

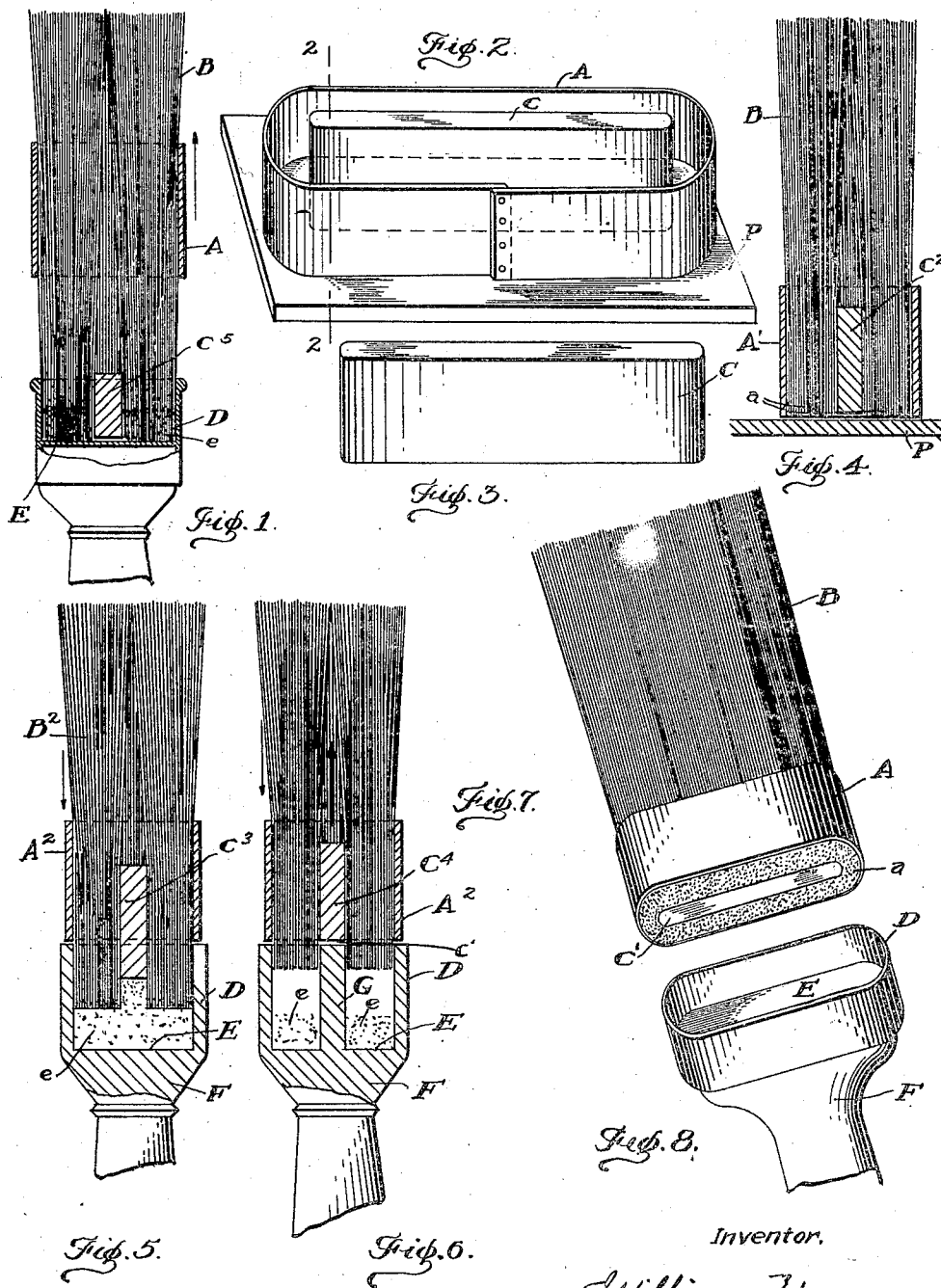
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METHOD OF CONSTRUCTING BRUSHES

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Inventor.

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## UNITED STATES PATENT OFFICE.

WILLIAM UNGER, OF WOOSTER, OHIO.

## METHOD OF CONSTRUCTING BRUSHES.

Application filed November 6, 1922. Serial No. 599,426.

*To all whom it may concern:*

Be it known that I, WILLIAM UNGER, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Method of Constructing Brushes, of which the following is a specification.

My invention relates to improvements in brushes, and particularly to improvements in method of constructing paint, varnish, and calcimine brushes, and the like, in which the brush material is secured in the brush head by cement or other adhesive material. The principal object of my invention is to provide better means for assembling, securing and solidifying brush material in the brush block or head, and to simplify and cheapen the manufacture of such brushes without diminishing their strength, pliability and durability.

It consists of improved means for assembling and inserting brush material within the brush block or head, and, particularly for immersing and thoroly saturating the butt ends of such material within the cavity of the brush head, and for solidifying and tightening such butt ends therein after insertion into a measured quantity of liquid cement in the cavity, as hereinafter set forth and stated in the appended claim.

