March 19, 1963 S. H. WELLS 3,081,473

PAINT BRUSH

Filed May 13, 1960 2 Sheets-Sheet 1

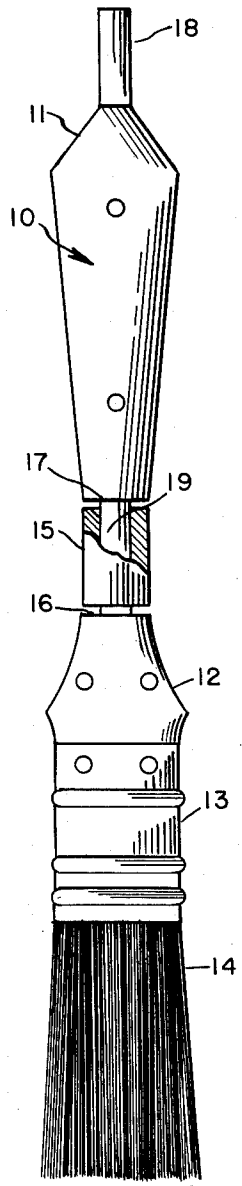


FIG. 1

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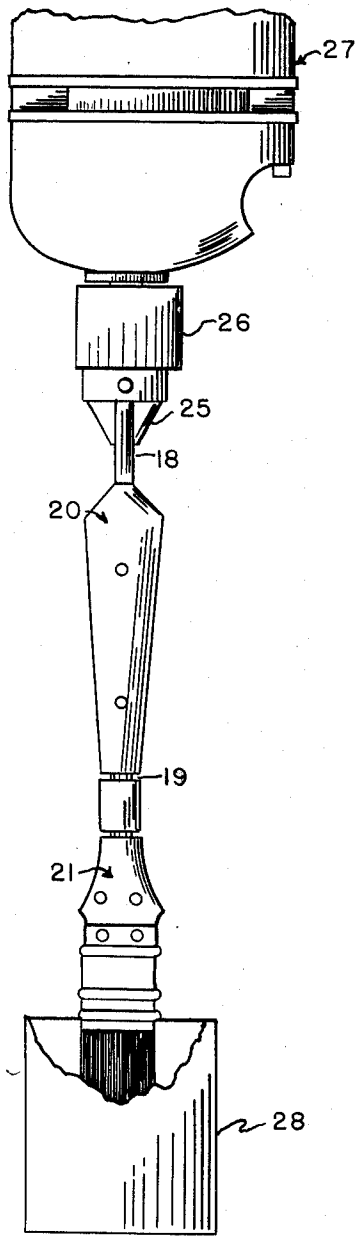


FIG. 2

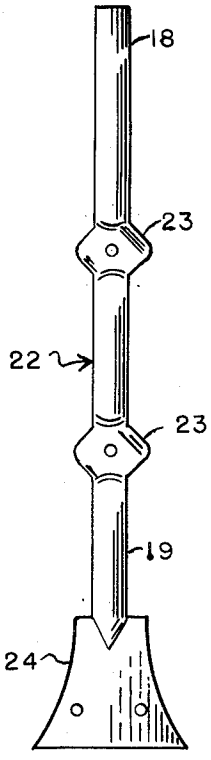


FIG. 3

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PAINT BRUSH

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This invention relates to a paint brush and more particularly to a novel paint brush handle adapted to facilitate cleaning of the brush or removal of paint from the bristles thereof after use.

The removal of paint, and particularly oil-base paint, from the bristles of paint brushes, to clean the brush after use is a laborious task for painters, whether professional or amateur. The conventional method involves repeatedly dipping the brush in a solvent such as turpentine and wiping the solvent and paint from the brush with a cloth. The task is not only disagreeable, but is costly in the use of solvent and cleaning cloths and usually fails to remove the paint completely from the bristles unless much effort is expended.

I have now devised a novel paint brush structure, and more particularly a novel paint brush handle, that are adapted for easier and more effective cleaning than conventional brushes. The novel paint brush is adapted for use with a rotary power tool by means of which paint and solvent are removed from the bristles by centrifugal force.

The device of my invention comprises a paint brush having a handle portion, a bristle portion, and means for connecting the handle with the bristles. The handle is provided with a stud means at one end thereof, said means being adapted for reception in the chuck of a drill. The handle is further provided with a rotary grip means intermediate the free end and the bristle end thereof, said grip means being of generally annular form and being adapted to rotate freely about the longitudinal axis of the handle. Preferably, means is provided for limiting the longitudinal movement of the grip means on the handle.

I shall describe my invention in more detail by reference to the drawing, of which:

FIGURE 1 is an elevational view of a preferred embodiment of my novel paint brush with a portion thereof broken away and in section;

FIGURE 2 is an elevational view, partly broken away, showing the stud of the brush handle engaged by a drill chuck and the brush inserted in a receptacle; and

FIGURE 3 is an elevational view of a metal insert for a preferred modification of the brush handle.

The paint brush shown in FIGURE 1 has an elongated handle **10** having a stud end **11** and a bristle end **12**. The end **12** is connected by means such as the ferrule or metal band **13** to the bristle portion **14** of the brush. Intermediate the stud end **11** and the bristle end **12**, the handle **10** is provided with an annular finger grip means or ring **15** that rotatably engages the handle.

