

Aug. 5, 1952

F. D. DOLAN

2,605,490

ROTARY BRUSH

Filed Oct. 20, 1948

2 SHEETS—SHEET 1

FIG. 1.

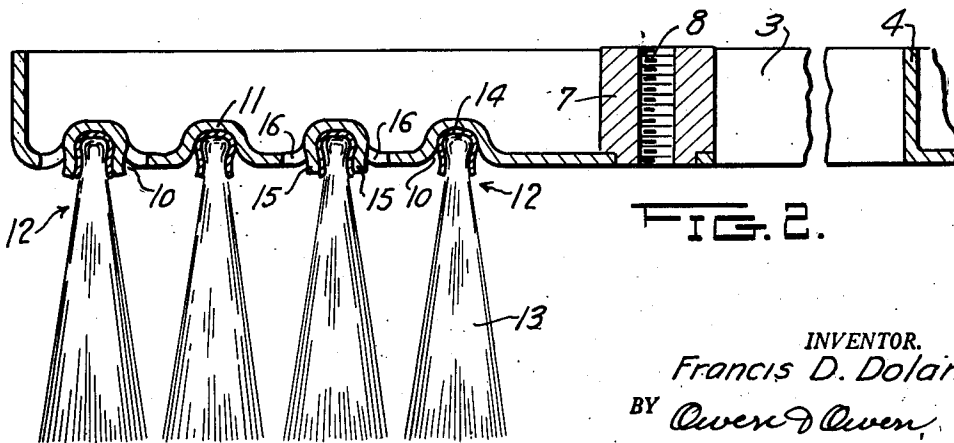
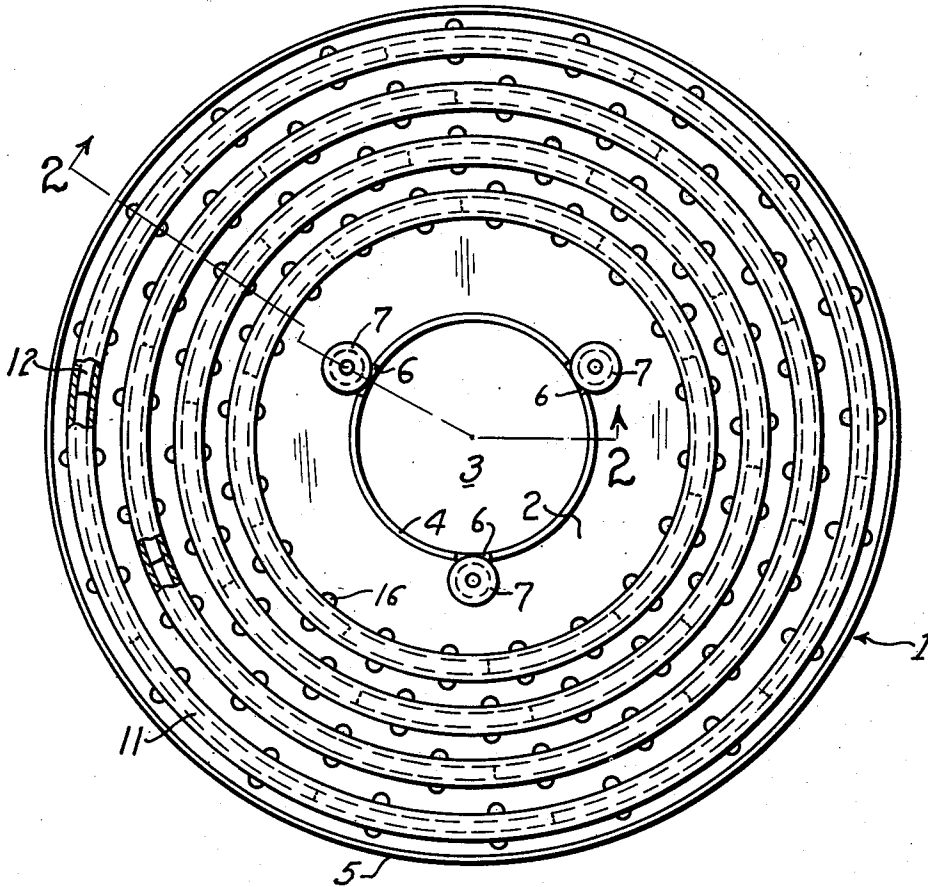


FIG. 2.

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2 SHEETS—SHEET 2

FIG. 3.

