Feb. 10, 1942. H. CAVE 2,272,598

BRUSH

Original Filed Jan. 2, 1935

Fig. 1.

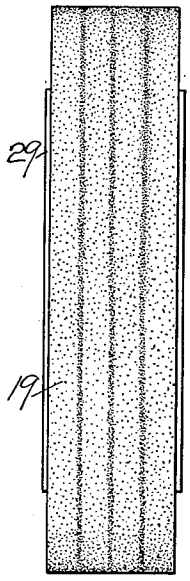


Fig. 2.

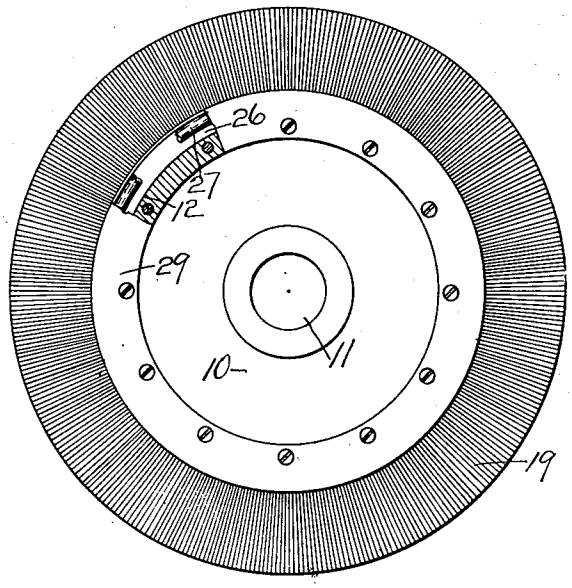


Fig. 3.

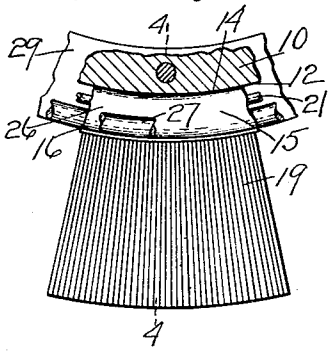
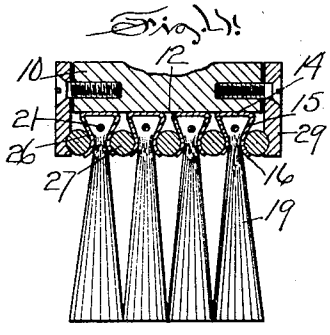


Fig. 4.



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UNITED STATES PATENT OFFICE

2,272,598

BRUSH

Henry Cave, Hartford, Conn., assignor to The Fuller Brush Company, Hartford, Conn., a corporation of Connecticut

Original application January 2, 1935, Serial No. 81. Divided and this application June 30, 1938, Serial No. 216,767

4 Claims. (Cl. 15—179)

My invention relates to the class of cleaning implements above described and an object of my invention, among others, is the production of a brush of this type which is simple in construction, durable, and one which is particularly efficient in operation; and a further object of the invention is the production of a brush of this type having brush elements which may be readily removed and replaced.

One form of a brush embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawing in which—

Figure 1 is an edge view of my improved brush.

Figure 2 is a side view with parts broken away to show construction.

Figure 3 is a view on enlarged scale of a fragment of my improved brush illustrating the construction thereof.

Figure 4 is a similar view on a plane denoted by the dotted line 4—4 of Fig. 3.

My invention illustrated and described herein was first disclosed in my co-pending application for patent on Brushes, filed January 2, 1935, of Serial Number 81, the present case being a division from said application of January 2, 1935, now matured into Patent No. 2,146,624.

My invention is not limited to a brush having a body of any particular type for supporting bristles or other brush material, but as it is readily adapted to a structure in which the body for supporting the base for the bristles or other brush material is a rotary object, as a wheel, such a structure has been selected by me for the purpose of illustrating my invention herein. However, this is not to be taken into consideration when determining the scope of the invention except where said invention is definitely limited by the claims herein, as it will be apparent that the round supporting surface of the wheel may be readily developed into a flat or other shaped surface for supporting the bristles or brush material. Therefore, wherever a term especially applicable to a wheel is used herein it may be considered as equally applicable to a body of any other shape for the purpose in hand.

In the accompanying drawing the numeral 10 denotes the body of my improved brush which in the particular form herein shown is embodied in a wheel having a central hole 11 for the reception of a spindle or shaft by means of which the brush may be rotated. The rim 12 of this wheel is cylindrical in form, its outer surface being such that bases 26 of brush elements may be set squarely upon such cylindrical surface to be secured thereto.

