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(54) **SCRUB BRUSH**

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(57) **ABSTRACT**

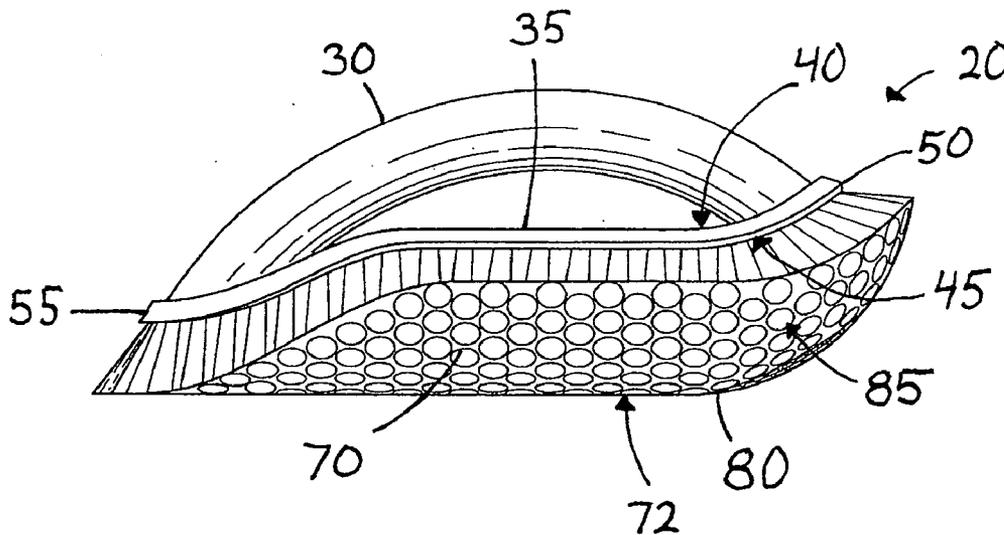
A scrub brush for cleaning a variety of surfaces. The scrub brush includes an arcuate main body, a handle connected to the top surface of the main body, and a plurality of bristles extending from a bottom surface of the main body. The body is curved such that it forms a recess below the handle to protect a user's fingers and/or knuckles during use. The bristles extend from the main body such that they define a curved cleaning surface that has the same general shape and contour as the bottom surface of the main body. Two types of bristles, each having a different stiffness, may be included to provide two different types of cleaning.