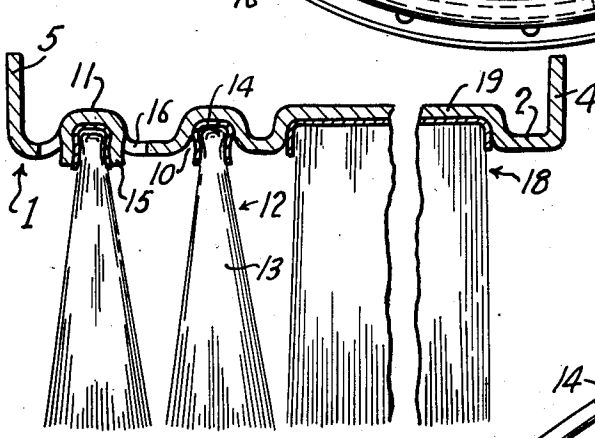
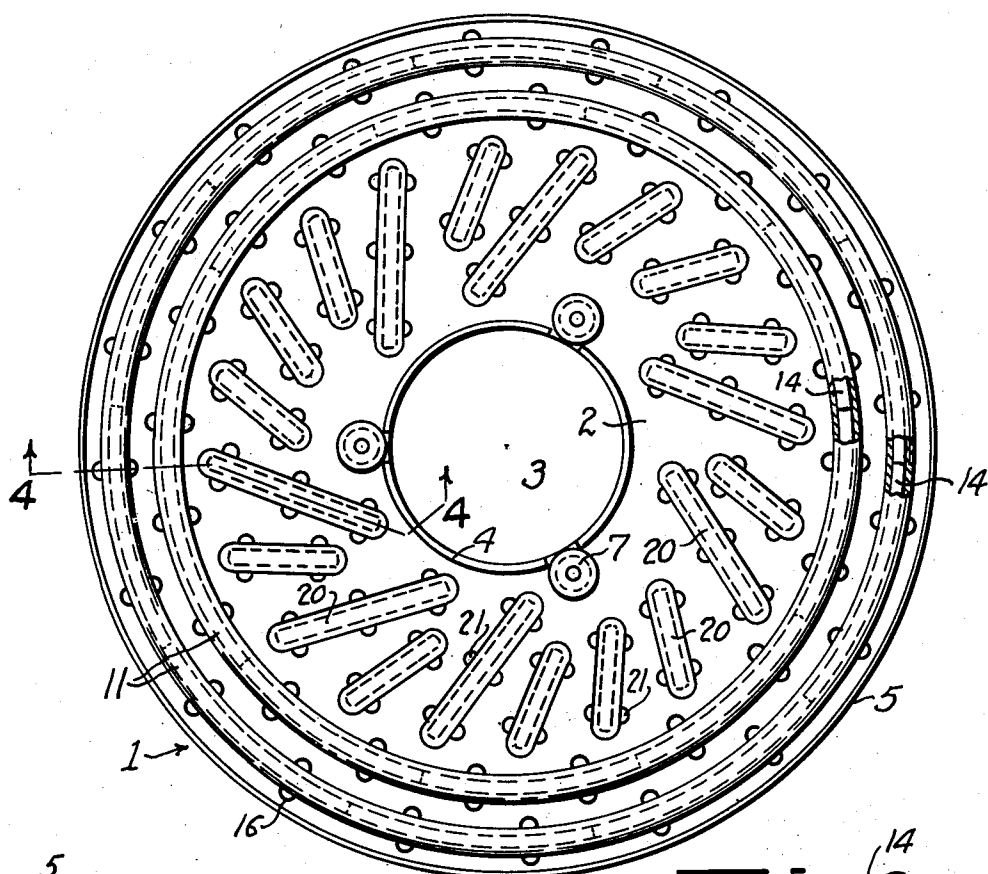


FIG. 4.

FIG. 5.

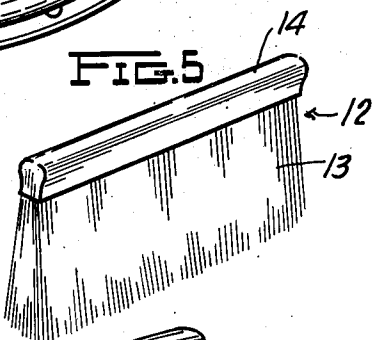
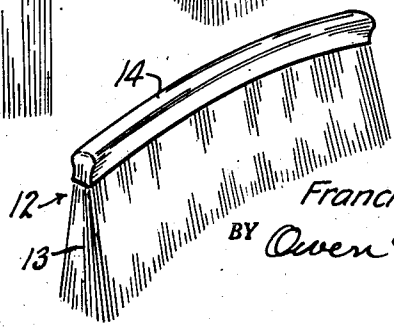


FIG. 6.



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2,605,490

ROTARY BRUSH

Francis D. Dolan, Toledo, Ohio, assignor to The American Floor Surfacing Machine Company, Toledo, Ohio, a corporation of Ohio

Application October 20, 1948, Serial No. 55,575

2 Claims. (Cl. 15-180)

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This invention relates to brushes, and particularly to those of the type used in connection with carpet and floor scrubbing machines.

The primary object of the invention is the provision of an improved brush of this character that is light and strong in construction and composed of few parts capable of being easily, quickly and economically assembled.

A further object of the invention is the provision of a rotary disk-type brush having a stamped sheet metal back and a plurality of bristle strips of bar-form attached to one side thereof in a simple and efficient manner and by means which facilitates an easy and quick removal and replacement of the bristle members.

