

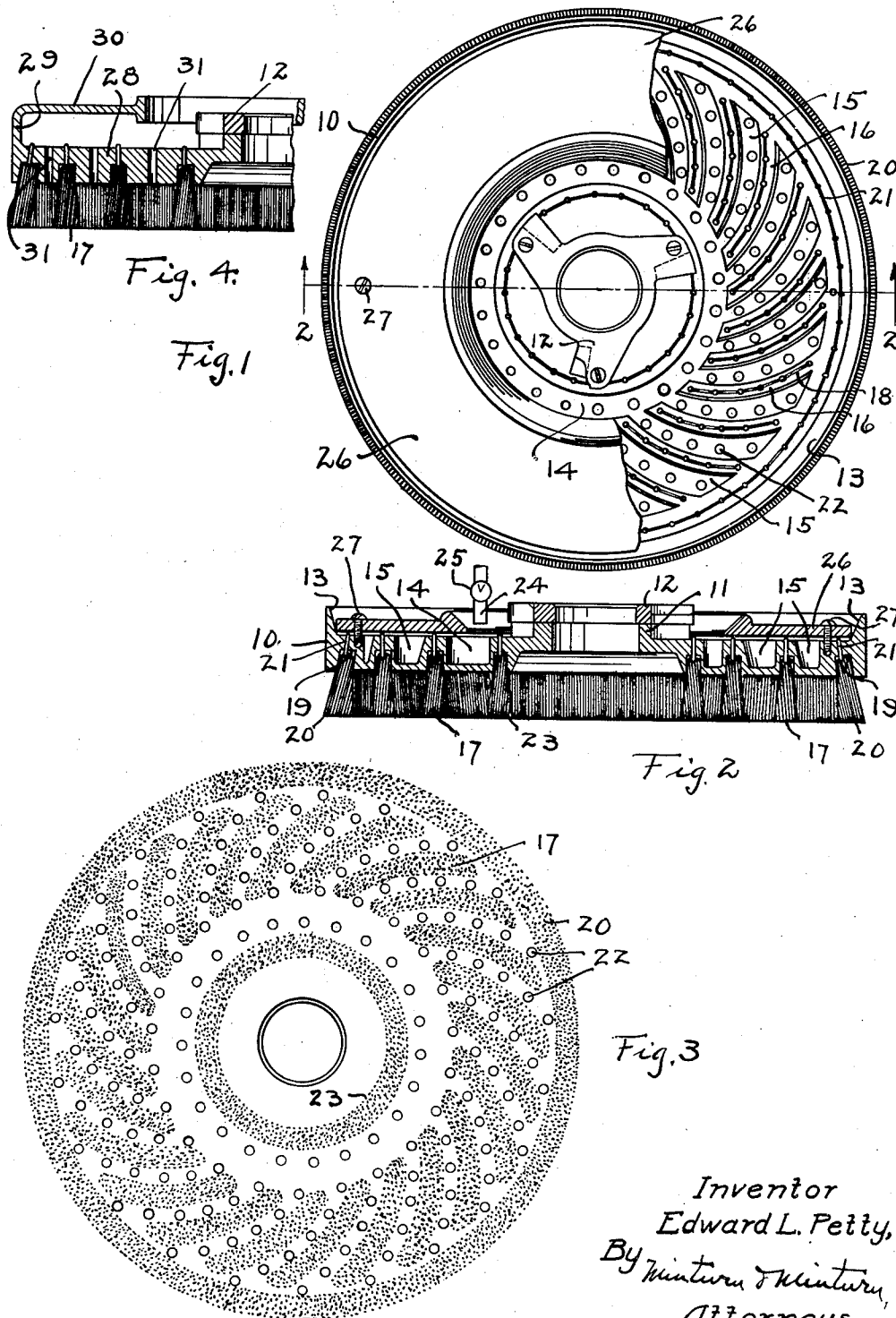
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ROTARY BRUSH

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ROTARY BRUSH

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2 Claims. (Cl. 15—180)

This invention relates to scrubbing brushes, particularly of the type adapted to be employed in conjunction with power driven portable units for the purpose of scrubbing rugs, floors, and the like. It is a primary object of my invention to provide a brush structure which upon revolving will carry and distribute a washing fluid over the top of the brush to give substantially an equal distribution of the fluid from the inner to the outer portion of the brush regardless of centrifugal action tending to throw the fluid principally to the outer portion of the brush.

It is a further primary object of my invention to provide means to prevent overflow or splash-over of the fluid about the outer edge of the brush back, should an excess of fluid be fed to the brush.

Reference is made to my U. S. Letters Patent No. 2,021,608, issued November 19, 1935.

The foregoing and other objects and advantages of the invention will become apparent to those versed in the art from the following description of one particular form of my invention as illustrated by the accompanying drawing, in which

Fig. 1 is a top plan view of a brush embodying my invention;

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

Fig. 3, a bottom plan view; and

Fig. 4 a modified form in fragmentary central, vertical section.

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

I form a head 10 which has a central boss 11 to which is attached a driving member 12. The head is provided with a peripheral upturned flange 13 and the annular surface between the flange 13 and the boss 11 is formed to have an annular groove 14 and plurality of depressed regions 15 each arcuate in formation and being non-radial of the head 10. The regions 15 are in fact arranged in a more or less convoluted manner to leave partitioning ribs 16 therebetween and the inner ends of these regions communicate with the annular depressed region 14 of like depth immediately around the boss 11.

Each of these ribs 16 is hollowed out from the under side of the head 10 to receive therein the upper looped ends of bristles 17 which are secured in place by wire 18 threaded through holes in the ribs 16 and under the looped ends of the bristles. I provide holes 19 around the under side of the head 10 adjacent the peripheral edge

and insert therein the upper looped ends of bristles 20 and secure them in place by wire 21 passing through holes through the head and down under the loops and back up again.