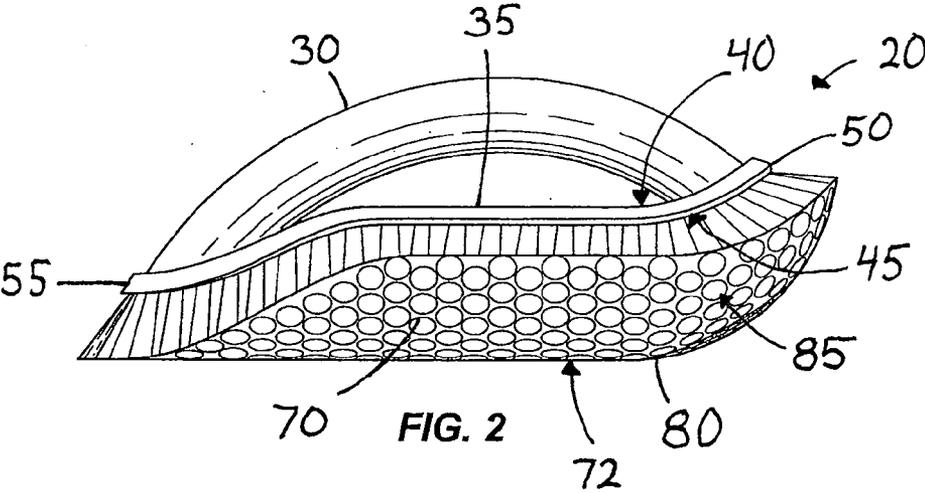
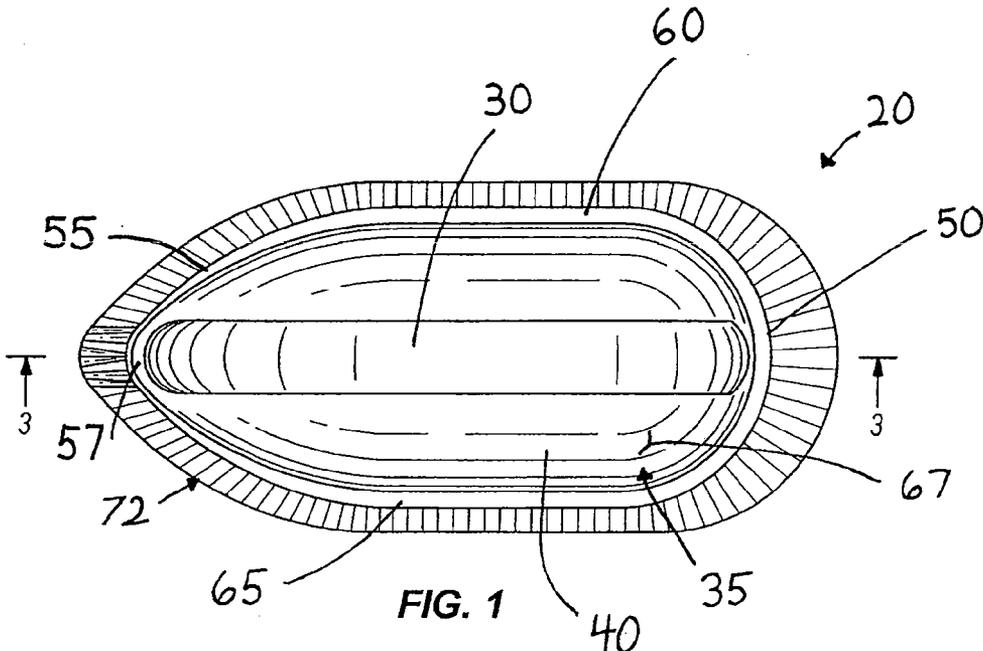
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