These bases are initially made from strips of indefinite lengths the bottoms of which are straight from side to side so that they will rest squarely and firmly upon the cylindrical surface of the wheel. Said bases are of trough shape having channels extending preferably from end to end and they may be formed from sheet metal bent to shape to create bottoms 14 and sides 15. These sides are slightly curved outwardly at their outer edges to form lips 16 and they converge from the bottoms outwardly to form said channels which are consequently wider at the bottoms than at the mouths.

The brush material 19 may consist of fibers, bristles, hair, or other brush material of any desired kind suitable for any particular purpose for which the brush is constructed. A brush of this type is particularly adapted for use in polishing smooth surfaces, as the bodies of automobiles, articles of furniture and the like, and in such case the brush material will be composed of soft fibers, hair or other material which will not scratch the surface being polished.

As a means for securely fastening the brush material in the channels in the bases, wires or rods 21 may be placed in the folds of the brush material which is doubled within the channels, the opposite ends of the fibers or bristles being extended outwardly and projecting beyond the edges of the lips 16.

The bases 26 of the brush elements formed as hereinbefore described with the brush material secured therein are passed around the rim of the wheel, the squared bottoms of the bases hereinbefore referred to being made to squarely fit the outer surface of the rim. These bases may extend around the rim in any suitable manner and be secured to snugly fit said rim in the winding operation, the opposite ends of the bases being secured to the body in any suitable manner. As an alternative construction the bases may be formed as rings with the ends secured together in any suitable manner as desired and with this construction clamped by members 27, preferably of metal, and of a size to fit the grooves between the lips 16 and the straight sides of the bases 26, these members being preferably round in cross-section, and holders 29 are secured tightly against opposite sides of the rim 12, as by means of screws, as shown in Figs. 2 and 4 of the drawing, said holders being in the form of rings and securely fastening the several brush bases in place on the rim 12.

The converging sides of the brush bases serve to pinch the brush material and thereby aid in securing it in place. The operation of bending the long base strips around the wheel, owing to the convergence of the sides of the strips, results in closing the sides more firmly together and thereby increases the pinching action or, in any event, results in preventing any spreading of the sides and loosening of the grip upon the brush material.

These bases may be formed in various ways to provide means for securely fastening them in place and the shapes of the troughs and the sides creating those troughs may be variously formed and shaped without departing from the spirit and intent of the invention.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out within the scope of the claims.

I claim:

1. A brush comprising a cylindrical body having a bordering groove with a bottom flat from side to side extending around it, a brush element comprising a channeled base extending longitudinally around said border and composed of thin, resilient material, said base having sides and a bottom, said sides converging from the bottom of the channel outwardly and the bottom of the channel being formed flat from side to side to correspond to and fit the bottom of said groove, brush material extending outwardly from within the channel between the sides thereof to receive their binding action, and means for securing said brush material in said groove.

2. A brush comprising a cylindrical body having a bordering groove with a bottom flat from side to side extending around it, a plurality of rows of brush elements each comprising a channeled base extending longitudinally around said border within said groove and composed of thin resilient metal, said base having sides and a bottom, said sides converging from the bottom of the channel outwardly and the bottom of the channel being formed flat from side to side to correspond to and fit the bottom of said groove, brush material extending outwardly from within the channel between the sides thereof to receive their binding action, and means for securing said brush material in said groove.

3. A brush comprising a body in the form of a wheel having a bordering groove with a bottom flat from side to side extending around it, a brush element comprising a channeled base extending longitudinally around said border and composed of thin, resilient metal, said base having sides and a bottom, said sides converging from the bottom of the channel outwardly and the bottom of the channel being formed flat from side to side to correspond and fit the bottom of said groove, brush material extending outwardly from within the channel between the sides thereof and bound between the latter, and means for securing the brush element in said groove.

4. A brush comprising a body in the form of a wheel having a bordering groove with a bottom flat from side to side extending around it, a plurality of rows of brush elements each comprising a channeled base extending longitudinally around said border within said groove and composed of thin, resilient metal, said base having sides and a bottom, said sides converging from the bottom of the channel outwardly and the bottom of the channel being formed flat from side to side to correspond and fit the bottom of said groove, brush material secured to and bound between said converging sides, and means for securing said brush elements in said groove.

HENRY CAVE.