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RUG SCRUBBING BRUSH

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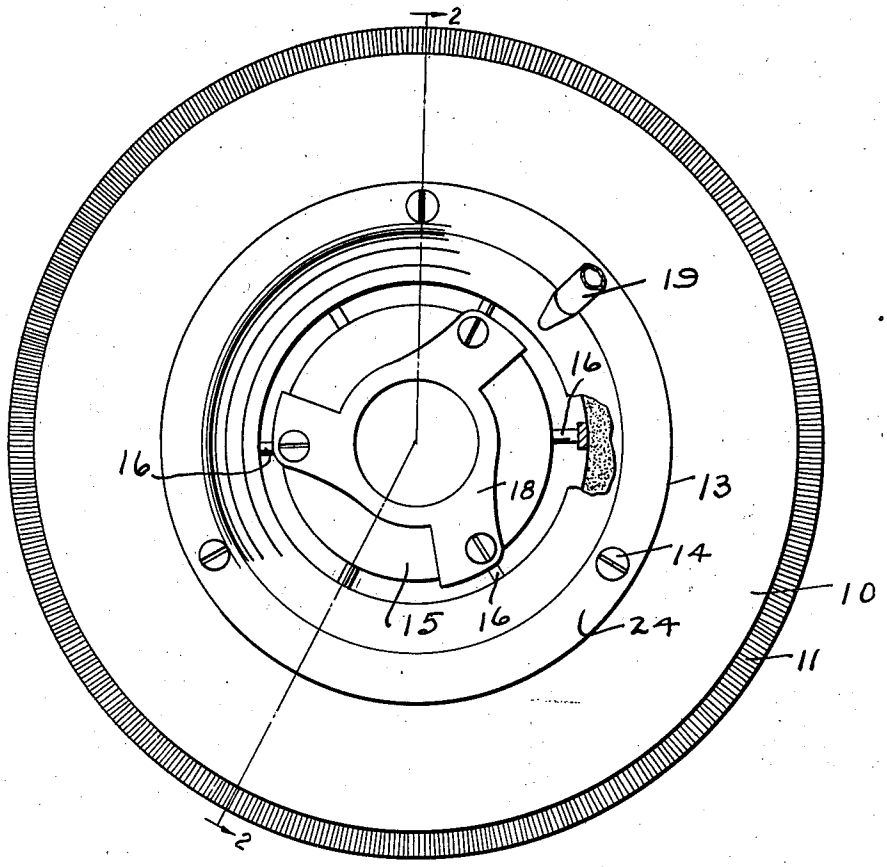


Fig. 1

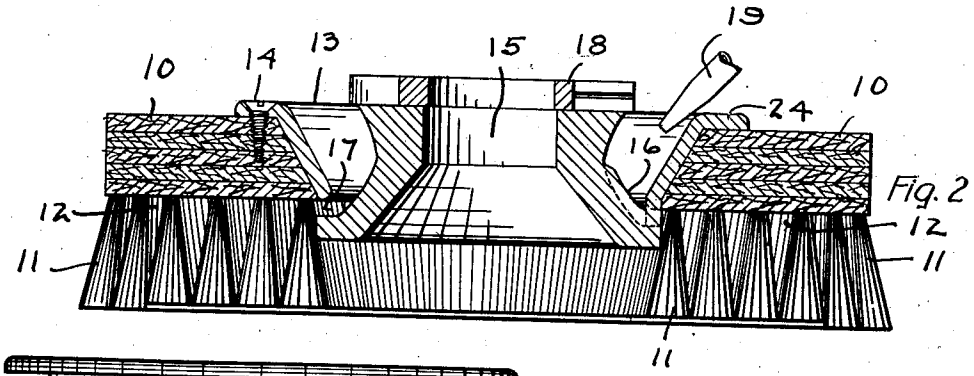


Fig. 2

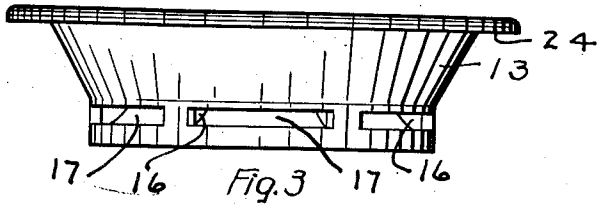


Fig. 3

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RUG SCRUBBING BRUSH

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6 Claims. (Cl. 15—180)

This invention relates to the art of scrubbing brushes and particularly to a brush adapted to be employed in a power driven device to give the brush a rotary action.