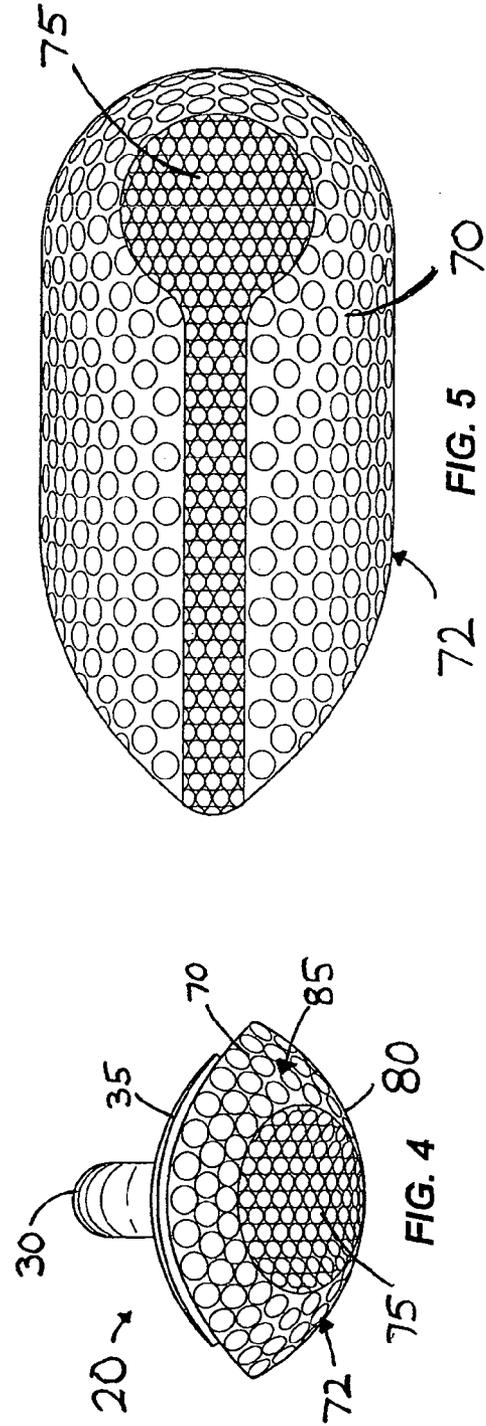
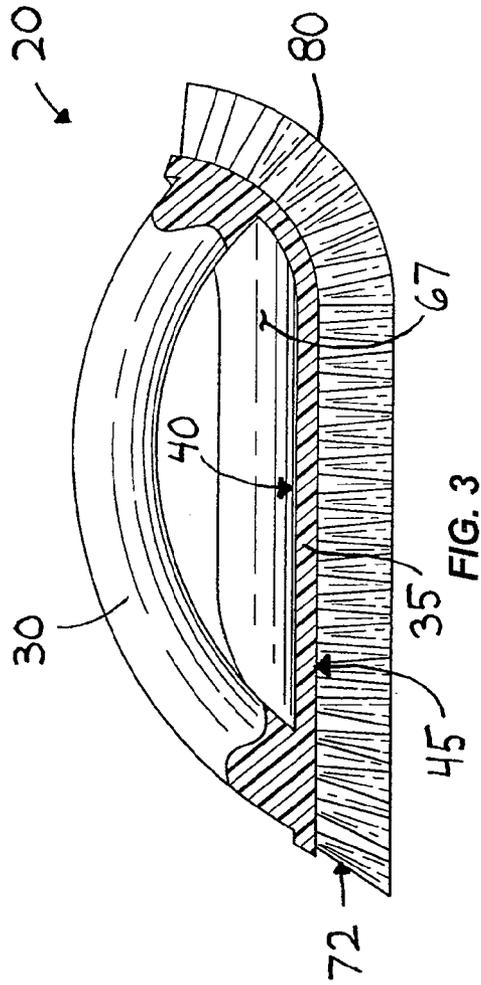
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