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G. W. BREUER ET AL

2,539,054

BRUSH FOR FLOOR TREATING MACHINES

Filed July 29, 1948

Fig. 1.

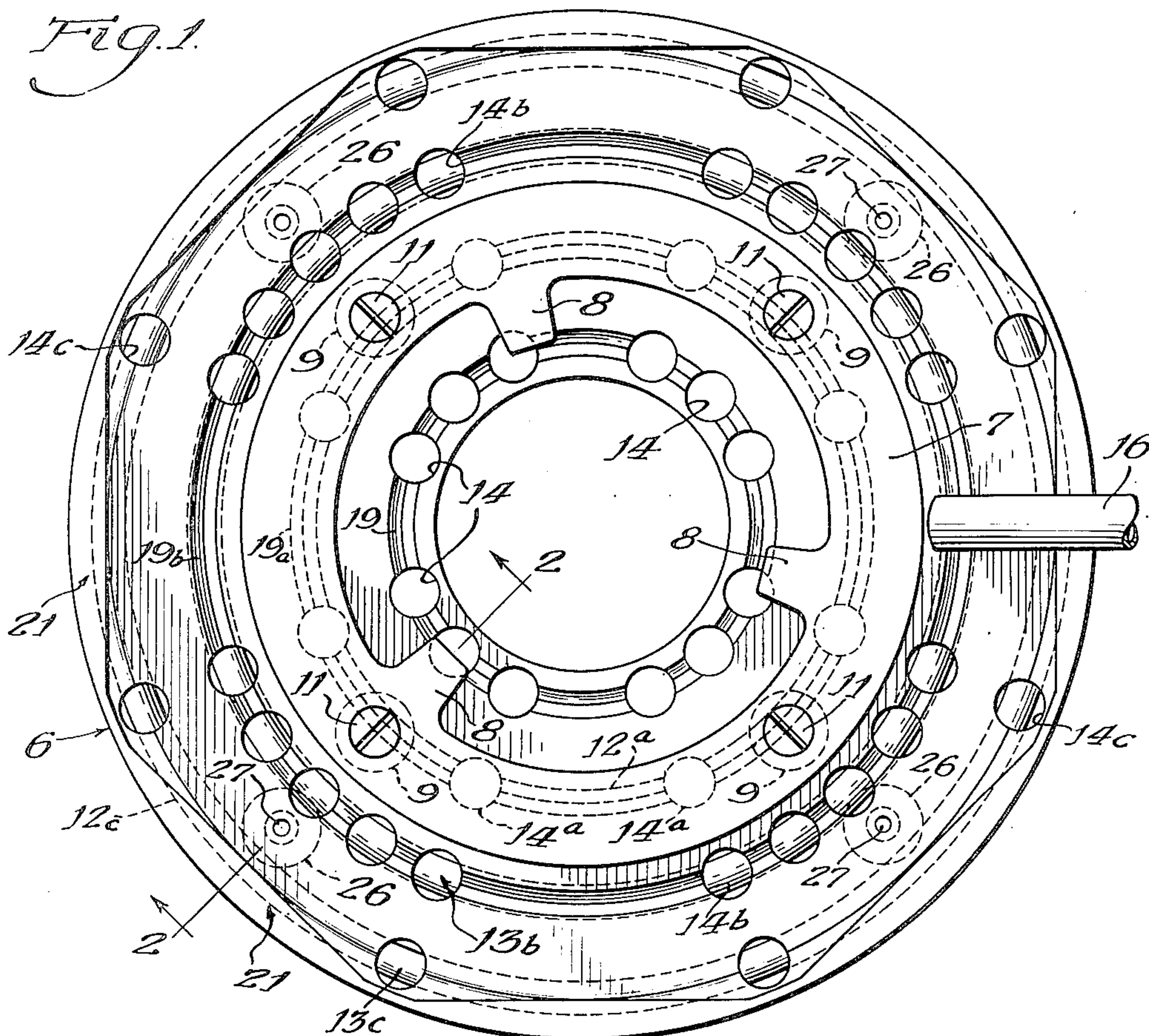


Fig. 2.

