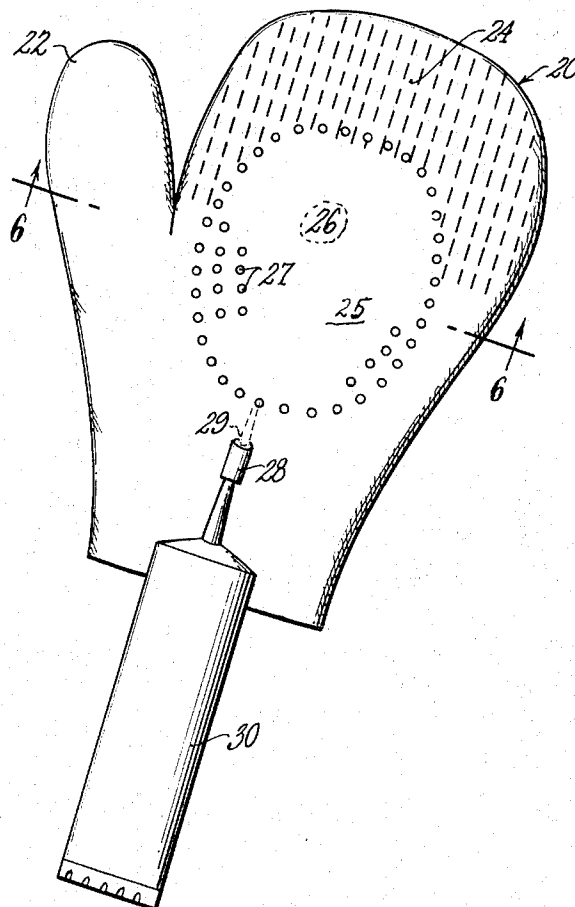


FIG. 1.

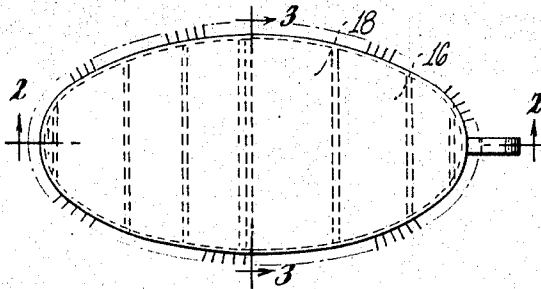


FIG. 2.

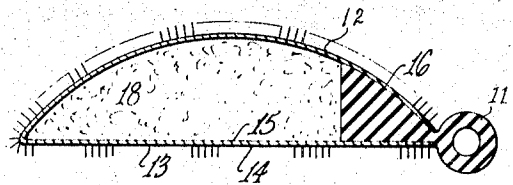


FIG. 3.

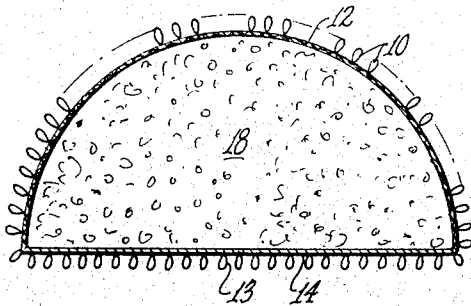


FIG. 4.

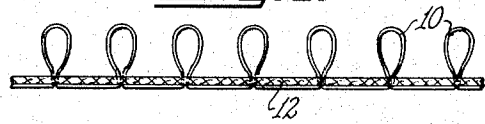


FIG. 5.