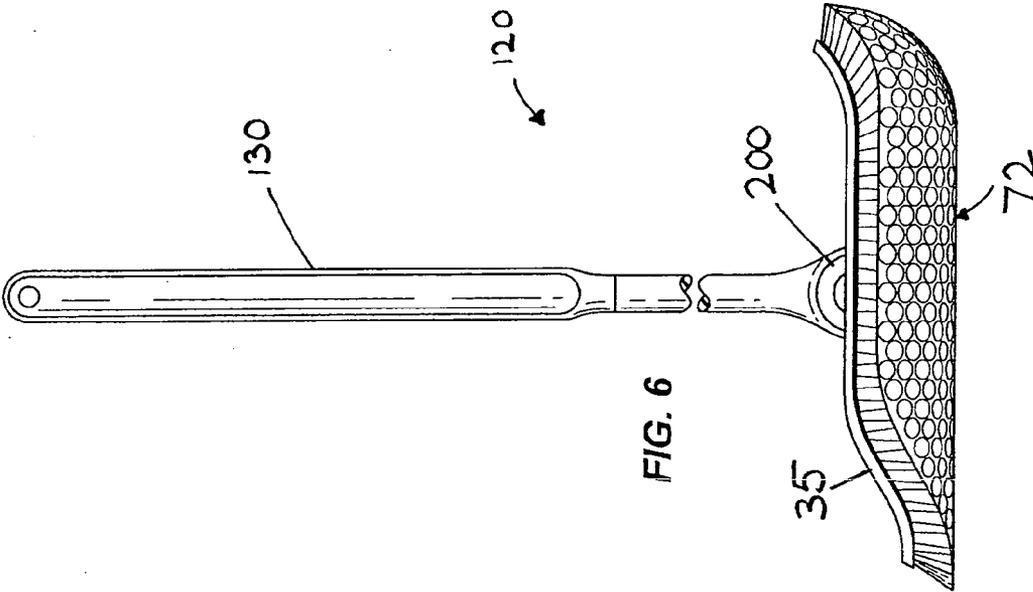
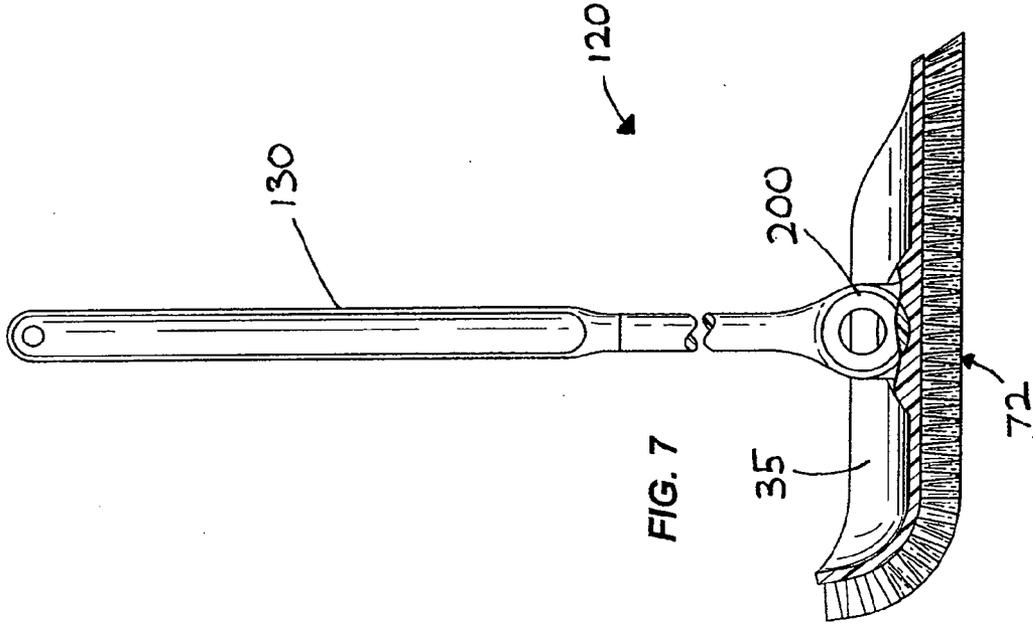
**Related U.S. Application Data**

