July 30, 1935. C. J. NAGL ET AL 2,009,899

BRUSH

Filed March 15, 1934

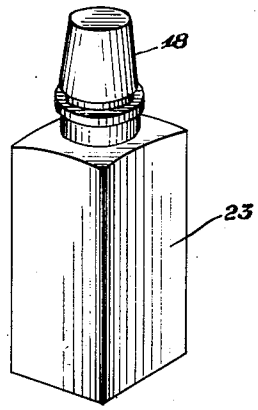

Fig. 1

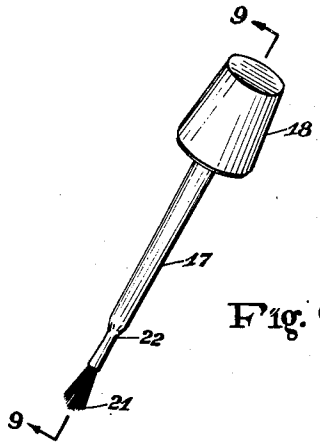

Fig. 2

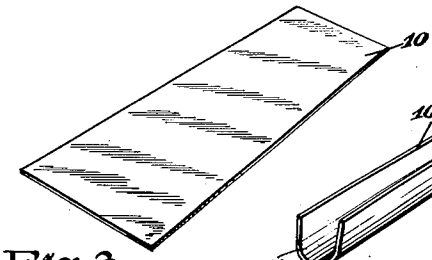

Fig. 3

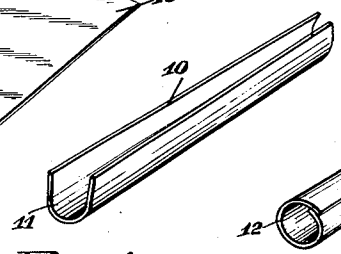

Fig. 4

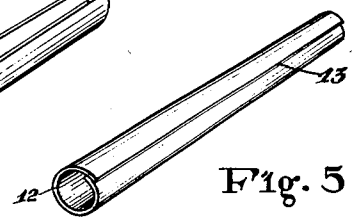

Fig. 5

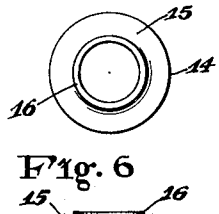

Fig. 6

Fig. 7

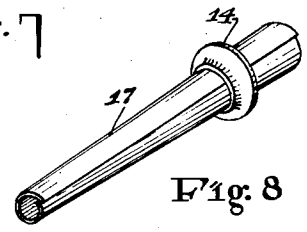

Fig. 8

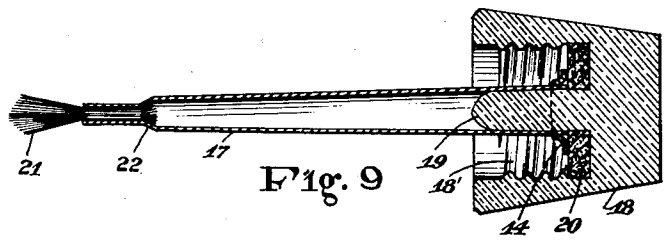

Fig. 9

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BRUSH

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Application March 15, 1934, Serial No. 715,602

6 Claims. (Cl. 91—67.2)

This invention relates to improvements in brushes and more particularly to a combination brush and bottle cap affixed thereto.

A particular object of this invention is the provision of an improved brush of the small camel's hair type with a shaft made of aluminum or similar metal which can be economically manufactured and which can be readily and permanently affixed to the cap of the bottle in which it is used.

Further objects of the invention will be apparent from the specification and drawing in which:

Fig. 1 is a perspective external view of a container with a bottle cap containing my improved brush.

Fig. 2 is a perspective view of the bottle cap and brush removed from the bottle.

Fig. 3 is a perspective view of the metal blank from which the shaft of the brush is manufactured.

Fig. 4 is a perspective view of the metal blank after the first operation on same.

