March 6, 1962 P. R. F. DANLEY 3,023,439

PAINT BRUSH

Filed Feb. 1, 1960

FIG. 1

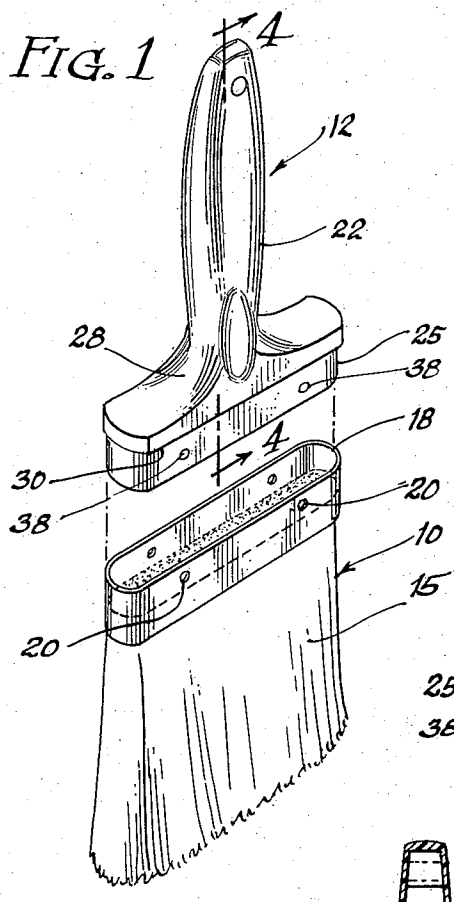
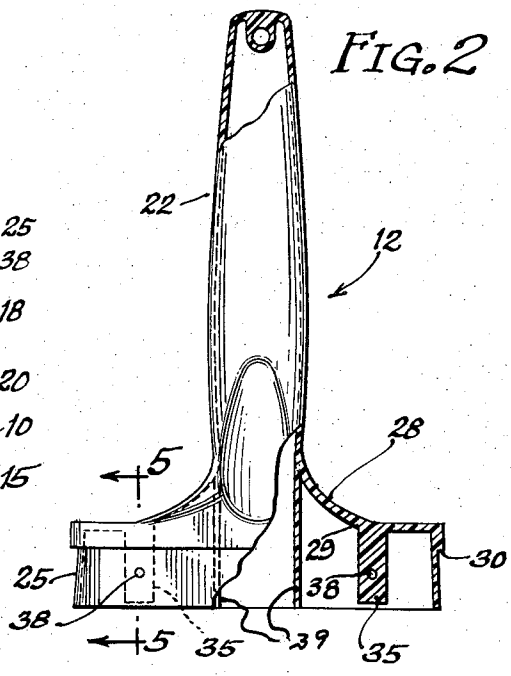


FIG. 2



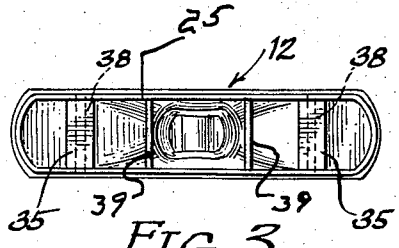
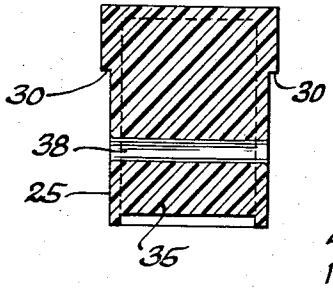


FIG. 3

FIG. 5



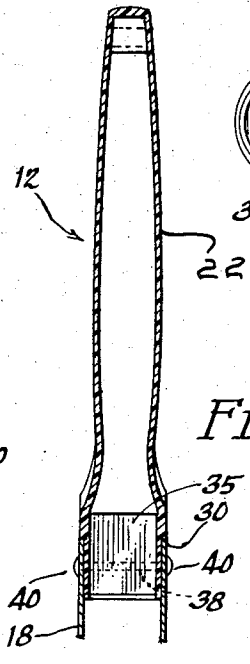


FIG. 4

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PAINT BRUSH

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8 Claims. (Cl. 15—143)

This application is in part a continuation of my co-pending application Serial No. 843,429, now abandoned, filed September 30, 1959.