(60) Provisional application No. 61/314,624, filed on Mar. 17, 2010.









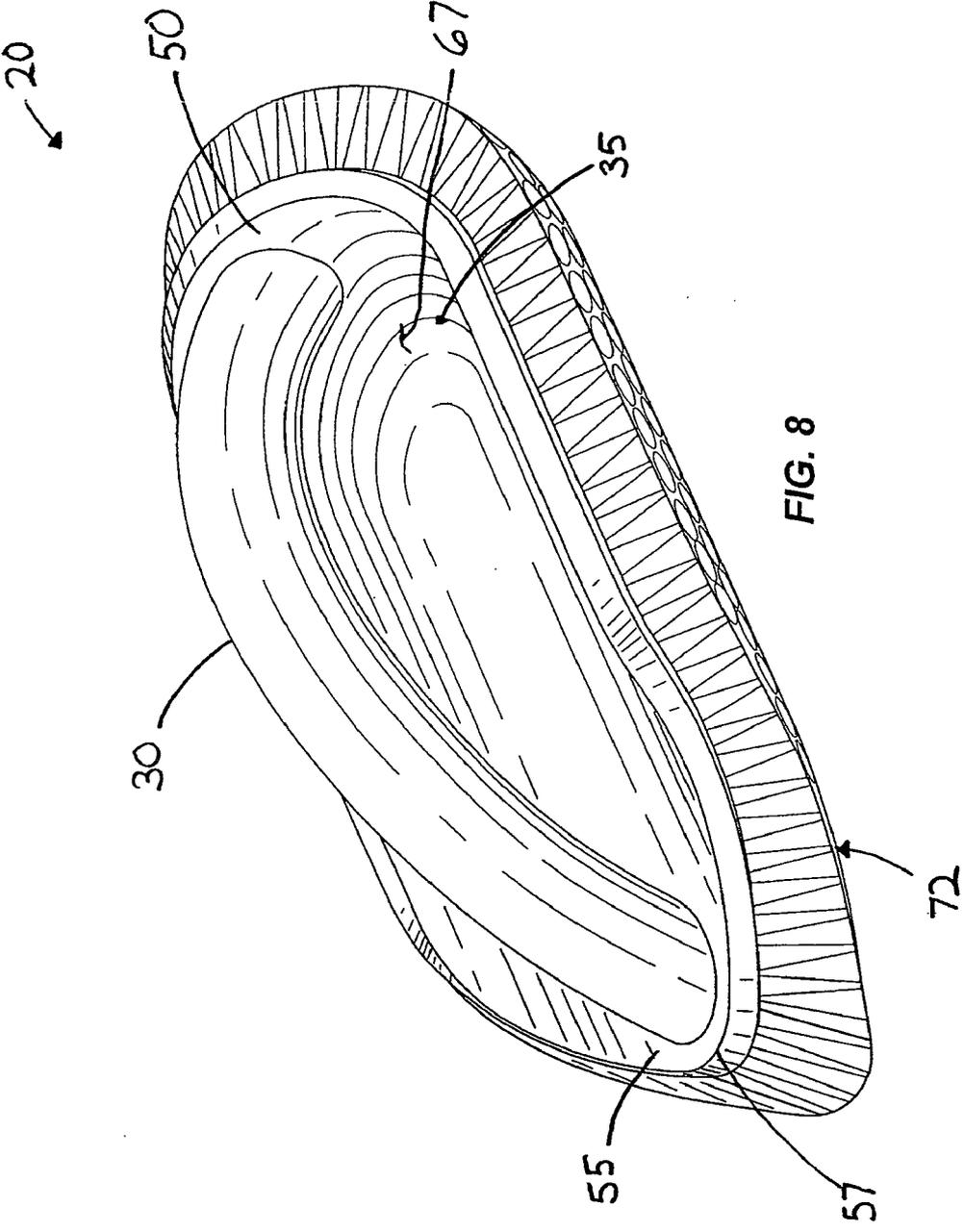


FIG. 8

**SCRUB BRUSH**

**CROSS REFERENCE TO RELATED APPLICATION(S)**

[0001] The present application claims the benefit of U.S. Provisional Patent Application No. 61/314,624, filed Mar. 17, 2010, which is incorporated herein by reference in its entirety.

**FIELD OF THE INVENTION**

[0002] The present invention generally relates to cleaning implements, and more particularly, to scrub brushes useful in cleaning a variety of surfaces.

**SUMMARY**

- [0003] In one example, a scrub brush is provided.
- [0004] In another example, a scrub brush is provided and includes a generally convex cleaning surface.
- [0005] In another example, a scrub brush is provided having a handle and a generally convex base with a recess defined below the handle such that a user's fingers and knuckles are protected while using the scrub brush.
- [0006] In another example, a scrub brush is provided having a base and a set of bristles extending from the bottom surface of the base. The base has one end that is arcuate and has a small radius of curvature and a second end, opposite the first end, that is arcuate and has a radius of curvature larger than the first end.
- [0007] In another example, a scrub brush is provided and includes at least two sets of bristles such that one set of bristles provides a stiffer cleaning surface for hard to clean areas such as grout lines.

**BRIEF DESCRIPTION OF THE DRAWINGS**

- [0008] FIG. 1 is a top view of an exemplary scrub brush;
  - [0009] FIG. 2 is a side view of the scrub brush shown in FIG. 1;
  - [0010] FIG. 3 is a cross-sectional view of the scrub brush shown in FIG. 1 taken along line 3-3;
  - [0011] FIG. 4 is a front view of the scrub brush shown in FIG. 1;
  - [0012] FIG. 5 is a bottom view of the scrub brush shown in FIG. 1;
  - [0013] FIG. 6 is a side view of another exemplary scrub brush;
  - [0014] FIG. 7 is a side cross-sectional view of the scrub brush shown in FIG. 6; and
  - [0015] FIG. 8 is a top perspective view of the scrub brush in FIG. 1.
- [0016] Before any independent features and embodiments of the invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of the construction and the arrangement of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Also, it is understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting.

**DETAILED DESCRIPTION**

[0017] With reference to FIGS. 1-5 and 8, an exemplary scrub brush 20 is illustrated. Scrub brush 20 generally

includes main body 35, handle 30, and bristles 72. Main body 35 has top surface 40, bottom surface 45, first end 50, second end 55, and two parallel sides 60 and 65.

[0018] As can best be seen in FIG. 1, when viewed from the top, first end 50 of main body 35 extends between sides 60, 65 and is generally semi-circular in shape, which allows scrub brush 20 to be used to more easily clean curved surfaces and larger diameter corner surfaces. In the example shown, first end 50 has a radius of curvature of approximately 1.75 inches, but could be made to have any radius of curvature desired. Similarly, second end 55 of main body 35 is also generally semi-circular in shape and has a radius of curvature smaller than that of first end 50, which allows scrub brush 20 to be used to more easily clean tighter curved surfaces and smaller diameter corner surfaces. In the example shown, at second end 55, the edges of main body 35 begin to converge towards distal end 57. As the edges converge near distal end 57, second end 55 is radiused to form a curved point. In the example shown, second end 55 has a radius of curvature of approximately 0.594 inches, but again could be made to have any radius of curvature desired. Second end 55 could also be made to come to an actual point, where the edges of main body 35 converge and meet without any curvature of the point.

