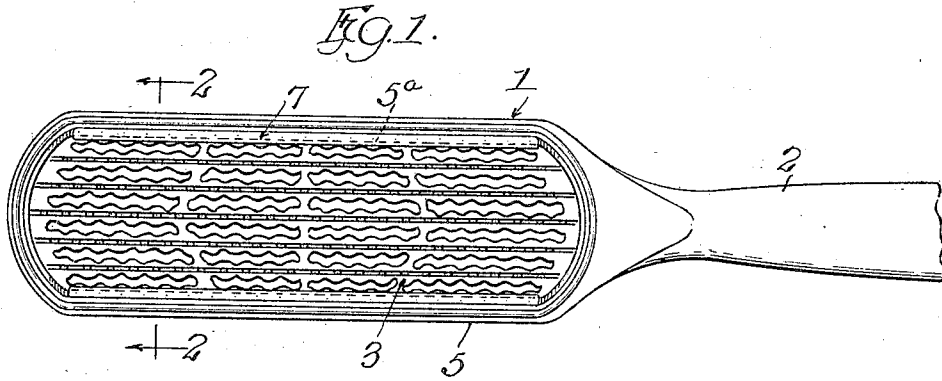
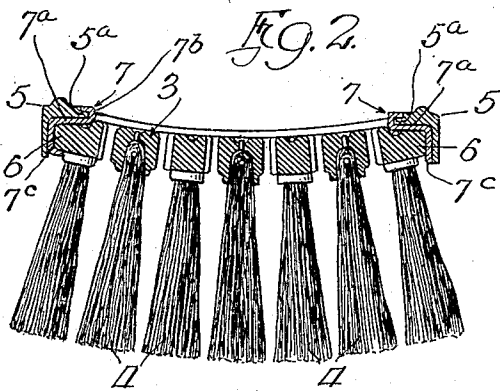
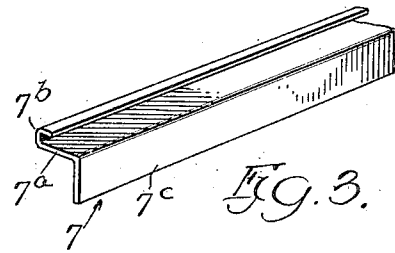
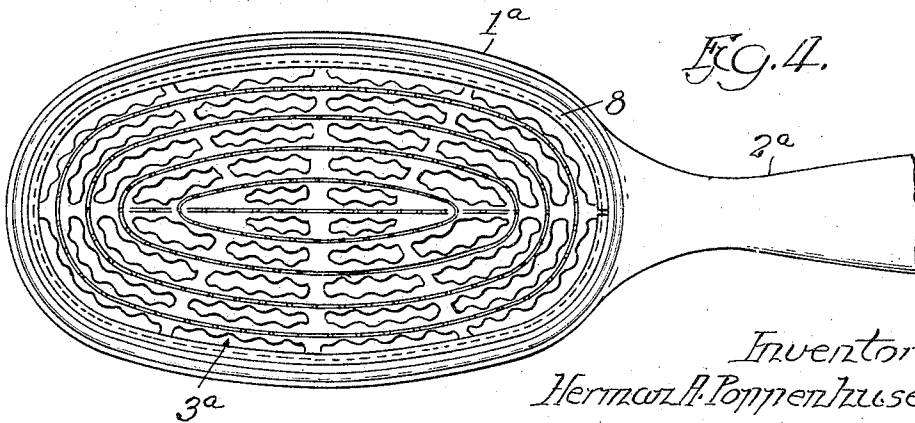


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BRUSH.

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1,396,973.

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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 the we, HERMAN A. POPPENHUSEN and ROLLAND T. R. HASTINGS, both citizens of the United States, residing, respectively, at Hammond, in the county of Lake and State of Indiana, and Highland Park, in the county of Lake and State of Illinois, have invented new and useful Improvements in Brushes, of which the following is a specification.

This invention relates to toilet brushes and more particularly to hair brushes of the type wherein the back is in the form of an open frame and the bristle holder is made separate from the frame and is mounted and secured therein, the bristle holder being slotted so that water may be run through the brush for keeping the same clean and sanitary.

Brushes of this kind are usually provided with handles made integral with the backs, and heretofore the handle and back were stamped out of metal so that the frame could be provided with marginal projections to be bent under the marginal portion of the bristle holder for fastening the same in the frame. That construction was necessary because a ductile material was required to enable the bristle holder to be secured in the frame. Such construction is objectionable because the ductile material used permitted the handle and frame to bend relatively to each other at or adjacent the juncture of the handle and frame on the application of pressure on the brush when used in brushing the hair. This objection could be overcome by casting the frame and handle from a metal which would be stiff and rigid enough at the juncture between the handle and the frame to prevent bending at that point, but as the cast material was not sufficiently ductile, the manner of securing the bristle holder in the frame by bending projections on the frame under the bristle holder could not be used because the projections would crack and break off on being bent into and out of securing positions.

The object of our invention is to provide means made separate from the bristle holder and frame and of ductile material for securing the latter in the former, so that no parts of either the frame or bristle holder need be bent to secure or fasten the two together, and thus permit the frame

and holder to be made from cast metal and prevent the handle from bending with respect to the frame when the brush is in use.

In the accompanying drawings:

Figure 1 is a top plan view of a brush provided with a fastening means of our invention;

Fig. 2 is a transverse sectional view taken on line 2—2 of Fig. 1, the fastening member at one side of the brush being shown with its lower marginal flange in position before being bent inwardly and under the adjacent marginal portion of the bristle holder;

Fig. 3 is a perspective view of one of the fastening members; and

Fig. 4 is a top plan view of an oval brush provided with a fastening means of our invention.

