

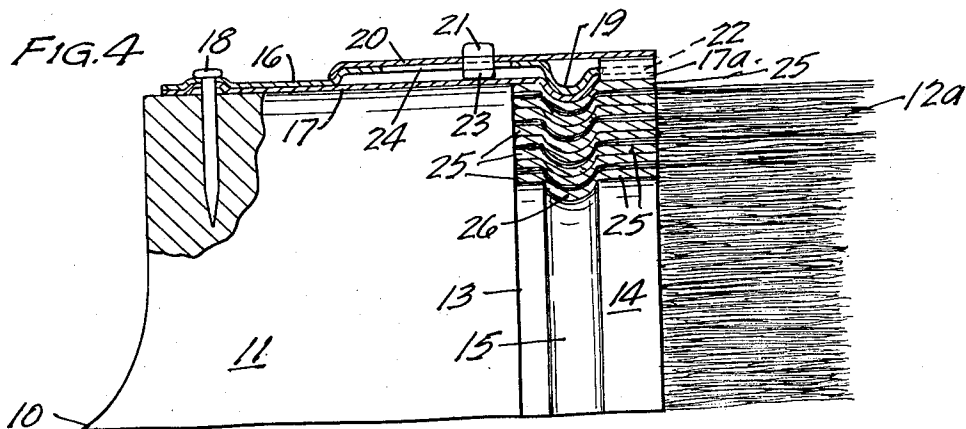
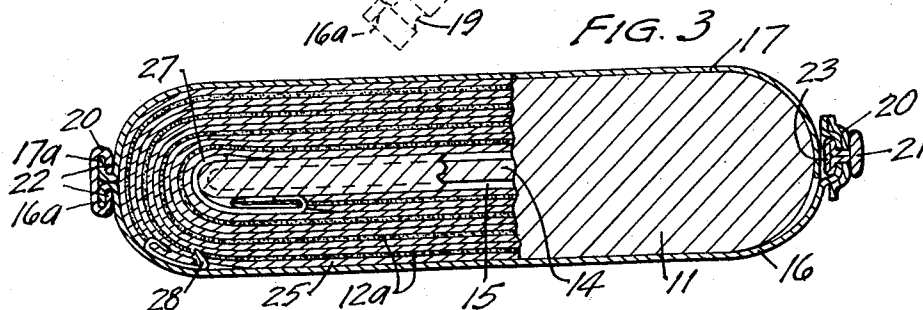
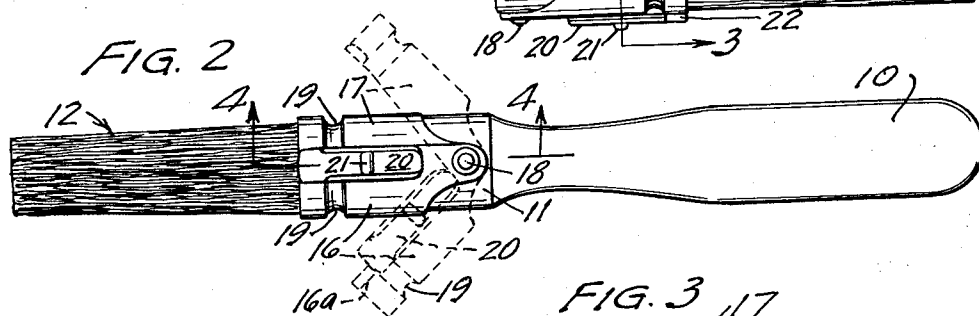
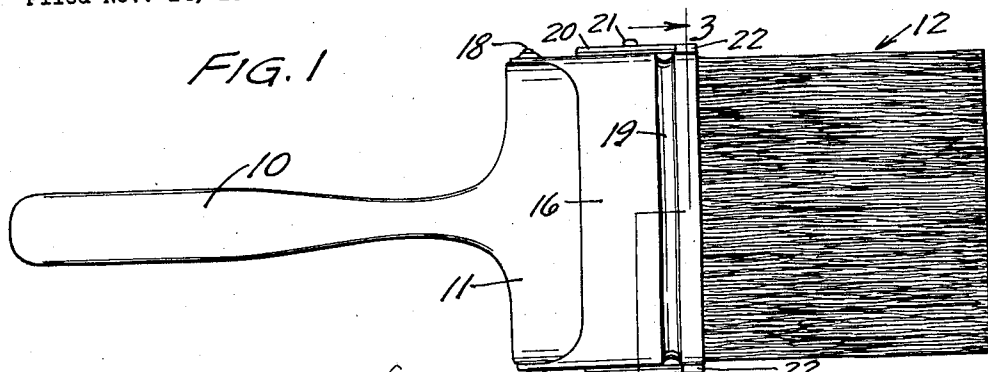
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R. H. CARLSON ET AL
BRUSH WITH DETACHABLE BRISTLES