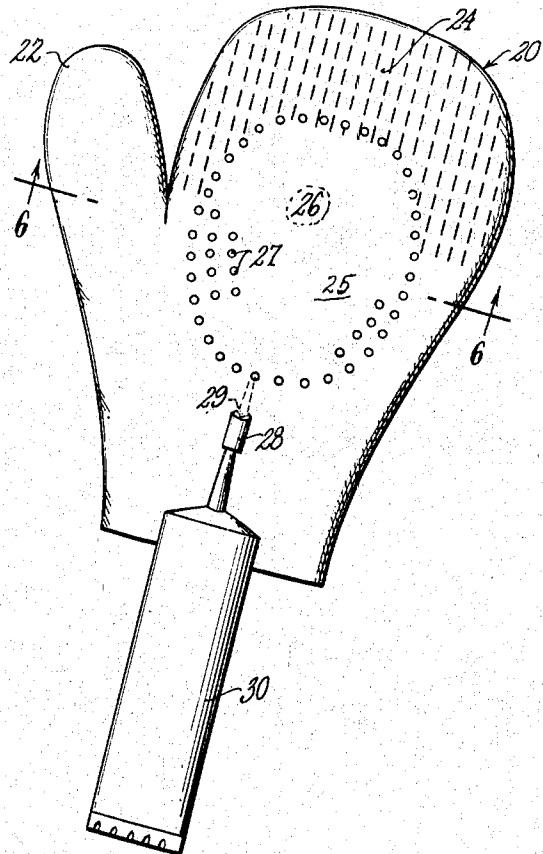
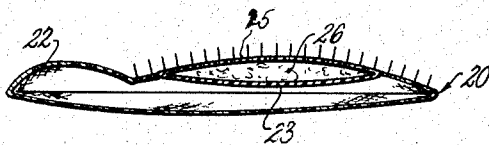


FIG. 6.



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BODY SCRUBBING ARTICLES

SUMMARY OF THE INVENTION

This invention relates to hand-size personal cleaning or scrubbing articles formed with a somewhat pressure-deformable body which has a functional covering or layer of flexible, water-repellent sheet material or fabric, which sheet is characterized by a nap or piles of non-abrasive loops of resiliently upstanding filaments such as synthetic resin, which plastic thread or filament is thus stitched or woven into the fabric backing sheet and its upstanding loops are then resiliently set in such position as by application of heat. Superficially such covering material has a resemblance to velvet or terry cloth; however in distinction, the loops of the latter are water-adsorbent as well as nonresilient and thus are quite inapplicable for the present purpose. In association with conventional detergent or cleaning material (such as abrasive powder, solid or liquid soap, or other flowable detergent), and even in the absence of any inherently abrasive substance, such articles (e.g. friction pads or mittens) having functional areas covered with such resiliently-napped fabric are particularly effective for scrubbing the human (or animal) body so as to remove even persistently adhering material such as printer's ink or mechanic's grime and soot from a workman's hands and face, or grease and tar from a swimmer's body, etc. In addition, the scrubbing article itself, being of water-repellent material can then be cleaned simply by holding it in a flow of hot water since the loosened dirt and grime in question, does not permanently adhere to the plastic loops, but nevertheless the latter serve to "scrape" the adhering substance off the skin without producing the abrading action on the skin which would otherwise result by resort to such scouring substances as pumice stone, diatomaceous earth, etc. In other words, although the scrubbing action may necessarily rub off an outer layer of dead cells or skin, it does not lacerate the tissue to the extent of drawing blood.

As a preferred example, the present plastic-napped sheet material conveniently has its upstanding loops formed of nylon (long chain synthetic polymeric amide) and is commercially available under the name "velcro"; loom formation of the latter is described for example in U.S. Pat. No. 2,717,437 and elsewhere in the literature. The present material should be distinguished however from complementary paired sheets of "velcro" fastening material of which one sheet has the loops cut to form hooks so that when pressed together against an opposing sheet of the uncut loops they interlock. Since such plastic-pile sheet material ("velcro") is commercially available and its method of fabrication is known, it is believed unnecessary to repeat a detailed description thereof. However any other (thermosetting or thermoplastic) synthetic resin can be used instead of nylon as long as it is capable of forming non-abrasive filaments which then can be relatively-permanently shaped by heat so as to form the desired resilient loops; for example, acrylic resin ("acrylon"), polyester fiber ("dacron"), or even rayon, etc. can be employed. Usually such filaments or threads are formed by extrusion. If desired, the resinous material can be reinforced (and/or rendered flame-resistant) by incorporation of fibrous glass, asbestos, etc., and also the backing material itself can be woven of the same material as the heat-shaped loops, although this is not required.