Further objects of the invention will be apparent from the following detailed description of the invention, and from the accompanying drawings, in which—

Fig. 1 is a top plan view of the back member of a brush embodying the invention; Fig. 2 is an enlarged fragmentary cross-section thereof on the line 2-2 in Fig. 1; Fig. 3 is a view similar to Fig. 1 of a different form of the brush; Fig. 4 is an enlarged section on the line 4-4 in Fig. 3; Fig. 5 is a perspective view of a straight brush, and Fig. 6 is a similar view of a curved brush.

Referring to the drawings, 1 is the back member of the brush stamped from sheet metal and preferably comprising a horizontally disposed body or bottom portion 2 formed with a central opening 3 and with outturned inner and outer edge flanges 4 and 5, respectively. The inner flange 4 may be provided with equidistantly spaced vertical slits or openings 6, in the present instance three in number, and fixed to and rising from the bottom or body portion 2 adjacent to each opening 6 is a boss or block 7. This boss, in the present instance, has its lower end reduced and fitted into a respective hole in the bottom portion 2 and welded or otherwise securely attached thereto. Each boss also has a threaded opening 8 axially therethrough to receive a screw for attaching the back member to a drive shaft flange (not shown).

The member 1 is of substantially flat annular channel-form and has its bottom portion 2 provided on its under side with a series of concentric radially spaced annular channels 10, in the present instance four in number. These channels are U-shaped in cross-section and are preferably but not necessarily of continuous annular form. In forming the channels, the bottom metal 2 is pressed upward, thus causing it to be raised above the plane of the bottom 1 and to form ridges 11 thereon corresponding to the channels.

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The brush members 12 carried by the back member 1 comprise rows of bristles 13 held together at their upper or inner ends by clamping bars 14. These bars are U-shape in cross-section to receive the bristle ends, and their opposing sides or leg portions adjacent to their free edges are pressed inward to have firm gripping coaction with the bristles. The ends of the bars are also closed to retain the bristles therein. These bars may be of any desired length, and in practice are preferably of such a length that a plurality are required to be placed end to end to fill a channel 10. The bars are preferably longitudinally curved to conform to the curvatures of the channels in which disposed, and their back edges are of a size to fit the inner or bottom portions of the channels, while their sides recede inwardly from and project below the side walls of the channels, as shown in Fig. 2.

The bars 14 are retained firmly seated in the channel 10 by opposing ears 15 that are struck downwardly from the bottom metal 2 at opposite sides of the channel and clamp the inwardly pressed sides of the bars. These ears cooperate with the channels 10 to firmly clamp the brush members 12 to the back member 1 and form a durable brush structure. The ears 15 may be spaced as desired lengthwise of a channel 10, and the openings from which they are struck are shown at 16.

In the modifications shown in Figs. 3 and 4, the two inner annular rows of brush members 12 and the receiving channels therefor are eliminated and an annular series of diagonally or tangentially disposed brush members 18 and their receiving channels 19 are substituted therefor.

These brush members 18, in the present instance, are of straight bar-form with their longitudinal axes disposed substantially tangentially to the inner flange 4 and with some of the bars longer than others. This arrangement of the brush members in this form of the invention is not necessary but merely illustrative of one convenient and practical arrangement.

The channels 19 in which the brush members 18 are mounted form ridges or projections 20 on the top of the brush back member 1, as shown, and ears (not shown) are struck down from the sides of these ridges to clamp the brush bars and form the openings 21 in the back member 1 at the sides of the ridges.

It is apparent that I have provided a rotary disk-type brush with a back of an economical and simple construction and adapted to have brush members easily and quickly attached

thereto or removed therefrom for replacement. Also that the entire brush is of such simple and inexpensive construction that when brush repairs or replacements are necessary it is practically as economical to substitute an entirely new brush and discard the old one as to send the used one to the factory or other place for the necessary repair.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent, is:

1. A rotary brush comprising a disk-form back of stiff sheet material, upstanding annular inner and outer edge flanges on said back and a horizontally disposed bottom portion therebetween, a plurality of channels stamped in said bottom portion, brush members positioned in the channels and comprising bars shaped to fit within the channels and bristles clamped in said bars, and a plurality of openings, the material from the openings forming bendable retaining ears formed on said bottom portion adjacent the mouth of said channels to provide readily releasable means for retaining the bars in position in the channels.

2. A rotary brush comprising a disk-form back of stiff sheet material, upstanding annular inner and outer edge flanges on said back and a horizontally disposed bottom portion therebetween, a plurality of substantially concentric channels stamped in said bottom portion, brush units of

segmental form mounted in the channels and comprising bars shaped to fit within the channels and bristles clamped in said bars, and a plurality of openings, the material from the openings forming bendable retaining ears located in opposed relationship at spaced intervals along the mouth of said channels in said bottom portion and adjacent thereto to effect readily releasable opposed clamping engagement with the bristle bars.

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