My invention relates to paint brushes and has to do more particularly with an improved construction utilizing a novel hollow handle structure, preferably formed of molded plastic or other suitable material.

For many decades paint brushes have generally followed a more or less standard design employing wooden handles to which were attached metal ferrules carrying a body of bristles. Such an arrangement was for many years considered economical to fabricate and generally satisfactory.

However, with increased labor costs required for the production of wooden handles and increasing scarcity of wood, it has been considered highly desirable to find other materials which might be substituted for the standard wooden handle. Various materials and constructions have been suggested but none has been entirely satisfactory.

In Pettengill patent No. 2,532,780, granted December 5, 1950, it is suggested that a paint brush handle be formed as a hollow casting of a suitable light-weight metal such as magnesium, the handle being attached to a standard bristle-carrying ferrule by means of an intermediate wooden block for receiving the brads which attach the ferrule to the handle. Since the issue of that patent the market has seen the appearance of somewhat similar brushes utilizing a synthetic plastic handle in lieu of the metal disclosed by Pettengill, also utilizing a wooden block. While brushes of this type represent some advantages as compared with the standard wooden-handled brush, they neverthe'ess have not been an entirely satisfactory solution of the problem because of the necessary use of an intermediate wooden block to receive the nails or other fastening elements, adding to the cost of materials and labor.

According to my invention I employ in conjunction with a standard bristle-carrying ferrule a hollow handle consisting entirely of plastic or other suitable moldable or castable material which is attached directly to the ferrule without any intermediate block or other such element to constitute a brush which is entirely satisfactory for the required purposes.

A further object of my invention is provision of a paint brush handle which, while substantially hollow and preferably formed by casting or molding, nevertheless, has adequate strength and rigidity throughout, without the need for any supplemental reinforcing element, such as a wooden block as referred to above, and which is so designed that accidental flow of any substantial amount of paint into the interior of the handle is substantially prevented.

Referring now to the drawings forming a part of this specification and illustrating a preferred embodiment of my invention:

FIGURE 1 is a perspective exploded view of a paint brush embodying my invention;

FIG. 2 is an elevational view of the handle alone with parts cut away and shown in section;

FIG. 3 is a bottom plan view of the handle;

FIG. 4 is a sectional view taken substantially along the line 4—4 of FIG. 1 and

FIG. 5 is a sectional view taken substantially along the line 5—5 of FIG. 2.

Numeral **10** represents the brush portion of a paint brush shown exploded in FIG. 1, the handle part being indicated generally by the numeral **12**.

The brush portion comprises a body of bristles **15** which may be set at their extremities in a suitable binder within a ferrule **18** of brass or other suitable sheet metal. It will be understood that the brush portion **10** may be of standard or other suitable form and the ferrule **18** may be provided with a plurality of holes **20** for convenient attachment to the handle; if desired, these holes may be formed at the time of attachment, as by means of brads, rivets, etc.

The improved handle formed in accordance with my invention is preferably hollow and molded of a suitable synthetic plastic, such as nylon, a phenol-formaldehyde resin, etc., hard rubber or other suitable material having the desired characteristics of rigidity, hardness, etc. The handle portion **12** comprises an elongated grip element or stem **22** and a ferrule-engaging sleeve-like portion **25**. Portion **25** is so proportioned as to seat snugly within the ferrule **18** and is connected to the grip portion **22** by means of a tapered intermediate neck portion **28** having a continuous shoulder portion **30** engaging the free edge of ferrule **18**.

Formed integrally in the handle portion **12** is a plurality of lugs or bridges **35** extending in a transverse direction between and connected to opposite sides of ferrule-engaging portion **25**, said lugs being of appreciable width, i.e., having appreciable dimension in a direction across said ferrule-engaging portion perpendicular to said transverse direction, and having their bases integrally connected to neck portion **28** as indicated at **29** in FIG. 2. In the instant case I have shown two bridges **35**, but it will be understood that the number may be varied. Two will ordinarily be sufficient for my purposes.