THE PRIOR ART

It has been suggested to use "velcro" material to collect lint from press rolls or to brush clothing or other fabrics. This, of course, is a dry process with the sheet material stretched over a rigid support similar to a nylon-bristle brush. Alternately, it has been suggested to fill up the surface voids of water-absorbant Turkish toweling with a mixture of solidifying ureaformaldehyde resin or the like, which resin is itself an abrasive and which additionally incorporates abrasive powder such as emory dust. The result is an abrasive pot cleaner (U.S. Pat. No. 2654,191) for scouring metal or ceramic surface and which has to be shielded from abrasive contact with the user's fingers: by its "scraping action" or "by attrition" it loosens "food incrustations, burnt-on food and the like clinging to pots and pans or sanitary ware." Such an article is obviously no more adapted to scouring the human skin than is a wire brush or emory cloth (and of course is not intended for such use). However, in spite of the obvious need in this field, it has not previously been appreciated that a flexible surface of upstandingly resilient nylon (or similar non-abrasive plastic) loops, in conjunction with relatively mild detergent material could advantageously be used for cleaning the human body without lacerating the skin. It has also been suggested to attach strips of "velcro" to golf gloves so as to hold the player's gripped hand at the desired clenched position. However, these gloves could not be used for the present body-scrubbing, and there is no suggestion of any utility for this purpose. In addition, their utility depends on the presence of the 100 p-engaging hooks.

Thus, for example, with the present cleaning articles and using conventional flowable-type hand cleaners such as recommended for removal of printer's ink or other grime, a work-man can completely clean his hands in one quarter of the time previously required when using just the detergent alone. The present invention does not provide any new cleaning compositions as such. Practically any current hand cleaning formulas starting with ordinary soap can be used. For example, The Chemical Formulary, Volume 10, pages 310-313, gives various formula for both aqueous and non-aqueous hand cleaners which are particularly adapted to remove ink or grease and which can be used with the present scrubbing articles.

The present invention, however, provides two different forms of body-scouring articles which are characterized by flexible surface areas of the present resiliently-upstanding plastic loops, which handable articles are particularly adapted to clean the hands or other parts of the body, in conjunction with detergent material. In the glove-like form, portions of applicable flowable detergent are contained in a palm-located pocket of the glove for manual application from time to time to the body surface being cleaned. The area of the looped surface itself is then confined to that overlying the applicable rubbing areas of the fingers of the glove or mitten, and the gloved hand is held cupped when scrubbing.

Other objects and advantages of the invention will become apparent as the description proceeds. In the drawings, which illustrate by way of example, two presently preferred embodiments of the invention

FIG. 1 is a top plan view of a hand-scouring pad formed with two portions of enclosed support material

of different hardness, and both covered with the present resilient-looped fabric.

FIG. 2 is a longitudinal sectional view taken along the line 2—2 of FIG. 1.

FIG. 3 is an enlarged transverse sectional view taken along the line 3—3 of FIG. 1.

FIG. 4 is a further enlarged, semi-schematic view of a row of plastic loops seen upstanding from the flexible backing sheet, which sheet appears in section.

FIG. 5 is a palmar plan view of a mitten having the present resilient-looped fabric over the finger area and formed with a palmar-perforated internal reservoir for flowable detergent, a squeeze-type supply tube of detergent being shown in position to fill the reservoir through a valved aperture in the mitten.

FIG. 6 is a transverse sectional view taken through the reservoir portion of the mitten along the line 6—6 of FIG. 5.

As seen particularly in FIG. 4, the upstanding plastic loops 10 are woven into or stitched through a flexible layer of backing material 12, being here shown as spaced apart somewhat for better illustration. However in practice, when such a loop is bent or "leans" by about 20° from perpendicular, it touches the next loop in the row; the parallel rows likewise are not separated much more than this from each other so that upon scrubbing something with an area of such material, it seldom bends the loops as much as the theoretically possible 90° — instead the backing sheet 12 would flex to accommodate such pressure first, and then both would spring back into place when the pressure was removed. The desired result however, when utilized as a body-scrubbing article, is contributed in part by the pressure deformable body which carries the napped sheet material; in the case of the mitten, this "body" is supplied at least in part by the user's hand.