As shown in Fig. 1, the brush is rectangular in shape and has a back in the form of an open frame 1. The handle 2 is made integral with said frame, the two being cast together. The bristle holder 3 is of the slotted construction and is provided with a plurality of tufts of bristles 4, 4, arranged in rows and secured in nipples by a wire, as customary in brushes of this kind.

The frame 1 has parallel side portions 5, 5, channel or L-shape in cross-section, as shown in Fig. 2, and these portions are provided with upwardly projecting reinforcing ribs or beads, as shown. The holder 3 is provided with side portions 6, 6, and the holder is made to fit within the frame by being inserted into the under side thereof and lie within the channel formed by the marginal portions of the frame, as indicated in Fig. 2.

For releasably securing the holder 3 in the frame 1, we provide, in the form of brush shown in Fig. 1, a fastening means, comprising two fastening members 7, 7. These are in the form of strips made of brass or other ductile metal and have a length to extend the full length of the side portions of the frame and holder, as shown in Fig. 1. Each strip 7 is made channel shape in cross-section, as shown in Fig. 3, and is applied beneath one of the side members 5 of the frame in the channel formed by that member. The brush holder 3 fits

up against the strip 7 so that the mid-portion 7^a of said strip lies between the associated brush parts. The inner or upper marginal portion 7^b of the strip is bent over 5 the inner edge 5^a of the side member 5, and the lower marginal portion of the depending flange 7^c of said strip is bent inward over the inner side of the adjacent marginal portion 6 of the bristle holder 3, 10 as shown in Fig. 2. In this figure, one strip is shown bent to interlock with the frame 1 and the bristle holder 3 in the manner described, and the opposite strip has its lower flange 7^c shown in position before being bent 15 under and against the bristle holder 3, as indicated. This is done for the purpose of illustrating how the strips are bent to interlock with the respective brush parts and secure the bristle holder in the frame.

20 In Fig. 4 is shown our invention as applied to an oval hair brush. As illustrated, the brush has an oval frame 1^a and a handle 2^a cast integral, as before. For this brush, there is a bristle holder 3^a of a shape and 25 size to fit within the frame. To secure the bristle holder 3^a in the frame 1^a, we provide a fastening member 8 made of ductile metal, such as brass, and having a length to extend substantially around the entire curvature of 30 the frame with its ends terminating somewhat short of each other, as shown in Fig. 4. The fastening member 8 is made separate from the frame and bristle holder 3^a and interlocks with the respective brush parts 35 about their adjacent marginal portions in the same manner as described in connection with Figs. 1 to 3, the only difference between the two being that in the form shown in Figs. 1 and 2 the brush is rectangular in shape 40 and the fastening members are separate and on opposite sides of the frame, while in Fig. 4 the fastening member extends substantially around the inside of the frame.

The objects accomplished by our invention are as previously stated, namely, it provides a fastening means separate and distinct from the brush parts themselves and interlocks with those parts. This enables 45 the frame and handle to be cast in one piece so that bending of the handle at or adjacent the juncture of the frame and handle will be prevented because the metal is solid and rigid enough to effectively withstand any such bending when the brush is in use. As 50 shown in the drawings, the inner flange 7^b of the fastening member is made channel shape before being applied to the frame, so that bending of that part over the frame need not be done in assembling the parts. 60 This flange 7^b fits in a groove in the marginal portion 5^a and is flush with the upper surface of said portion 5. The flange 7^b could be left unformed and be bent over the marginal part 5^a of the frame in assembling

the brush in the same manner as the flange 65 7^c if desired. The flange 7^b serves to fasten the strip 7 to the frame before the holder is applied.

While we have shown and described herein in detail a construction embodying the 70 features of our invention, it is to be of course understood that the exact details of construction and arrangement of parts shown may be variously changed and modified 75 without departing from the spirit and scope of our invention.

We claim as our invention:

1. A brush, comprising a back in the form of an open frame, a separate bristle holder fitting in said frame, and means independent 80 of said back and holder for fastening the holder in said frame, said fastening means having parts interlocking with the adjacent marginal portions of said frame and said holder, respectively and extending through 85 the open frame of the back to engage the same.

2. A brush, comprising a back in the form of an open frame, a separate bristle holder fitting in said frame, and a fastening mem- 90 ber interposed between the adjacent marginal portions of said holder and frame, said member having parts engaging over the frame and holder, respectively.

3. A brush, comprising a back in the form 95 of an open frame, a separate bristle holder fitting in said frame, and a fastening member in the form of a metal strip interposed between the adjacent marginal portions of said holder and frame, said member having 100 flanges adapted to be bent over the frame and holder, respectively.

4. A brush, comprising a back in the form of an open frame, a separate bristle holder fitting in said frame, metal strips on oppo- 105 site sides of said frame and interposed between the marginal portions of the same and holder and extending lengthwise thereof, said strips having portions engaging over the side margins of said frame and holder, 110 respectively.

5. A brush, comprising a back and a handle cast integral, said back being in the form of an open frame, a separate bristle holder fitting in said frame, and means independent 115 of said back and holder for fastening the holder in said frame, said fastening means having parts interlocking with the adjacent marginal portions of said frame and said holder, respectively, and extending through 120 the open frame of the back to engage the same.

In testimony that we claim the foregoing as our invention, we affix our signatures, this 6 day of June, A. D. 1921.

HERMAN A. POPPENHUSEN.
ROLLAND T. R. HASTINGS.