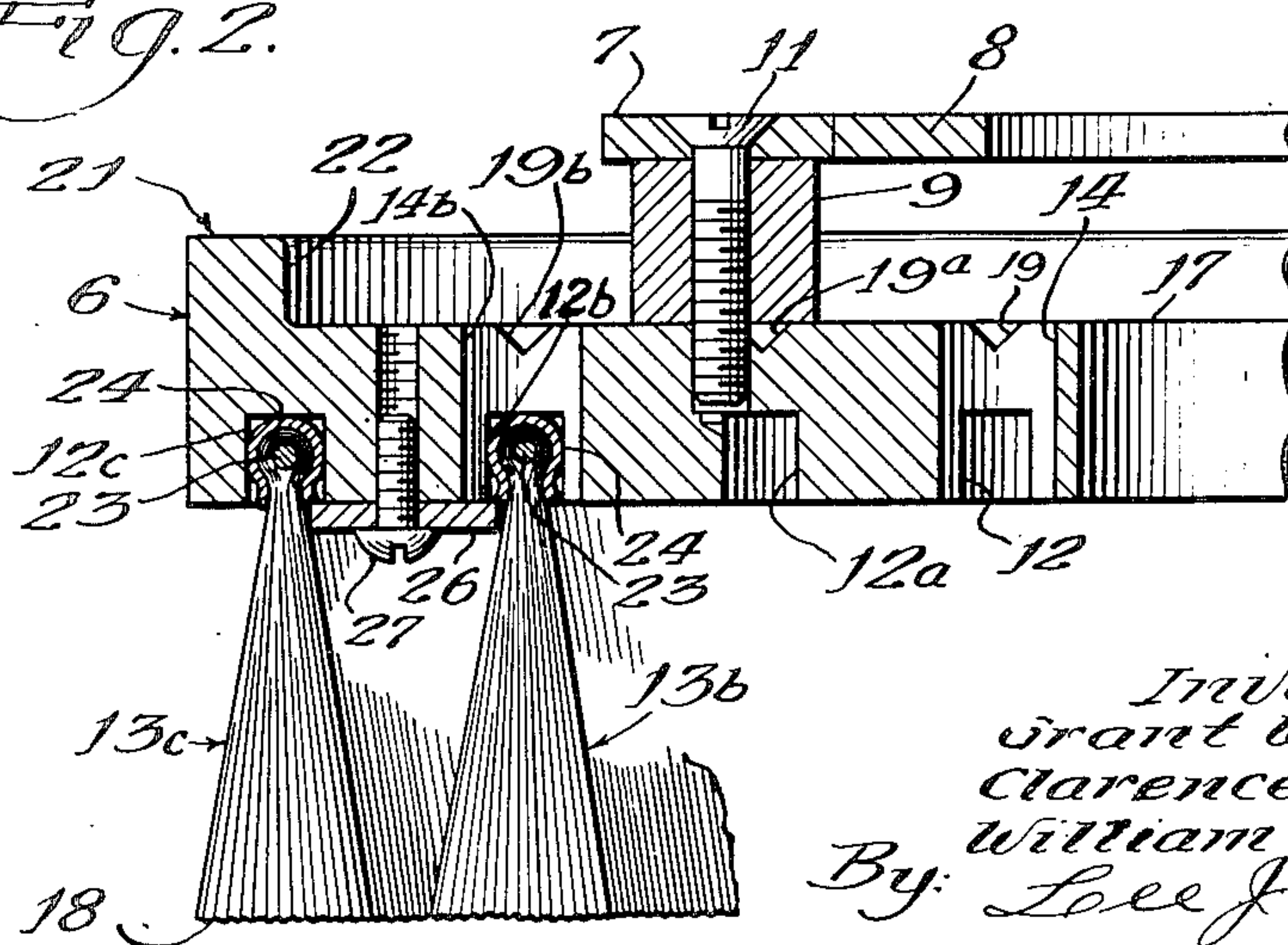