In view of the relative hardness of the plastic materials suitab'e for my purpose it is preferable that perforations **38** be formed in the bridges **35** at the time of molding the handle portion **12** for the reception of fastening elements such as brads or rivets. These perforations, as seen in FIG. 5, may extend entirely through the bridges **35** or may extend only a relatively short distance from the surface of the bridge into the interior thereof, of sufficient depth to receive a fastening element. Because of the appreciable width of the lugs **35**, the placement of perforations therein is not a precision operation and the brads or rivets which are inserted therein interconnect the handle and brush effectively and securely without possibility of fracture or cracking.

Also preferably molded integrally with the handle is a plurality of webs **39** extending transversely of the sleeve **25**. Ordinarily, as shown in FIGS. 2 and 3, a single pair of such transverse webs **39** will be adequate. They are preferably positioned substantially in line with or in continuation of side walls of the stem portion **22** of the handle, or may be positioned laterally of the projected sides of the stem portion.

It will also be noted that the free edges of webs **39** are substantially flush with the bottom edge of sleeve **25**.

These webs **39** perform several functions. They serve not only to reinforce sleeve portion **25** but also perform an additional important function. If the brush is dipped into a body of paint to such depth that the ferrule will be submerged, there is a tendency for the liquid to seep past the ferrule and into the handle. Webs **39** serve effectively to prevent such liquid from flowing into the stem portion **22** of the handle; thus the brush remains light in weight and properly balanced at all times and under all conditions.

In the assembly of my improved brush it is merely necessary to pass the ferrule 18 over the sleeve 25 of the handle portion until the edge of the ferrule engages shoulder 30, whereupon brads or rivets 40 will be driven through the ferrule and into the bridges 35. Thus, it will be seen that the assembly operation is extremely simple, may be quickly accomplished by relatively unskilled labor and results in a rugged brush assembly having a light-weight and attractive handle.

Various changes coming within the spirit of my invention may suggest themselves to those skilled in the art; hence, I do not wish to be limited to the specific embodiments shown and described or uses mentioned, but intend the same to be merely exemplary, the scope of my invention being limited only by the appended claims.

I claim:

1. A paint brush comprising, in combination, a brush part and a substantially hollow handle part, the brush part comprising a ferrule and a body of bristles mounted therein, the handle part comprising a stem portion and a band portion engaging said ferrule and generally conforming to the contour thereof, lugs of appreciable width integral with said band portion and disposed in the interior thereof, and means securing the ferrule to the handle part comprising tenuous fasteners passing through the ferrule into the lugs.

2. A combination as in claim 1, wherein the lugs contitute spaced bridges joining opposite sides of the band portion.

3. A combination as in claim 2, having apertures extending at least part way into each of the bridges from the outside thereof, said fasteners passing through the ferrule and into said apertures.

4. A paint brush comprising, in combination, a brush part and a substantially hollow molded handle part, the brush part comprising a ferrule and a body of bristles mounted therein, the handle part comprising a stem portion and a band portion engaging said ferrule and generally conforming to the contour thereof, lugs integral with said band portion and disposed in the interior thereof, means securing the ferrule to the handle part comprising tenuous fasteners passing through the ferrule into the lugs, and integral rigid dam means extending through said band portion and providing a channel with the stem portion substantially to the free end of the band portion, substantially blocking the flow of liquid therefrom into the stem portion.

5. A combination as in claim 4, wherein the dam means comprises a pair of webs connecting opposite sides of the band portion and disposed generally in projection of the walls of the stem portion.

6. An article as in claim 4, wherein the lugs constitute spaced bridges joining opposite sides of the band portion, with apertures extending at least partway into each of the bridges from the opposite sides thereof, said fasteners passing through the ferrule and into said apertures.

7. A hollow paint brush handle molded of relatively lightweight material, comprising a stem portion and a band portion, said band portion having integral transverse lugs of appreciable width disposed in the interior thereof and having apertures therein for the reception of tenuous fasteners.

8. An article as in claim 7, having integral rigid dam means forming a channel continuous with the stem portion and extending substantially to the open end of the band portion, so as to prevent the flow of liquid into the stem portion.

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