The brush is particularly adapted to scrub or shampoo rugs and carpets or the like, although the invention is not to be limited to such use. A primary object of the invention is to provide a structure which will receive a solution from any suitable source, churn it into a foamy or frothy condition such as suds and then distribute the solution in that condition uniformly throughout a brush and onto the applied surface without throwing the solution in liquid form or otherwise outwardly away from the brush as the brush revolves.

A further important advantage of the invention is that a lather is created before the solution reaches the rug thereby preventing soaking of the rug with the solution, and further, by the applying of a lather to the rug rather than a solution, a cushion is formed between the brush bristles and the rug thereby preventing direct friction between the bristles and the rug. The structure is also designed to cause the suds to be carried outwardly into the upper portions of the brush bristles by centrifugal action so as to get a good distribution of the suds in the upper zones around those bristles where more open spaces abound, the bristles being secured by their upper ends in a head and flaring generally outwardly from their engagement with that head whereby the lower portions of the bristles are in contact one with another or rather in contact with adjacent groups of bristles.

A further important advantage of the invention resides in the fact that the bristles themselves offer resistance to flow of the suds from the churning chamber so that the solution entering that chamber may be thoroughly churned before it fully escapes to the bristles.

These and other objects and advantages such as the particular structural formation, all as set forth in the accompanying claims, will be apparent to those versed in the art in the following description of one particular form of the invention in which

Fig. 1 is a top plan view of the brush embodied in my invention;

Fig. 2, a vertical section through the brush on the line 2—2 in Fig. 1, and

Fig. 3, a side elevation of the liquid receiving and churning member.

Like characters of reference indicate like parts throughout the several views in the drawing.

I form an annular body 10, here shown as being laminated wood and secured to the under side thereof is a plurality of rows of tufts of bristles 11, each tuft comprising a plurality of bristles, the material of which does not constitute my invention. By reason of the bristles being arranged in tufts, the outer free ends of the bristles flare outwardly tending to come into contact with bristles in adjacent tufts toward their lower ends while the upper ends are removed from bristles in adjacent tufts so as to leave in effect annular open spaces 12 immediately under the head 10.

Within a central opening through the head 10, I insert a liquid receiving member 13 and secure it to the head by any suitable means such as by screws 14 as indicated in Fig. 1. This member 13 has a flange 24 extending over onto the top side of the head 10 through which the screws 14 pass and has a circumferential wall sloping downwardly and inwardly from the flange 24. A collar 15 is positioned centrally within the member 13 having the lower portion thereof frusto-conical in shape with a plurality of ribs 16 on its outer sloping wall carried down under and integrally united with the lower edge of the member 13 so as to in effect leave windows 17 between adjacent ribs and the under side of the member 13. The collar 15 flares outwardly by its lower end under and in spaced relation below the lower edge of the member 13 whereby the slope of the frusto-conical wall of the collar is changed to a horizontally flaring direction immediately under the wall of the member 13.

The upper portion of the collar 15 is in effect an inverted frusto-conical section and carries thereon a driving plate 18 by which the brush is attached to any suitable driving machine (not shown). The periphery of the outwardly flaring lower end of the collar 15 is in close proximity to the inner circular row of bristles 11, these bristles extending downwardly across the windows 17.

A scrubbing or shampoo solution in liquid form is directed into the annular chamber formed between the member 13 and the collar 15 by any suitable means such as the feed tube 19, this tube being stationary and coming from any suitable tank or source of supply (not shown).