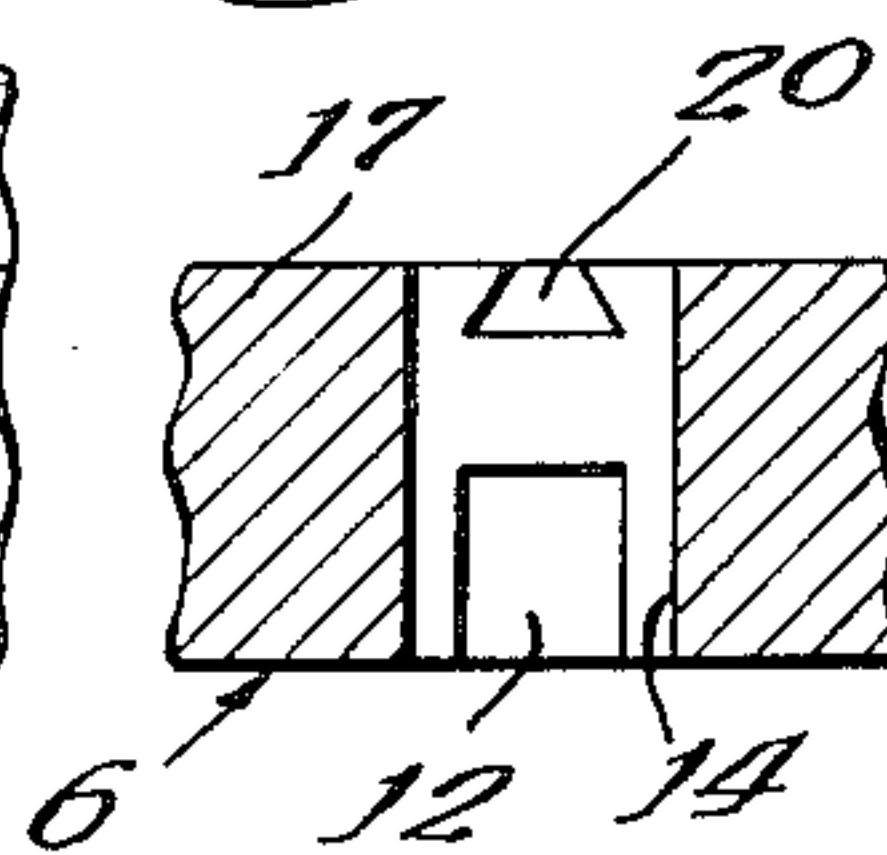