2,912,709

Filed Nov. 14, 1956

2 Sheets-Sheet 1



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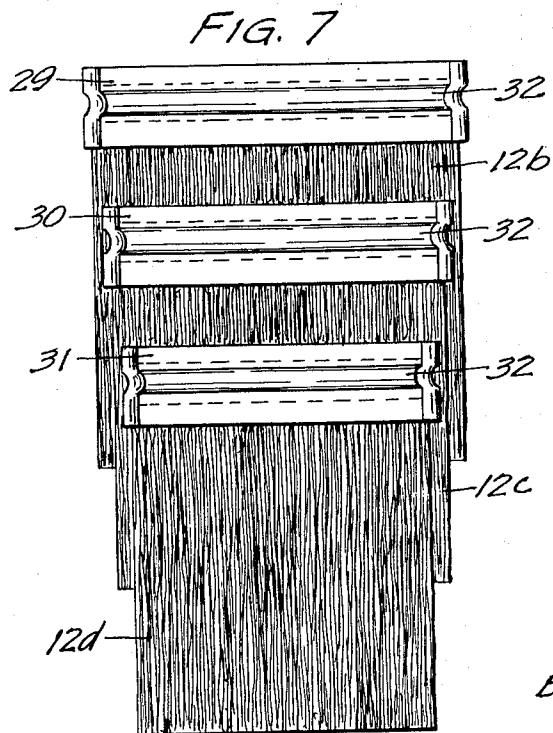
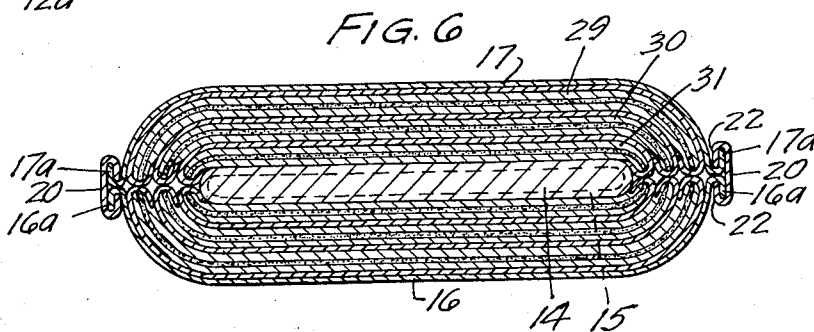
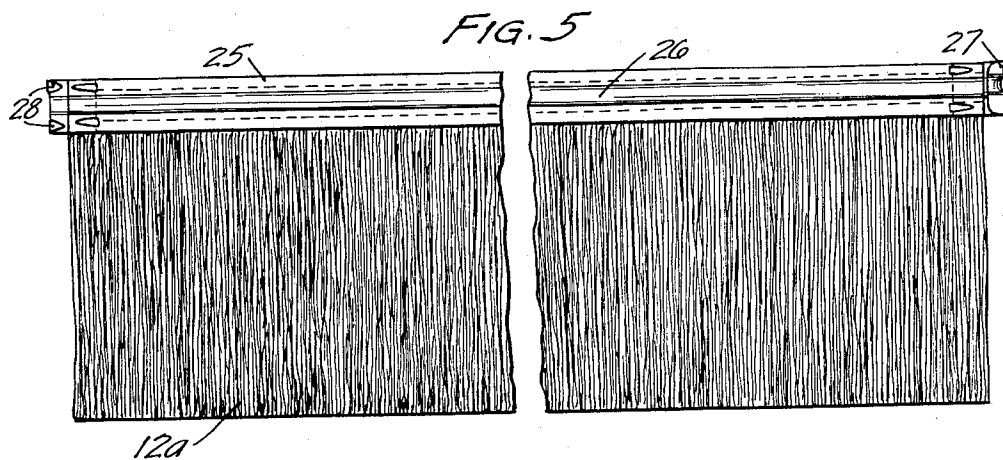
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BRUSH WITH DETACHABLE BRISTLES

