

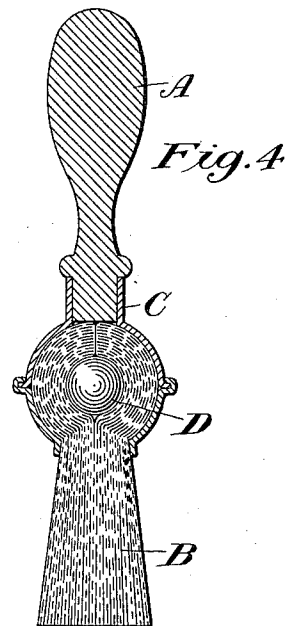
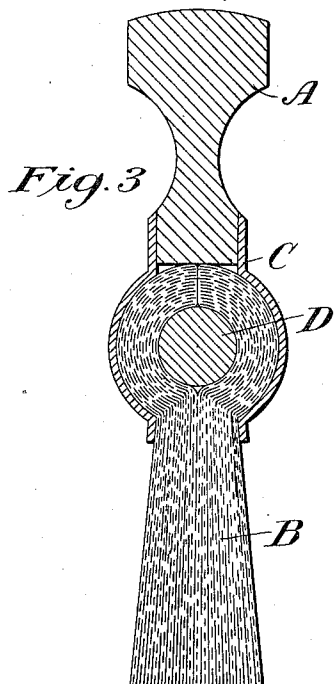
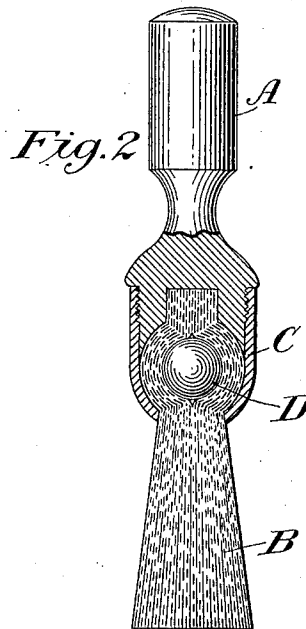
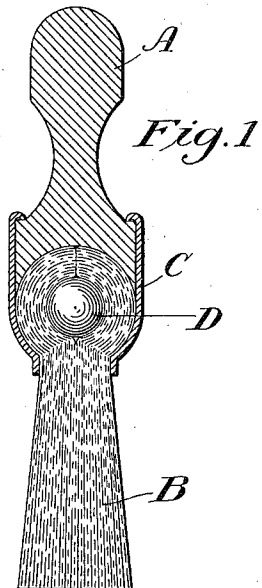
W. F. PURCELL.

BRUSH.

APPLICATION FILED OCT. 26, 1906.

1,032,565.

Patented July 16, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM F. PURCELL, OF NEW YORK, N. Y.

BRUSH.

1,032,565.

Specification of Letters Patent.

Patented July 16, 1912.

Original application filed March 26, 1904, Serial No. 200,160. Divided and this application filed October 26, 1906. Serial No. 340,621.

To all whom it may concern:

Be it known that I, WILLIAM F. PURCELL, a citizen of the United States, residing in New York city, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Brushes, of which the following is a full, clear, and exact specification.

My invention relates to certain new and useful improvements in brushes and the manufacture thereof, and has for its object the production of a cheap and durable brush wherein the bristles are securely held by mechanical means, thus avoiding the necessity of using cement or other like substance, while producing an efficient and valuable article.

This application is a division of a pending application filed by me March 26, 1904, Serial No. 200,160, wherein the present invention was described and claimed.

In the drawing, Figures 1, 2, 3, and 4 indicate specific forms of my invention and are sectional views showing the handles, bristles, and securing means in their assembled positions.

In the figures, A represents the handle, B the bristles, and C a cylindrical ferrule having an annular depression or recess therein. The ferrule is preferably made of metal and is designed to be fixed to the handle by any suitable means well known in the art. For example, in Fig. 1, the upper end of the ferrule C is crimped or pinched around a shoulder on the handle so as to hold the same in position. In Fig. 2 the ferrule C is internally threaded and is screwed on to the handle A in a well known manner. In the construction illustrated in Figs. 3 and 4, the ferrule is held on the handle by friction or other suitable fastening means well known in the art. It will be observed that in each construction shown in the drawing the lower end of the ferrule C forms an annular depression into which the upper ends of the bristles are fitted.

The upper end of the bristles is inserted within the ferrule and a floating core or ball D is located in the center of the bundle of bristles, and in connection with the ferrule serves to hold the bristles securely in place. The upper ends of the bristles ex-

tend above the floating core and thus are clamped both above and below the core.

The method of making the brush which I prefer to employ is first, inserting the bristles within the sleeve or ferrule, then inserting the floating core or ball substantially in the center of the bundle of the bristles and about midway of the ferrule; then pressure is applied to the outside of the ferrule and its lower end is contracted, and in the case of Figs. 3 and 4 the upper end of the ferrule is also contracted; by which means the bristles are uniformly clamped between the ferrule and the floating core and thus securely held in place.

In the construction shown in Fig. 4 the ferrule C preferably is formed in two semi-circular sections which are suitably secured together by means of a central ridge formed by bending the material of one section around a flange on the other section as clearly illustrated.

In Figs. 1 and 2 slight modifications have been shown, wherein the ferrule is not contracted at its upper end, but an extension of the handle is provided with a contracted portion. In the manufacture of this style, all that is necessary, after the ferrule has been secured to the handle, is to insert the bristles in the ferrule, insert the floating core, and then by means of suitable pressure apparatus, forcibly contract the lower end of the ferrule around the bristles, when they will be firmly locked in place, as shown.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a brush, the combination with the handle, the bristles and a ferrule having an annular depression, of a ball within said ferrule and surrounded by said bristles, substantially as described.

2. A brush comprising a floating core, bristles disposed about it, and a continuous integral metal sleeve surrounding the bristles and contracted thereupon to clamp them in bristle chambers in said sleeve both above and below the core.

3. A brush comprising a floating core, bristles surrounding it, a metal sleeve enveloping and confining the bristles, a handle disposed in the axial line of the brush, and

means for connecting said handle to the assembled parts.

4. A brush comprising a floating core, bristles surrounding it, means for clamping the bristles against upper and lower surfaces of the core, a handle in the axial line of the brush, and means for connecting said handle to the assembled parts.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

WILLIAM F. PURCELL.

Witnesses:

ADOLPH F. DINSE,
JOHN C. ROBINSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."