Fig. 3.



Inventors:
Grant W. Breuer
Clarence W. Lanter
William R. Lorr
By: Lee J. Gary
Attorney

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BRUSH FOR FLOOR TREATING MACHINES

Grant W. Breuer, Northbrook, Clarence W. Lanter, Bartlett, and William R. Lorr, Skokie, Ill., assignors to Breuer Electric Manufacturing Company, Chicago, Ill., a corporation of Illinois

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5 Claims. (Cl. 15—180)

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This invention relates to improvements in brushes of the type commonly employed on disc-type floor treating machines, such as the machine illustrated and described in copending application Serial No. 32,216, filed June 10, 1948, in the names of Grant W. Breuer, et al., in which the brush is detachably connected to the driving shaft of the machine.

The present invention contemplates the provision of a brush embodying a brush back formed with a plurality of annular recesses to receive a plurality of annular brush rings loaded with bristles suitable for use in various floor treating operations, such as cleaning, waxing, polishing, etc. Various types of fibers may be embodied in the brush ring, such as nylon, bassine, palmetto, palmyra, Tampico, union mixture, etc.

In the use of floor treating machines in treating floors, it is common practice to direct a supply of waxing, grinding, or cleaning fluids adjacent the bristles of the brush, such fluids being hereinafter referred to as floor treating fluids. It is an object of the present invention to provide a brush in which the brush back is provided with a plurality of sets of apertures disposed in registry with their respective brush ring recesses in order that a floor treating fluid delivered onto the upper surface of the brush back will pass through the apertures and thence downwardly between the bristles of the brush rings to assure a predetermined distribution of the fluid to each of the several annular rows of bristles.

It is a further object of this invention to form annular grooves in the upper face of the brush back to receive and direct floor treating fluid to their respective sets of apertures, the size and shape of the grooves determining the quantity of fluid directed to their respective sets of apertures.

It is a further object of this invention to provide a brush back having an upwardly projecting peripheral flange to confine a floor treating fluid to the upper surface of the brush back for passage through the apertures leading to the brush ring bristles, the inner wall of the peripheral flange being preferably formed with a plurality of flat surfaces which acts to direct some of the fluid toward an outer set of apertures leading to the bristles of the outer brush ring.

This invention further contemplates the provision of a relatively simple and inexpensive means for detachably mounting brush rings within the annular recesses formed in the brush back, whereby worn brush rings may readily be removed and replaced by new brush rings.

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This invention embodies other novel features, details of construction, and arrangement of parts which are hereinafter set forth in the specification and claims and illustrated in the accompanying drawing, wherein:

Fig. 1 is a top plan view showing a brush embodying features of this invention.

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary detail sectional view showing a modified form of annular groove formed in the upper surface of the brush back.

Referring now to the drawing for a better understanding of this invention, the brush is shown as comprising a brush back 6 which is preferably formed of metal and adapted to be detachably connected to the drive shaft of a disc-type floor treating machine by any suitable means, such as a locking ring 7 having a plurality of inwardly projecting lugs 8, the ring 7 being secured in spaced relation to the brush back 6 by means of spacing collars 9 and cap screws 11 and engaged to the drive shaft of a disc-type floor treating machine in the manner shown and described in copending application Serial No. 32,216 heretofore referred to.

The brush back 6 is preferably formed from a metal casting which is machined to provide a smooth finish along its upper, lower and peripheral surfaces and then formed with a plurality of annular recesses 12, 12a, 12b, etc. of different diameters to snugly receive a set of annular brush rings 13, 13a, 13b, respectively, the first two not being shown. It will be understood that any suitable number of annular recesses may be formed in the brush back 6, depending upon the type and size of brush desired, but it is contemplated that two or more brush rings will usually be employed with each brush back.

An important feature of the present invention resides in the provision of sets of apertures 14, 14a, 14b, etc. formed in the brush back 6 in registry with their respective annular recesses 12, 12a, 12b, etc. whereby floor treating fluid directed downwardly through a conduit 16 onto the upper surface 17 of the brush back will pass downwardly through the sets of apertures 14, 14a, 14b, etc. and thence between the bristles 18 of the several brush rings 13, 13a, 13b, etc. The number of apertures formed in the brush back for communication with their respective annular recesses may be varied, as desired, to provide a predetermined quantity of floor treating fluid for each of the several brush rings 13, 13a, 13b, etc.

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The upper surface 17 of the brush back 6 is preferably formed with a plurality of annular grooves 19, 19a, and 19b which coact with and are equal in diameter to their respective annular recesses 12, 12a and 12b. During rotational movement of the brush back 6, floor treating fluid directed downwardly onto the upper surface 17 through the conduits 16 flows outwardly from the axis of rotation of the brush back and thence into and along the annular grooves 19, 19a and 19b for passage downwardly through the sets of apertures 14, 14a and 14b, respectively. Any fluid flowing outwardly over the outer annular groove 19b is directed into a set of apertures 14c by an upwardly projecting peripheral flange 21 formed on the brush back, the inner face of the flange being preferably formed with a plurality of flat surfaces 22 disposed to direct fluid toward the apertures 14c.