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BRUSH WITH DETACHABLE BRISTLES

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4 Claims. (Cl. 15—178)

This invention relates to brush construction and particularly to brushes such as paint brushes having bristles which are readily detachable from a handle and adapted to be spread out for cleaning and then attached to the handle for further use.

It is an object of our invention to provide a brush of the class described with improved means for detachably mounting a number of overlapping layers of bristles on a handle member whereby the layers may be quickly and easily separated from the handle member and, after cleaning, may be reassembled and securely fastened to the handle member.

Another object is to provide for a brush having readily detachable layers of bristles, improved bristle clamping means adapted to cover and compress the end portions of the bristles attached to the handle when in use and means for readily retracting the clamping means from the bristles to permit the bristles to be detached from the handle.

A further and particular object is to provide in a brush of the class described bristle clamping jaws and coating readily accessible latch means for securing the jaws in gripping engagement with the bristles and for releasing the bristles for detachment from the brush handle.

The invention also includes certain other details of construction which will be more fully pointed out in the following specification and claims.

The invention will be best understood by reference to the accompanying drawings which illustrate, by way of example and not for the purpose of limitation, a preferred and a modified form of our invention.

In the drawing:

Figure 1 is a front elevational view showing one of our improved brushes;

Fig. 2 is a side elevational view of the same;

Fig. 3 is a cross sectional view on a larger scale taken on the line 3—3 of Fig. 1 and showing our preferred bristle layer binding means;

Fig. 4 is a fragmentary, part front elevational view and part vertical sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a front elevational view showing a row of bristles attached to a binding strip of our preferred construction;

Fig. 6 is a cross sectional view through the clamping members showing overlapping rows of bristles severally mounted on binding strips of a nonelected construction, and

Fig. 7 is a front elevational view showing a group of three strips of the nonelected construction binding rows of bristles, the several units of the group being moved out of their normal overlapping positions to show the individual binding strips and row of bristles carried by each.

Our improved brush has a suitable handle 10 terminating in an enlargement or head 11 to which a body of bristles indicated generally at 12 is removably attached. As best shown in Fig. 4, a shoulder 13 is formed on the

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head 11 and an extension 14 of reduced thickness and width projects from the shoulder 13 to form a relatively thin core for the body of bristles and their binding strip or strips hereinafter described. A groove 15 extends in parallel relation to the shoulder 13 across the sides and edges of the extension 14 to afford an interlock with the layers of bristles and their binding means. As indicated in Fig. 4 the sides of the extension 14 are substantially parallel one to the others so that the bristles 12 may be clamped against the sides of the extension 14 to form a densely packed bundle of parallel bristles.