[0019] As can best be seen in FIGS. 2-4, when viewed along the longitudinal axis of main body 35, main body 35 is arcuate. Sides 60, 65 of main body 35 curve upwards in a generally "U" shape such that top surface 40 is concave and defines cavity 67, which in the example shown is located below handle 30. By having a curved or arcuate main body 35, cavity 67 formed by arcuate main body 35 provides protection to a user's hand and knuckles from pinches, bruises and skinning during use of scrub brush 20. When a user grips handle 30, the user's fingers/knuckles will be located within cavity 67 and will be protected by the raised sides 60, 65 from hitting or scraping against the surface being cleaned.

[0020] Referring to FIGS. 2 and 3, when viewed perpendicular to the longitudinal axis of main body 35, the bottom portion of main body 35 is generally flat until it approaches first end 50. At first end 50, main body 35 again curves upward, which, as described in more detail below, provides a curved bristle surface to allow scrub brush 20 to be used to more easily clean curved surfaces and corners. In the example shown, the radius of curvature of second end 50, when viewed in the lateral direction, is approximately 2.25 inches, but again could be made to have any radius of curvature desired.

[0021] Handle 30 has a generally circular cross-section and is also generally curved or arcuate when viewed in the direction perpendicular to the longitudinal axis of main body 35. In the example shown, handle 30 is positioned generally along the longitudinal axis of main body 35 and extends between first end 50 of main body 35 and second end 55 of main body 35, where handle 30 is connected to top surface 40 at both ends of handle 30. In the example shown, handle 30 is a separate part that is press fit together with main body 35. Alternatively, handle 30 could be integrally formed with main body 35 as a unitary piece or could be connected or secured to main body 35 by any other well known means, such as adhesive, sonic welding, mechanical means, etc.

[0022] Referring to FIGS. 1-5, bristles 70 are stapled to and extend from bottom surface 45 of main body 35. Alternatively, bristles 70 could be molded into bottom surface 45 of main body 35 or connected or secured to bottom surface 45 by any other well known means. Bristles 72 are generally equal

in length and extend generally perpendicular to bottom surface 45 to form cleaning surface 80, which takes on the same contours as bottom surface 45 of main body 35. As best seen in FIG. 4, when viewed along the longitudinal axis of main body 35, cleaning surface 80 is preferably curved generally about the longitudinal axis of main body 35 and has generally the same shape and contour as bottom surface 45, i.e., generally convex. In addition, front portion 85 of cleaning surface 80 is generally spherical due to the curved nature of first end 50 of main body 35. The curvature of cleaning surface 80 allows for cleaning a variety of surfaces in an efficient flowing manner.

[0023] In the example shown, bristles 72 include first bristle portion 70 and second bristle portion 75, which provide differing levels of stiffness to provide different levels of cleaning. Alternatively, bristles 72 could all be identical or could comprise more than two bristle portions if desired. In the example shown, second bristle portion 75 is positioned generally along the longitudinal axis of main body 35 and extends a majority of the length of main body 35 to a generally circular portion located proximate first end 50 of main body 35. In this example, the bristles of second bristle portion 75 are stiff nylon bristles and are intended to be stiffer than the bristles of first bristle portion 70 to aid in the cleaning of areas like grout lines and also provides a harder scrubbing surface for scrubbing tough stains. First bristle portion 70 generally surrounds second bristles portion 75 as shown in FIGS. 4 and 5. In this example, the bristles of first bristle portion 70 are made of polypropylene and are intended to be less stiff than the bristles of second bristle portion 75 to aid in general cleaning.

[0024] Referring now to FIGS. 6 and 7, another example of a scrub brush 120 is shown. The design and construction of main body 35 and bristles 72 of scrub brush 120 are generally the same as that for scrub brush 20 described above. However, scrub brush 120 includes an elongated handle 130 rather than handle 30. In this example, elongated handle 130 is connected to top surface 40 of main body 30 via a single directional hinge 200. While this example is illustrated with a single directional hinge 200, it is understood that elongated handle 130 may be connected to main body 30 in any manner known to one of skill in the art that allows pivotal and/or rotational movement between elongated handle 130 and main body 125, such as a universal joint or other well known means.