In the groove 14 I provide a plurality of holes through the head. Also in the regions 15 I provide a plurality of holes 22 in spaced apart relation. In operation, fluid is allowed to drop into the groove 14 from the nozzle 24 and the brush is revolved through the driving member 12 in a counterclockwise direction so that the outer leading ends of the regions 15 are ahead of the inner ends of the regions 15.

Normally centrifugal action set up by the revolving of the brush throws the fluid outwardly in the groove 14 into each of the regions 15 and would tend to further cause the fluid to travel quickly to the outer ends of those regions 15. However, by reason of the positioning of the regions 15, a certain amount of centripetal action is set up tending to overcome in part the centrifugal action thereby slowing up the travel of the fluid to the outer ends of the regions 15 so that the fluid will drop more or less uniformly downwardly through the head 10 through all of the holes provided in the head. In fact if there be any difference in distribution, more of the fluid will drop through the head toward the inner ends of the regions 15 rather than have a majority of the fluid fly to the outer ends and then drop through.

Since the bristles 17 extending below the head 10 follow the curvature of the regions 15, by reason of their being attached to follow the lanes of the ribs 16, fluid dropping through the holes 21 will drop between the arcuate rows of bristles 17 or flow therebetween on the bristles. Now since the outer end of each row of bristles 17 is ahead of its inner end, the various rows of bristles 17 will tend to pull the fluid inwardly toward the center of the brush rather than throw it outwardly were the bristles to be arranged concentrically about the axis of rotation of the brush. Preferably I provide an inner annular row of bristles 23 to trap or rather stop the inward flow of the fluid. Of course in using the brush, it is moved bodily along over the floor so that all areas of the floor will be ultimately scrubbed.

As above indicated, the fluid—washing, rinsing, dyeing, etc.—is flowed onto the brush back from the nozzle 24. The control of this fluid flow is had by a valve 25 of any suitable nature in the pipe-line leading to the nozzle 24, whereby the flow may be varied in rate and completely cut off. Under some conditions, the fluids poured onto the brush back may be in such quantity

as to have some carried to the outer ends of the regions 15 and then tend to climb over the flange 13 and be thrown therefrom to wet base-boards or areas of the floor beyond the brush, which effect is of course undesirable.

In order to control this situation, a plate 26 in the nature of a disc is provided over the ribs 16 to have its outer periphery contact the flange 13. The central portion of the disc 26 is left open at least over the groove 14 so as to leave room for discharge of fluid from the nozzle 24 into the groove. While the disc may be made an integral part of the brush back, it is preferably made to be removable as shown in the drawing and secured in place by any suitable means such as screws 27. The essential feature in connection with the disc 26 is that it prevents escape of fluid from the ends of the regions 15 and flow therefrom over the flange 13. By making the disc 26 removable, the brush back may be refilled with new bristles when the old ones wear too short, and also, the holes 22 may be readily opened and the regions 15 cleaned should any clogging occur.

In the form shown wherein wires 18 and 21 are employed to secure the bristles, and wherein the wires extend across the top sides of the ribs 16 rather than being embedded therein, these wires serve quite well in the nature of a gasket against which the disc 26 is yieldingly drawn by the screws 27, and not only is flow from the ends of the regions 15 prevented but each region 15 then becomes substantially sealed one from the other.

While the foregoing description relates to use of the plate 26 as applied to a ribbed back brush, it is entirely practicable to employ a smooth back brush—one without ribs—and space the cover plate above the fluid receiving floor of the brush. For example, as indicated in Fig. 4, the brush back 28 is devoid of ribs or corrugations, and, from the top of the outer flange 29, a cover plate 39 extends, integrally in the illustration (although it may be made to be a separate member for convenience) inwardly over the back 28 spaced thereabove a sufficient distance so as to permit fluid poured onto the brush back to spread out on the back and flow down through perforations 31 of and desired contour to the under side of the brush.

By reason of the cover 30, the fluid cannot be thrown laterally from the brush back under any

centrifugal action, so that a very effective control of the fluid is obtained.

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

I claim:

1. A revoluble scrubbing brush adapted to be employed with a fluid poured onto the top side of the brush, comprising a head having on its upper side a fluid distributing area and a plurality of arcuate depressed regions in said area, all of the regions having a plurality of fluid discharge holes in their under sides; a plurality of rows of bristles carried by the head to extend downwardly therefrom; a driving member to revolve the brush, said regions being formed to have their outer ends spaced around a head of their inner ends when the head is revolved whereby the side walls of said depressed regions tend in part to overcome the centrifugal effect on fluid in the groove; a flange around said brush; and a plate extending inwardly from said flange over at least the outer portions of said regions; ribs extending between and defining side walls of said regions; and said plate being seated on said ribs.

2. A revoluble scrubbing brush adapted to be employed with a fluid poured onto the top side of the brush, comprising a head having on its upper side, a fluid distributing area, and a plurality of arcuate depressed regions in said area, all of the regions having a plurality of fluid discharge holes in their under sides; a plurality of rows of bristles carried by the head to extend downwardly therefrom, a driving member to revolve the brush, said regions being formed to have their outer ends spaced around ahead of their inner ends when the head is revolved whereby the side walls of said depressed regions tend in part to overcome the centrifugal effect on fluid in the groove, a flange around said brush, and a plate extending inwardly from said flange over at least the outer portions of said regions, wires extending along and through said ribs to engage said bristles, said wires intervening between said plate and said ribs, and means drawing said plate compressibly thereagainst.

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