Clamping members indicated generally at 16 and 17 respectively are formed to embrace the head 11 and rows of bristles carried by the extension 14. At opposite sides of the head 11 the members 16 and 17 are pivotally connected together and secured to the head by pins 18 so that these members may be swung from the full line positions shown, outward to the broken line positions indicated in Fig. 2. Each clamping member is formed along its free edge portion with a clamping jaw having a bead 19 adapted to compress the layers of bristles and binding means assembled on the extension 14 of the handle. These beads 19 overlie and coact with the groove 15 to securely retain the layers of bristles on the handle when the clamping members are in the operative or closed position shown in full lines in Figs. 1—4.

Readily accessible latches are provided, one at each side of the brush, for securing the clamping members 16 and 17 in closed gripping engagement with the bristles and their binding means. The latches comprise slide members 20 movable along opposite sides of the clamp member 16 and having small knobs 21 adapted to be manipulated to move the member 20 to and from locking position. An end portion of each of the slide members 20 is formed with a pair of inwardly turned flanges 22 adapted to interlock with flanges 16a and 17a formed respectively on the otherwise free adjoining jaw edges of the clamp members 16 and 17. By longitudinal movement of the slide members 20, their flanges 22 may be moved to and from engagement with the flanges 16a and 17a. As shown in Figs. 3 and 4, extending from the knob 21 through an opening in the slide member 20 is a short shank formed with flanges 23 projecting to each side in sliding engagement with the inner surface of the clamp member 16. The shank of the knob 21 is movable longitudinally in an elongated slot 23 (Fig. 4) formed in the clamp member 16.

Referring to Figs. 3, 4 and 5, our preferred binding means for rows of bristles comprises a thin elongated flexible strip 25 to which a long row of bristles 12a is secured. The end portions of these bristles overlap the strip 25 and are secured thereto preferably by a suitable adhesive. The strip 25 may be made of a tough durable fabric or of other flexible durable material which will not react with the paints or other substances and the solvents therefor with which the brush is to be used. Extending longitudinally of the strip 25 is a crease portion 26 adapted to fit in the groove 15 formed in the handle extension 14 and to receive the bead 19 formed on the clamping members 16 and 17.

Means for fastening the ends of the strip 25 to the extension 14 may comprise a thin metal hook member 27 secured to one end of the strip 25 for detachable engagement with an edge surface of the extension 14 (Fig. 3) and sharp prong members 28 secured to the other end of the strip 25 and adapted to penetrate an underlying layer of this strip when it is wound on the extension 14, as indicated in Fig. 3. The strip 25 with its row of bristles 12a is made long enough to wrap around the handle extension 14 a number of times and to form a body of bristles 12 of the desired size.

To assemble the strip 25 and its row of bristles 12a

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on the brush handle, the slide members 20 are manipulated to withdraw the flanges 22 from interlocking engagement with the flanges 16a and 17a of the clamping members 16 and 17. The members 16 and 17 are then swung outward to the open position shown in broken lines in Fig. 2 thus making the handle extension 14 accessible for attachment of the bristles. The hook member 27 is then placed in engagement with an edge of the handle extension 14 and the strip 25 is wound about the extension with the longitudinal crease portion 26 of the strip nesting in the groove 15, as best shown in Fig. 4. In winding the strip 25 on the extension 14 sufficient tension is placed on the strip to compress the bristles as a compact body. Prong members 28 are then pressed into engagement with the underlying layer of the strip 25 to hold the laminated body of bristles in place on the handle. Thereafter, clamp members 16 and 17 are closed to gripping position in relation to the strip 25 and layers of bristles and with the crease portion 19 fitting in the bead 26, as indicated in Fig. 4. While holding the jaws in this closed position slide members 20 are actuated to cause their flanges 22 to interlock with the flanges 16a and 17a, thereby locking the clamping members in the closed clamping position.

When it is desired to remove the rows of bristles from the handle as for cleaning or replacement, the slide members 20 may be quickly and easily retracted to permit separation of the clamp members 16 and 17 and thereby allow access to the strip 25. This strip may then be unwound and detached from the handle extension 14 in an obvious manner. This makes all portions of the bristles and binding strip which require cleaning readily accessible and thorough cleaning is thereby greatly facilitated.