[0025] The foregoing description has been presented for purposes of illustration and description, and is not intended to be exhaustive or to limit the invention to the precise form disclosed. The descriptions were selected to explain the principles of the invention and their practical application to enable others skilled in the art to utilize the invention in various embodiments and various modifications as are suited to the particular use contemplated. Although particular constructions of the present invention have been shown and described, other alternative constructions will be apparent to those skilled in the art and are within the intended scope of the present invention.

What is claimed is:

- 1. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides;
  - a handle connected to said top surface;
  - bristles extending from said bottom surface; and

- a cavity formed in said top surface, said cavity being adapted to receive a user's fingers and knuckles when said handle is gripped by a user.
- 2. The scrub brush of claim 1 wherein said main body is arcuate and said pair of sides curve upward such that said top surface is concave and defines said cavity.
- 3. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides; and
  - bristles extending from said bottom surface, wherein said first end is arcuate and has a first radius of curvature.
- 4. The scrub brush of claim 3 wherein said second end is arcuate and has a second radius of curvature.
- 5. The scrub brush of claim 4 wherein said first radius of curvature is greater than said second radius of curvature.
- 6. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides; and
  - bristles extending from said bottom surface, wherein said main body curves upwardly at said first end.
- 7. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides; and
  - bristles extending from said bottom surface, wherein said bottom surface is curved and said bristles define a cleaning surface having generally the same contour as said bottom surface.
- 8. The scrub brush of claim 7 wherein said cleaning surface is generally spherical at said first end.
- 9. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides; and
  - bristles extending from said bottom surface, wherein said bristles comprise a first bristle portion and a second bristle portion.
- 10. The scrub brush of claim 9 wherein said first bristle portion generally surrounds said second bristle portion.
- 11. The scrub brush of claim 10 wherein the bristles of said second bristle portion are stiffer than the bristles of said first bristle portion.
- 12. The scrub brush of claim 11 wherein the bristles of said first bristle portion are made of polypropylene.
- 13. The scrub brush of claim 11 wherein the bristles of said second bristle portion are made of nylon.
- 14. The scrub brush of claim 9 wherein said second bristle portion is positioned generally along a longitudinal axis of said main body.
- 15. The scrub brush of claim 14 wherein said second bristle portion extends a majority of the length of said main body.
- 16. The scrub brush of claim 15 wherein said second bristle portion terminates at a generally circular portion located proximate said first end.
- 17. A scrub brush comprising:
  - a main body having a top surface, a bottom surface, a first end, a second end and a pair of sides;
  - a handle connected to said top surface;
  - bristles extending from said bottom surface; and
  - a cavity formed in said top surface, said cavity being adapted to receive a user's fingers and knuckles when said handle is gripped by a user, wherein said first end is arcuate and has a first radius of curvature, wherein said main body curves upwardly at said first end,

wherein said bottom surface is curved and said bristles define a cleaning surface having generally the same contour as said bottom surface, and

wherein said bristles comprise a first bristle portion and a second bristle portion.

**18.** The scrub brush of claim **17** wherein said main body is arcuate and said pair of sides curve upward such that said top surface is concave and defines said cavity.

**19.** The scrub brush of claim **17** wherein said second end is arcuate and has a second radius of curvature.

**20.** The scrub brush of claim **19** wherein said first radius of curvature is greater than said second radius of curvature.

**21.** The scrub brush of claim **17** wherein said cleaning surface is generally spherical at said first end.

**22.** The scrub brush of claim **17** wherein said first bristle portion generally surrounds said second bristle portion.

**23.** The scrub brush of claim **22** wherein the bristles of said second bristle portion are stiffer than the bristles of said first bristle portion.

**24.** The scrub brush of claim **23** wherein the bristles of said first bristle portion are made of polypropylene.

**25.** The scrub brush of claim **23** wherein the bristles of said second bristle portion are made of nylon.

**26.** The scrub brush of claim **17** wherein said second bristle portion is positioned generally along a longitudinal axis of said main body.

**27.** The scrub brush of claim **26** wherein said second bristle portion extends a majority of the length of said main body.

**28.** The scrub brush of claim **27** wherein said second bristle portion terminates at a generally circular portion located proximate said first end.

**29.** The scrub brush of claim **17** wherein said handle is positioned generally along a longitudinal axis of said main body.

**30.** The scrub brush of claim **29** wherein said handle has first and second ends connected to said top surface.

**31.** The scrub brush of claim **17** wherein said handle has first and second ends connected to said top surface.

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