In operation, the brush as described is revolved in the customary manner while solution is flowed into the chamber as indicated. The revolving action causes the ribs 16 to strike and churn up the solution into a foamy condition and due to the centrifugal action set up, this foam or suds is carried outwardly through the windows 17 against the bristles there appearing. Since there are spaces between the tufts of bristles in each of the rows thereof, the centrifugal action will cause

the suds to be carried outwardly between these tufts so that the suds may drop and flow downwardly therebetween and therearound to reach the rug or surface being scrubbed. The spaces 12 serve as reservoirs for the suds feeding down as the surface may take up the suds from the windows 17, to the end that the suds become uniformly distributed throughout the brush without dripping directly downwardly from the windows 17 and without being thrown laterally from the outer side of the brush.

While I have herein shown and described my invention in the best form as now known to me, it is entirely obvious that structural changes may be employed without departing from the spirit of the invention, and I therefore do not desire to be limited to that exact form beyond the limitations as may be imposed by the following claims.

I claim:

1. A scrubbing brush comprising an annular body, bristles extending downwardly from the body, a liquid receiving member centrally of the body and a churning member centrally disposed of the first member, said last member having a lower outwardly flaring portion carried below said body and in close proximity to surrounding bristles and completing an annular chamber thereabove, said member having a plurality of discharging windows therearound opening toward the upper ends of said bristles under said body and vertical ribs between the windows, connecting the two members.

2. A scrubbing brush comprising an annular body, bristles extending downwardly from the body, and a churning member centrally disposed on the body, said member having a lower outwardly flaring portion carried below said body and in close proximity to surrounding bristles and completing an annular chamber thereabove, said member having discharging windows therearound opening toward the upper ends of said bristles under said body, and a plurality of spaced apart ribs in vertical planes on the upper surface of said member spacing the member from the body, each of said windows being between a pair of adjacent ribs.

3. A scrubbing brush comprising an annular body, bristles extending downwardly from the body, a liquid-receiving member comprising a downwardly and inwardly sloping circumferential wall centrally of the body and a churning member centrally disposed of the first member, said last churning member having a lower outwardly flaring portion carried below said body and in close proximity to surrounding bristles and completing an annular chamber thereabove, said member having a plurality of discharging windows therearound opening toward the upper ends of said bristles under said body and vertical ribs between the windows, connecting the two members, said bristles being arranged in tufts and the tufts spaced apart in spaced circular rows, said windows discharging into the spaces between the tufts.

4. For a scrubbing brush, a solution churning and distributing member having an outer wall, a central collar spaced within the wall, the lower portion of the collar in effect flaring downwardly and outwardly under the member wall, ribs on the upper side of said portion extending outwardly into junction with said wall and thereby supporting the collar from the wall, and a window between pairs of adjacent ribs, said wall, and said lower portion.

5. For a scrubbing brush, a solution churning and distributing member having an outer wall, a central collar spaced within the wall, the lower portion of the collar in effect flaring downwardly and outwardly under the member wall, ribs on the upper side of said portion extending outwardly into junction with said wall and thereby supporting the collar from the wall, and a window between pairs of adjacent ribs, said wall, and said lower portion, said outer wall flaring outwardly, and said collar having an upper portion flaring upwardly and outwardly toward said wall.

6. A scrubbing brush comprising a rotatable annular head; bristles carried by and extending downwardly from the head; and a solution churning and distributing member carried centrally by the head, said member forming with the head an annular channel open at the top for receiving therein a solution supply from a stationary feed tube, the channel having its lower portion substantially V-shaped in vertical cross-section and being provided with openings at the extreme bottom of the channel discharging laterally and outwardly against the innermost surrounding bristles and a rib extending across the bottom between each of two adjacent openings and up the inner face of said channel to interrupt circular travel of said solution around the groove and direct the solution to said openings.

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