Referring to the nonelected form of our invention shown in Figs. 6 and 7, a series of relatively short binding strips 29, 30 and 31 are arranged to be assembled in nesting relationship one to another in engagement with each side of the handle extension 14 and with groove 15 formed therein. The binding strips 29, 30 and 31 may be constructed from suitable lengths of thin metal or other suitable material and rows of bristles 12b, 12c and 12d may be secured by the use of a suitable adhesive or in other manner to the respective strips. Like the strip 25, each of the strips 29, 30 and 31 is preferably formed with a crease portion 32 adapted to coact with the groove 15 and to fit in nesting relation to the crease portion 32 of the overlapping strips and with the beads 19 of the clamping members 16 and 17. Additional binding strips and rows of bristles mounted thereon may be assembled in nesting relation one to another, as indicated in Fig. 6, to provide a body of bristles 12 of the desired size. As further indicated in Fig. 6, each of the binding strips may extend half way around the handle extension 14 and the assembled groups of strips and layers of bristles, when in use, are held under pressure between the clamping members 16 and 17. These clamping members and latch means including the slide members 20 and flanges of these members are adapted to interlock with the flanges on the clamp members and may be constructed as hereinbefore described with reference to the preferred construction shown in Figs. 1-5. After the overlapping rows of bristles and their binding members have been assembled on the handle extension 14, they are held together manually while the members 16 and 17 are closed on the bristle assembly and locked together by manipulation of the latch members 20.

The advantages of our improved brush construction as a means for greatly facilitating the cleaning and preservation of brushes will be evident from the foregoing specification. Both of the modifications herein described provide for the quick assembly of a laminated body of

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bristles of the required size on a handle and for the detachment of the assembly as a relatively thin layer or layers which may be readily cleaned by the application of a solvent for the paint or other substance applied to and used with the brush.

We claim:

1. A paint brush of the type having readily separable and detachable layers of bristles comprising, a handle, a head formed with an annular shoulder surface and an extension of reduced width and thickness projecting from said shoulder surface, said extension having substantially parallel opposite sides formed with grooves of substantial depth extending crossways thereof in parallel relation to said shoulder surface, a flexible and durable bristle binding strip, a row of bristles having end portions overlapping said binding strip and secured thereto, said strip and row of bristles having sufficient length to provide a plurality of layers of said binding strip and bristles detachably embracing said handle extension, and being formed with crease portions for interlocking engagement with the grooves formed in said extension, the several layers of said strip and bristles being free to be separated and cleaned when detached from said extension, a pair of bristle clamping members connected to said head and formed with jaws having beads adapted to grip the layers of said strip and bristles in interlocking engagement with said crease portions, and clamp fastening means operative to secure said jaws in gripping engagement with the layers of bristles and binding strip and to permit them to be removed from said extension for cleaning.

2. A brush in accordance with claim 1 wherein said elongated flexible strip has end fastening means comprising, teeth adapted to penetrate said strip whereby to secure the ends of the strip to said extension when the strip and bristles are wound on said handle extension.

3. A brush in accordance with claim 1 wherein said jaws are movable to an open position allowing free access to said extension for attaching said strip means thereto and for detaching them from said handle extension and said clamp fastening means comprise, a pair of latch members disposed to be manipulated to interconnect said jaws at opposite sides for retaining them in gripping engagement with the layers of bristles and binding strip means.

4. A brush in accordance with claim 1 wherein said jaws are formed with abutting edges and flanges on said edges at opposite sides of said head and said clamp fastening means comprise, a pair of latch members formed with flanges adapted to interlock with the flanges on said jaws for releasably fastening said jaws in gripping engagement with said bristles and binding strip means, and interlocking means carried by said latch members and jaws for confining said latch members to limited longitudinal movement relative to said flanges on the jaws.

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