

F. W. RIEHL.

BRUSH.

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938,275.

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Fig. 1.

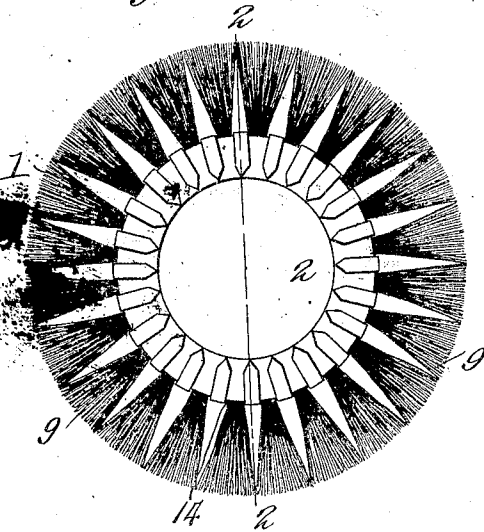


Fig. 2.

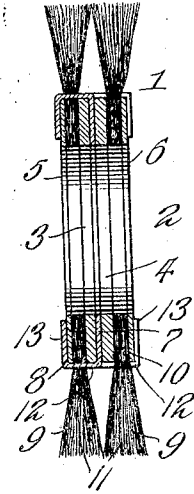
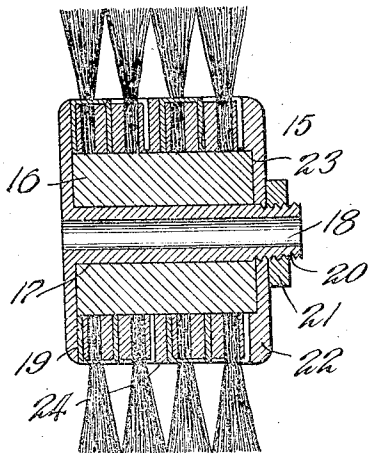


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BRUSH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK W. RIEHL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to brushes, and has for an object to provide a brush in which the hairs or bristles are separated into small bunches and applied to a novel form of hub or head without the use of glue or similar fastening means and to allow quick detachment of the bristles when it is desired to insert new ones.

Other objects and advantages will be apparent as the nature of the invention is better disclosed, and it will be understood that changes within the scope of the claims may be made without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side view of one element forming the brush, Fig. 2 is a sectional view on the line 2-2 of Fig. 1, Fig. 3 is a sectional view of the complete brush.

Referring now more particularly to the drawings, and with particular reference to Figs. 1 and 2 thereof, there is shown a brush element 1 comprising a head or hub 2 which preferably consists of circular intermediate members or washers 3 and 4, and outer washers 5 and 6. An annular member or plate 7 is disposed between the washers 3 and 4 and is provided with peripheral tongues 8. In constructing the element, bristles are assembled into small bunches indicated at 9 and each bunch is provided with a contracted inner portion 10 and an enlarged or broad outer portion 11. It will thus be seen that the portions 10 of the bristles are confined between the washers 4 and 6 respectively at each side of the element, and between the washers 3 and 5 respectively at the other side of the brush, and the described bunches of bristles forming the brush, are arranged in pairs, as shown, in this form of my invention. To securely lock the bristles between the washers, the tongues 8 of the metallic washer 7 are alternately bent in opposite directions from each other as shown at 12 to span the spaces between each pair of washers, and the said tongues are finally bent at right angles to the

portions 12 as shown at 13. The portions 13 impinge against the outer faces of the outermost washers and are disposed in parallel relation thereto, as shown. By alternately bending the tongues in opposite directions it will be seen that spaces 14 are provided between the tongues through which portions of the bristles protrude. By constructing the element in the manner described it will be seen that the bristles forming the brush may be conveniently set up or taken apart without the use of glue or similar fastening means.

In Fig. 3 a brush 15 is shown, consisting of a hub 16 having a passage 17 formed therein for the reception of a stem 18 which carries at one end a circular disk 19. The other end of the stem 18 is threaded exteriorly as indicated at 20 and receives a correspondingly threaded nut 21 adapted to frictionally engage the outer face of a disk 22 loosely mounted upon the said stem and disposed in parallel relation to the disk 19. To effect a greater adjustment of the disks 19 and 22 I preferably form a recess 23 in the inner face of the disk 22 for receiving a portion of the hub 16, as clearly shown. In this form of my invention I use two of the elements shown in Figs. 1 and 2 to form a complete brush and mount them upon the hub 16 and preferably provide an intermediate washer 24. It will be seen that the washers forming the brush elements may be conveniently placed upon the hub, after which, the disk 22 may be placed upon the stem 18 and moved toward the disk 19 by means of the nut 21 to securely hold the elements in a compact manner between the said disks 19 and 22. The hub described and the disks 19 and 22 form an effective holder for receiving the elements forming the brush.

While it is especially desired to obviate the use of glue or the like in the construction of the brush, it may be stated that I may employ it should the brush be put to considerable strain. It may be found best to apply a small quantity of glue at the inner end of the bristle bunches, in order that they may adhere to the washers 3 and 4 and be more securely held therebetween.

Having thus described the invention, what is claimed as new, is:—

1. A brush of the class described comprising a member, spaced elements, bristles having their inner ends confined between said

elements and a plurality of flexible tongues carried by said member and adapted to be bent to lie between portions of said bristles and to be bent into engagement with said elements to clamp them together.

2. A brush having a plurality of spaced elements, a plurality of elements disposed between the said first named elements, bristles secured between the first and second named elements, a member secured between the second named elements, and locking tongues carried by the member adapted to be alternately bent in opposite directions between portions of the bristles and to be engaged with the first named elements.

3. A brush comprising outer spaced elements, inner elements disposed in spaced relation to the outer elements, bristles engaged at their inner portions between the inner and outer elements, a member confined between the inner elements, and means carried by the member for locking engagement with the outer members to hold them and the inner elements locked to each other.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK W. RIEHL.

Witnesses:

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WM. A. DEW.