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SURGICAL HAND BRUSH

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Fig. 1.

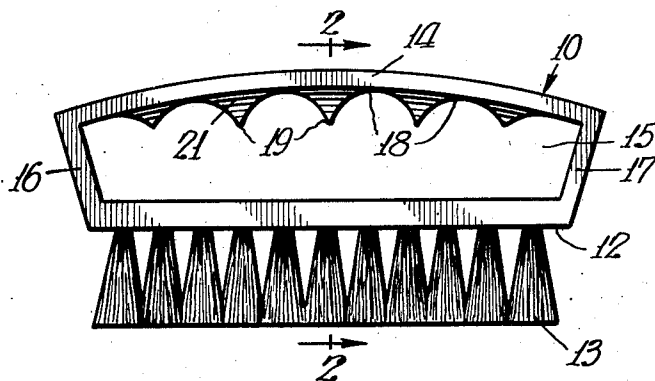
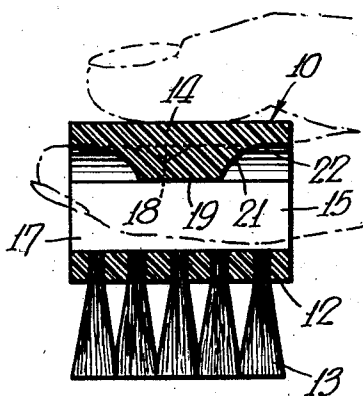


Fig. 2.



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SURGICAL HAND BRUSH

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1 Claim. (Cl. 15—143)

The present invention relates to improvements in brushes, and it has particular relation to a specific type of surgical hand brush of the type used generally by physicians, surgeons and dentists for cleaning and sterilizing their hands.

Brushes of this type are generally quite small, being approximately four inches in length and not over two inches in width, so that they may be held conveniently in the palm of one hand, whereby the fingers engage the outer sides thereof when gripping the same. These brushes were made originally with a heavy wooden back, but since the recent developments of the plastic industry such brushes have been made of any suitable thermoplastic material capable of withstanding sterilizing temperatures in the order of 300 F. without deleterious effects. The better brushes formed of a thermoplastic material are made with a hollow back with the hollow extending longitudinally thereof and the sides are provided with spaced vertical ribs to assist the fingers in gripping the same. Manifestly, such brushes had a very limited area for receiving the bristle tufts because the width necessarily had to be small to permit spanning by the fingers which had to engage the opposite sidewalls in order to hold the same firmly in the hand. The gripping fingers, projecting downwardly towards the bristle tufts, frequently came into frictional contact with the surface being scrubbed, whereby the handhold became loosened and the brush dropped from the hand holding the same.

With the present invention, the brush need not be encircled by the fingers of the holding hand and can be made wider to provide a larger surface for the bristle tufts. The fingers of a hand may be inserted within the hollow portion of the handle, whereby they engage finger gripping grooves or ribs that will facilitate holding onto the brush with one hand. The hollow back in the present brush provides a protective guard for the fingers while the brush is being used.

An object of the present invention is to provide an improved surgical brush of a size and shape convenient to the hand which is exceedingly light in weight and provided with a substantially increased bristle tuft area.

Another object of the invention is the provision of a surgical hand brush provided with a hollow handle open transversely from opposite sides to provide a convenient passageway for the fingers from either side, whereby they will be protected within said hollow back when the same is being used.

A further object of the invention is to provide a hollow integral backed surgical brush having internally spaced transversely extending notches or guides for providing longitudinally spaced finger receiving pockets for each of the fingers of a hand positioned therein.

Other and further objects and advantages of my surgical hand brush, which result in simplicity, economy and efficiency, will be apparent from the following description, wherein a preferred embodiment of the invention is shown, reference being had to the accompany-

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ing drawings, forming a part thereof, wherein like numerals indicate like parts, in which:

Figure 1 is a side elevational view of a surgical brush constructed in accordance with the principles of my invention; and

Figure 2 is a cross-sectional view of the surgical brush shown in Figure 1, the same having been taken substantially along the line 2—2 thereof, looking in the direction of the arrows.