Fig. 5 is a perspective view of the metal blank after being formed into a tube.

Fig. 6 is a front elevation of the washer employed and which will be hereinafter described.

Fig. 7 is a cross section of the washer.

Fig. 8 is a perspective view of the assembly of the brush shaft with the washer.

Fig. 9 is a longitudinal section along the line 9—9 of Fig. 2, showing all the parts of the brush, washer, and cap.

10 designates the blank from which the shaft is formed; 11 the U-shaped form which it assumes in Fig. 4; 12 the circular form which it assumes in Fig. 5; 13 is the overlap shown in Fig. 5; 14 is the washer having the body 15 and the collar 16; 17 designates the completed shaft of the brush; 18 is the cap; 18' is the threaded portion of the cap; 19, the nib of the cap, and 20 the gasket or lining in the inside of the cap; 21 are the bristles constituting the brush; 22 designates the upper end of the brush members; 23 is the bottle.

In practice it has been found a highly economical method of forming the shafts of these brushes by using a sheet aluminum blank of the type shown in Fig. 3 and successively forming same into the shape shown in Figs. 4 and 5, instead of using a seamless tubing for this purpose.

After the shaft of the brush assumes the shape shown in Fig. 5, the brush element is then inserted into the narrow end of the shaft and the end of the shaft is swaged or contracted so as to firmly hold the bristles of the brush as shown in Fig. 9.

The diameter of the washer 14 is carefully calculated so that when it is passed over the shaft 17 at its upper end where it is held upon the nib 19, the washer 14 contracts the shaft 17 upon the nib 19 so as to compress it against the nib and at the same time the upper surface of the washer 15 exercises considerable pressure upon the gasket 20 so as to permanently hold the gasket 20 in place.

The result of this is, that when the cap is unscrewed from the bottle, there is no tendency exhibited for the gasket 20 to loosen itself from the cap 18, which in the case of other constructions, often happens, because normally when the cap 18 is in place upon the bottle, the gasket 20 abuts the upper edge of the bottle and the cap is adherent thereto.

By the foregoing construction we have made an economical form of combination cap and brush.

It is apparent that modifications may be made in the form of this cap and brush without departing from the spirit of our invention.

What we claim is:

1. In combination, a threaded bottle cap of composition material, said bottle cap having a nib thereon in the center thereof, a gasket on the inside of said bottle cap, a brush having a shaft located on said nib and a washer applied to the upper end of said brush shaft and simultaneously compressing the handle of the brush against the nib and the gasket against the cap.

2. In combination, a threaded bottle cap having a nib in the center thereof, a washer on the inside of said cap fitting over said nib, a camel's hair brush having the handle thereof fitting over said nib, and a metal washer with a collar thereon, the body of said washer compressing the gasket against the cap and the collar of said washer compressing the handle against the nib.

3. In combination, a cap having a nib in the center thereof, a hollow brush shaft having its upper end extending over said nib, a gasket on the inner side of said cap covering the base of said nib, and a washer simultaneously compressing the brush shaft and the gasket.

4. In combination, a cap of composition material having a nib in the interior thereof, a hollow brush handle having its open end covering said nib and supported thereby, a gasket on the inner side of said cap and a metal washer simultaneously compressing the end of the brush handle and said gasket.

5. In combination, a cap having a nib in the center thereof and integral therewith, a hollow brush shaft having its upper end extending over said nib, a gasket on the inner side of said cap adjacent the base of said nib, and a washer simultaneously compressing the end of the brush shaft and the under surface of the gasket so as to hold both shaft and gasket permanently in place.

6. In combination, a cap having a nib in the center thereof and integral therewith, a hollow brush shaft having its upper end extending over said nib and its opposite end contracted to permanently hold a brush in place, a gasket on the inner side of said cap adjacent the base of said nib, and a washer simultaneously compressing the end of the brush shaft and the under surface of the gasket to hold both shaft and gasket permanently on said cap.

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