While the annular grooves 19, 19a, etc. are shown as being V-shaped in cross-section, it is contemplated that they may be formed U-shape or dovetail in cross-section, as illustrated at 20 in Fig. 3 of the drawings, for regulating the flow of fluid to the sets of apertures 14, 14a and 14b. It is further contemplated that the several annular grooves may be of different size or shape in cross-section for the purpose of directing a greater quantity of fluid toward one set of apertures than is directed toward the other sets of apertures.

The brush rings 13, 13a, etc. are of well known construction, now available on the market, and each comprises bristles 18 bent intermediate their ends around a wire 23 and held against displacement therefrom by means of a U-shape metallic clip 24. The clips 24 are adapted to be snugly received within their respective annular recesses 12, 12a, etc. and secured against accidental outward displacement by means of washers 26 and cap screws 27. As illustrated in Fig. 2 in the drawing, each washer 26 is preferably formed and arranged to engage the brush ring clips 24 of two adjacent brush rings. Three or more washers 26 and cap screws 27 are preferably employed to hold each adjacent pair of brush rings.

While this invention has been shown in but two forms, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit and scope of the claimed invention.

We claim as our invention:

1. In a brush for a disc-type floor treating machine, a disc-shaped brush back having its bottom face formed with a plurality of annular recesses to receive brush rings, said brush back having a plurality of sets of apertures leading therethrough in registry with their respective annular recesses to direct a floor treating fluid downwardly onto said brush rings the diameter of said apertures being greater than the width of their respective recesses.

2. In a brush for a disc-type floor treating machine, a disc-shaped brush back having its bottom face formed with a plurality of annular recesses of different diameters to receive brush rings, said brush back having a plurality of sets of apertures leading therethrough in registry with their respective annular recesses to direct a floor

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treating fluid downwardly onto said brush rings, said brush back having an upwardly projecting peripheral flange, the inner face of said flange being defined by a plurality of adjoining flat surfaces arranged to direct a floor treating fluid toward the set of apertures in registry with the outer of said recesses the diameter of said apertures being greater than the width of their respective recesses.

3. In a brush for a disc-type floor treating machine, a disc-shaped brush back having its bottom face formed with a plurality of annular recesses to receive brush rings, said brush back having a plurality of sets of apertures leading therethrough in registry with their respective annular recesses to direct a floor treating fluid downwardly onto said brush rings, said brush back having an upwardly projecting peripheral flange, the inner face of said flange being defined by a plurality of adjoining flat surfaces arranged to direct a floor treating fluid toward the set of apertures in registry with the outer of said recesses, the upper face of said brush back being formed with a plurality of annular grooves in communication with their respective sets of apertures the diameter of said apertures being greater than the width of their respective recesses.

4. In a brush for a disc-type floor treating machine, a disc-shaped brush back having its bottom face formed with a plurality of annular recesses, brush rings snugly engaged in said recesses, said brush back having a plurality of sets of apertures leading therethrough in registry with their respective annular recesses to direct floor treating fluid downwardly onto said brush rings the diameter of said apertures being greater than the width of their respective recesses.

5. In a brush for a disc-type floor treating machine, a disc-shaped brush back having its bottom face formed with a plurality of annular recesses to receive brush rings, said brush back having a plurality of sets of apertures leading therethrough in registry with their respective annular recesses to direct a floor treating fluid downwardly onto said brush rings the diameter of said apertures being greater than the width of their respective recesses, the upper face of said brush back being formed with a plurality of annular grooves in communication with their respective sets of apertures, each groove being formed and arranged to direct a predetermined quantity of floor treating fluid to its respective set of apertures.

GRANT W. BREUER.
CLARENCE W. LANTER.
WILLIAM R. LORR.

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