Referring now to the drawings, there is shown a surgical hand brush 10 having an integrally formed hollow back made of any suitable thermoplastic materials capable of withstanding sterilizing temperatures and pressures without deleterious effects. The back of the brush 10 consists of a flat bottom or base 12 that lies in a horizontal plane, having a series of spaced bristle tufts 13 mounted thereon by embedding or molding the base around the bristle tufts in a conventional manner. The series of bristles that form each tuft 14 are synthetic fibers and the like capable of withstanding a hard scrubbing action and sterilizing temperatures in the order of 300° F. The top 14, which is spaced from the base 12 a distance sufficient to permit the fingers of a hand to be passed therebetween, is convexed outwardly and is longer than the base 12. The opposite ends 16 and 17 extend outwardly from the base 12 and away from each other, forming an obtuse angle at their points of juncture with said base and an acute angle at their points of juncture with said top.

The hollow interior 15 of the back 12 extends transversely of the brush for its entire length, and the inner surface of the arcuate top 14 is provided intermediate its ends with a series of arcuately shaped finger receiving notches or grooves 18, which are formed by providing intermediate the side edges of said top 14 a series of longitudinally spaced and transversely extending ribs 19. Each rib 19 projects outwardly from the longitudinal axis of said top 14 a short distance and then gradually reduces in an arcuate slope 21 until it diminishes at 22, before it reaches the outer side edges of the top 14.

It will be obvious that a surgical brush constructed in accordance with the principles of my invention is much neater in appearance, lighter in weight and easier to grasp and hold than the brushes previously described as constituting the known prior art. Its hollow back construction extending transversely requires much less plastic material than a brush having a hollow construction extending longitudinally, thereby being less expensive to mold while at the same time providing convenient hand gripping facilities not to be found in the prior art brushes.

In use it will be obvious that the fingers of the user, if long enough to project entirely through the hollow interior 15, may project upwardly around the top edge of the back and therefore away from the bristle tufts. With this arrangement there is no chance for the projecting finger tips to contact the surface being scrubbed, as in the case of a brush around which the fingers project downwardly towards said bristle tufts.

Although I have only described in detail one embodiment of the invention, it will be readily apparent to those skilled in the art that many further modifications may be made therein without departing from the spirit thereof or from the scope of the appended claim.

What I claim is:

A hand brush consisting of a molded integral thin-shelled hollow back formed of a thermoplastic material which is of a substantial length as compared to its width dimension, said back having a hollow interior opening transversely thereof for substantially its entire length into which the fingers of a hand may be inserted from either side, the bottom of said back extending in a horizontal plane and carrying a series of spaced bristle tufts, each

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bristle tuft formed of a series of synthetic fibers, the top of said back being convexed away from said bottom, the opposite ends which connect said bottom and top extending outwardly and away from each other whereby they form an obtuse angle at the point of juncture with the bottom and an acute angle at the point of juncture with the arcuate top, and a series of longitudinally spaced transversely extending finger ribs formed on the underside and intermediate the side edges of said top, said ribs decreasing in height as they approach said side edges until they diminish at a point spaced inwardly from said side edges.

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D. 25,518
D. 88,356
D. 169,673
1,601,520
2,097,461
2,146,415
2,546,291

4

References Cited in the file of this patent

UNITED STATES PATENTS

Young ----- May 19, 1896
Johnson ----- Nov. 22, 1932
Horton ----- May 26, 1953
Forbes ----- Sept. 28, 1926
Johnson ----- Nov. 2, 1937
Bradley ----- Feb. 7, 1939
Baumgartner ----- Mar. 27, 1951

FOREIGN PATENTS

691 Great Britain ----- Jan. 4, 1884