In the embodiment illustrated is FIGS. 1-3 there is a generally flat, rigid support surface 14 typically of wood or plastic and conveniently more-or-less oval shaped in plan view; it may carry attachment means such as an eyelet 11 at one end and is of a size to be grasped in one hand and thus rubbed over the other hand. The front face 15 of the surface 14 is overlaid with two arcuate shaped portions of backing material, of which one 16 is relatively firm such as hard rubber, and the other 18 is compressible such as plastic foam or sponge rubber. Both portions are conformingly overlaid by said backing sheet 12 which continues over the outer face 13 of the support 14 and is affixed thereto as by adhesive. The portion of looped material which is underlaid by the compressible filler 18 is used for initial scrubbing operations since it can be made to easily conform to any skin curvature area. The area underlaid by the harder material 16 is used primarily to apply extra scrubbing pressure to difficultly cleaned areas of the hands or body, and the rear face 13 of the support surface can be used for the same purpose (or the covering sheet 12 can be omitted from this rear area).

The embodiment of FIG. 5 provides a wearable scrubbing article which combines a reservoir for flowable detergent, such as those above cited as recommended for special purposes, or the reservoir may be filled with ordinary liquid soap. An easily flexed and relatively tightly fitting or clinging mitten 20 is formed with a thumb portion 22 (which may be omitted) so as, in either event, to fit over the user's hand like a glove. The palmar side 24 of the finger area is covered with

the above loop-carrying sheet material 12. Within the mitten and generally centered over the palm of the user's hand, is a soap pocket or detergent reservoir 26 which is formed between an inner wall 23 and a permeable or perforated outer wall 25 through which the wearer can from time to time force some of the supply of flowable detergent onto that portion of his body which he is rubbing. The actual scrubbing is of course done mostly by the upstanding loops 10 which cover the terminal phalanges or joints of the fingers (24), and during such use the hand is usually held in a somewhat cupped position so as not continuously to press out (excess) detergent. If desired, the reservoir 26 can be correspondingly (rectangular) shaped so as to contain a small cake of soap (not shown) in which event the soap is slowly dissolved by water entering through the perforations 27 — that is, with the wearer moving his hand(s) in a container of water or beneath a shower. However for use with flowable detergent material there is provided a tubular inlet aperture 28 and one-way flap valve 29 which allow the reservoir to be filled from time to time from a squeeze-bottle type of supply container 30.

Thus it will be found that with use of either the scrubbing pad or the mitten, the removal of adhering foreign material from the user's skin can be effected much more effectively than before, judged both by the appearance of the cleaned body area and the necessary time and effort required to effect such result.

I claim:

1. A skin-cleaning article for use with detergent material, said article having a pressure conformable body adapted to be worn overlying the palmar surface of the user's hand, said body including a scrubbing area characterized by a plurality of closely-adjacent non-abrasive loops of synthetic resin material, which loops are resiliently upstanding from a water-repellent surface and which body and loops may thus be cleaned after use by flushing with water or the like.

2. The article of the preceding claim 1 wherein said upstanding loops generally cover at least the terminal phalanges area thereof, said article additionally being formed with an internal pouch adapted to contain flowable detergent material, which pouch is disposed generally overlying a portion of the palmar area of the user's hand.

3. The article of the preceding claim 2 wherein said pouch is characterized by a valved inlet supply aperture and by at least one discharge aperture through which the user may expell successive amounts of said detergent material by pressure of his palm against the skin area being cleaned.

4. The article of the preceding claim 2 which is essentially a mitten.

5. The article of the preceding claim 4 wherein said loops consist essentially of nylon.

6. The article of the preceding claim 1 wherein said body is formed of two portions both of which supports a scrubbing area of said surface which with its supported area can conform to the curvature of the skin are being cleaned, and the other body portion comprising relatively non-compressible material which provides a relatively firm backing for its supported area, both of which areas carry said resiliently upstanding loops.

7. A skin-cleaning article for use with detergent material, said article having a relatively rigid support sur-

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face adapted to be manually grasped or worn on the user's hand, said surface supporting a body formed of two portions, one portion of which can resiliently conform to the curvature of the skin area being cleaned and the other portion of which comprises relatively non-compressible material, both of which portions being covered by flexible, water-impervious sheet ma-

terial forming respective scrubbing areas characterized by a plurality of closely-adjacent, non-abrasive and non-adsorbent loops of synthetic resin material, which loops are resiliently upstanding from said sheet material which may thus be cleaned after use by flushing with water or the like.

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