In the embodiment shown in the drawing ring **15** is positioned in a reduced-diameter section of handle **10**. Thus, the shoulders **16** and **17** abutting the reduced diameter section provide means for limiting movement of the ring longitudinally along the handle.

At the stud end **11** handle **10** is provided with a rigidly connected stud means **18** that extends longitudinally from the handle. This stud is adapted for gripping engagement by a drill chuck when the brush is being cleaned.

The method of cleaning the brush and its unique adaptability for easy cleaning will now be described. When the brush has been used for painting and it is desired to remove the paint from its bristles, the brush is connected by stud **18** to a means for rapidly rotating the brush about its longitudinal axis. Most suitably, as shown

in FIGURE 2, stud **18** is engaged by jaws **25** of chuck **26** of a rotary power tool such as electric hand drill **27**.

Either before or after engaging stud **18** with the drill chuck the bristles of the brush are saturated with a paint solvent such as turpentine. Next, the painter manually grips the ring **15**, this being the only manual contact with the brush, and starts the power drill. A rapid rotary motion about its longitudinal axis is imparted to the brush. The engagement of the stud **18** by the drill chuck and of the ring grip **15** by the painter's fingers insures stable rotation about the longitudinal axis of the handle.

The rotary motion of the brush develops centrifugal force and causes paint and solvent to be flung laterally from the bristles. Preferably, therefore the brush is inserted in an empty paint can, such as can **28** in FIGURE 2, or other suitable receptacle before starting the rotary tool. Such a receptacle will catch the paint flung from the brush and will prevent damage to the surroundings.

One such cleaning operation as described may provide adequate cleaning. If not, the operation can be repeated as many times as necessary. I have also found that best results are obtained by triggering the electric drill to cause intermittent rotation of the brush.

Although I do not wish to be bound by theoretical explanations of the manner in which paint is removed from the bristles of my paint brush, a probable explanation can be given for the superior adaptability for cleaning which characterize my novel brush. When the power drill is started, as shown in FIGURE 2, the brush is caused to rotate rapidly about its longitudinal axis. Centrifugal force causes the bristles to spread apart or fan out. As a result, the capillary forces tending to retain the paint are reduced and the flow of paint from the bristles is greatly facilitated. Most significantly, the removal of paint from the tightly packed bristle area adjacent the ferrule is markedly improved in comparison to the conventional cleaning procedure of longitudinally wiping the packed mass of bristles with a cloth.

I have described one specific embodiment of my novel paint brush, but modifications can be made within the scope of the invention. For instance, in the embodiment of the drawing the ring grip **15** is set in a recessed section of handle **10** and the surface of ring **15** is flush with the main body of the handle. This is advantageous because the ring does not interfere with the painter's grip when painting with the brush. However, the ring can protrude from the handle. Thus, within the scope of the invention the ring can be mounted on a cylindrical portion of the handle that is not of substantially reduced diameter. In any event, either the handle or the ring preferably is provided with means to limit movement of the ring longitudinally on the handle.

The handle **10** can be constructed of any of the materials conventionally used for brush handles, e.g., wood or plastic. Preferably the stud **18** and the bearing surface **19** for ring **15** are of steel. Thus, the handle can comprise a central steel member having cylindrical portions **18** and **19** and flattened portions to which the wooden or plastic handle elements **20** and **21** are riveted or otherwise fastened.

FIGURE 3 illustrates a preferred type of steel insert **22** for the handle. This device, which can be formed from a cylindrical rod by suitable forging, has flattened portions **23** and **24** to which handle elements **20** and **21** are riveted. The cylindrical end of insert **22** extends beyond the handle member **20** and forms the stud **18**. An intermediate cylindrical section forms the bearing surface **19** for ring **15**. Preferably, stud **18** is forged to provide flat surfaces for gripping by the chuck jaws **25**.

Obviously many modifications and variations of the invention as herein set forth may be made without depart-

ing from the spirit and scope thereof. Therefore only such limitations should be imposed as are indicated in the appended claims.

I claim:

1. A paint brush consisting essentially of:

(I) a rigid elongated handle having

(*a*) a stud end

(*b*) an outwardly flaring bristle end, and

(*c*) a main handle portion adapted for hand gripping;

(II) bristles extending substantially parallel to the longitudinal axis of the handle;

(III) means rigidly connecting said bristles with the outwardly flaring bristle end of the handle;

(IV) a stud means rigidly connected to and forming a reduced diameter extension of the stud end of said handle, said stud means being adapted for gripping engagement by a drill chuck;

(V) an annular finger grip means rotatably engaging said handle adjacent the outwardly flaring bristle end, said finger grip means being adapted to rotate freely about the longitudinal axis of said handle but being limited against longitudinal movement along said handle so that the main portion of said handle extending from said finger grip means to said stud means is adapted for non-rotating hand gripping.

2. The paint brush of claim 1

wherein the finger grip means rotates about a reduced diameter cylindrical section of said handle adjacent the outwardly flaring bristle end thereof and is of no greater diameter than the main portion of said handle.

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