I attain the objects stated and provide the means aforesaid, as follows—

My invention is illustrated by the accompanying drawings, in which similar letters and figures of reference indicate like parts.

Referring thereto, Fig. 1 is an edge view of a flat brush, cut away for better illustration of the interior construction. Fig. 2 is a detail view of a temporary or pilot band for enclosing and holding the brush material, and of a spacer block in position ready for introduction of brush material thereto. Fig. 3 is a detail view of the spacer block, detached; and Fig. 4 is a cross section of Fig. 2 on the dotted line 2—2, showing brush material in loose position, ready for transference to the cavity of the brush head. Fig. 5 is a detail sectional view of a brush head cavity, showing partial introduction of brush material therein, spacer block pushed up within the pilot band, and the latter in position to facilitate such introduction into the cavity partly filled with liquid cement. Fig. 6 is a similar view, showing a modification of the brush head having two cavities. Fig. 7 is a perspective view showing the

mass of brush material assembled within the pilot band, and the hollow formed by pushing up the spacer plate within the band, and the butt ends of the brush material loosely spread apart by such displacement of the spacer plate, ready for introduction into the cavity of the brush head shown in Fig. 8. In the drawings, A is a temporary band, called pilot band, of suitable sheet metal about an inch wide, shaped so as to exactly register with the inner margin of the brush head cavity E, on the ferrule D; its object being to temporarily receive and hold sufficient brush material loosely assembled therein around the spacer plate C located centrally therein, as shown at C<sup>2</sup>, Fig. 4.

D is the rim or ferrule of the brush head forming the cavity with the bottom E within which a measured quantity of liquid cement is stored to saturate and hold the butt ends of the brush material, as shown in Fig. 1. The several arrows indicate the direction of movement of the parts to which they respectively refer.

Having thus prepared the several parts mentioned, they are assembled and the brush is constructed as follows—

A measured quantity of brush material, such as bristles or other suitable material is inserted endwise loosely within the pilot band A, which for convenience may be stood upon a platform or table, around the spacer plate C<sup>2</sup>, and the entire mass evened at the butt ends thereof by tapping, as shown in Fig. 4. The assembling of the brush material being thus completed, the spacer plate is manually pushed up a short distance within the brush material so as to provide a hollow space, C' centrally therein, as shown in Fig. 7. By such displacement of the spacer plate, the butt ends of the brush material, by their natural elasticity, are loosened and spread apart within the pilot band below the spacer plate, and thus adapted to be thoroly saturated by the liquid cement when immersed therein as hereafter stated. When thus prepared, the brush material is manually pressed into the brush head cavity by the guidance of the pilot band, as shown in Figs. 5 and 6, said cavity containing a measured quantity of liquid or semi-liquid cement, such as commonly used in the making of brushes, and said butt ends immersed therein, and the hollow space C' thereby filled in between.

When thus pushed into the brush head cavity, with the butt ends thereof slightly spread apart and separated from each other, and said hollow space filled with the liquid cement, as aforesaid, whereby thorough saturation of the mass of butt ends is accomplished, the pilot band A is drawn upwards to give access to the upper edge of the spacer plate by a pointed tool, and thereby the spacer plate is forced down to the bottom of the brush head cavity, as shown in Fig. 1. Such movement and pressure forces the liquid cement into the adjacent mass of brush material and solidifies and tightens the same in the brush head cavity completely, thus completing the construction of the brush, ready for drying and hardening of the cement in the usual well known way, and the pilot band may be removed.

If desired, a plurality of spacer plates may be employed in like manner, and a brush handle may be supplied either before or after the completion of the brush as aforesaid.

I am aware it is not new to guide bristles into a socket by means of a tapered sleeve, or the like, or to assemble brush material around a spacer block to hold the same while applying liquid cement thereto for afterwards insertion, or to first fill the socket with cement, then introduce the butt end of bristles and allow the cement to set, and such I do not broadly claim.

My invention is distinguished by the novel use of a movable spacer plate in co-operation with the pilot band whereby the butt ends of the brush material are inserted by immer-

sion in the liquid cement within the brush head cavity, and, when completely saturated thereby, are solidified in the brush head by the forced interposition of the spacer plate within the brush head cavity, as aforesaid.

I do not limit my claim to mere matter of form, but claim such modifications as are fairly within the scope of my invention.

Having thus fully described my invention, what I claim is—

The herein described method of assembling a brush consisting in providing a bristle receiving socket with a measured quantity of liquid cement; assembling a group of bristles about a spacer plate or core with the bristle butts even, and within a pilot band shaped to register with the periphery of the said socket, then moving the spacer plate a short distance within the group of bristles so as to form a hollow space in the butt end and to loosen them to admit cement therebetween, inserting the bristles down through the pilot band into the socket with the loose bristle butts immersed in the liquid cement, then removing the pilot band and forcing the spacer down to the bottom of the socket to bring closely together the butt ends of the bristles.

In witness whereof, I hereunto set my hand this 14 day of October, 1922.

WILLIAM UNGER.

In presence of—  
WALTER J. MONGEY,  
HIRAM SWARTZ.