Apr. 3, 1923.

1,450,534

E. B. WRIGHT

BRUSH

Filed Dec. 9, 1921

Fig. 1,

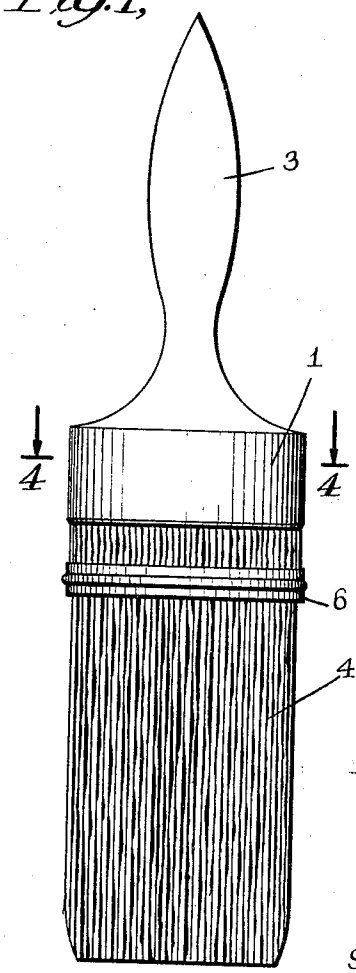



Fig. 2,

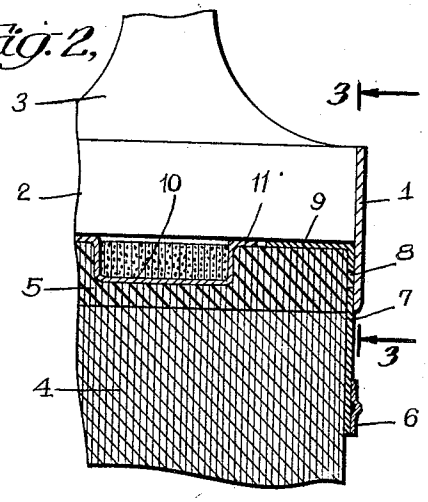



Fig. 3,

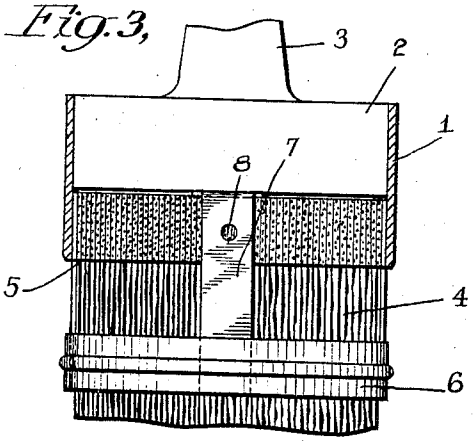
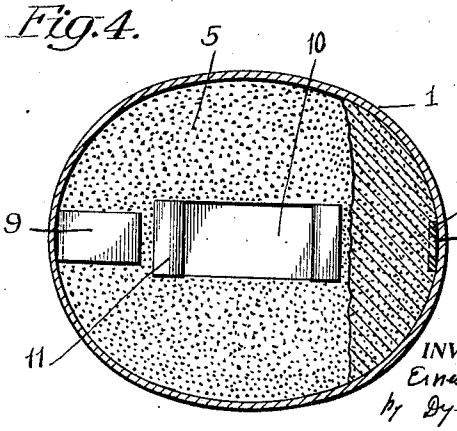



Fig. 4.




INVENTOR
Ernest B. Wright,
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# UNITED STATES PATENT OFFICE.

ERNEST B. WRIGHT, OF UPPER MONTCLAIR, NEW JERSEY, ASSIGNOR TO HANLON & GOODMAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## BRUSH.

Application filed December 9, 1921. Serial No. 521,087.

*To all whom it may concern:*

Be it known that I, ERNEST B. WRIGHT, a citizen of the United States, and resident of Upper Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

The invention relates to improvements in brushes, such as paint brushes. An object of the invention is the provision of an improved construction whereby a bridle is effectively supported and mounted in position, the bridle surrounding the bunch of bristles to prevent undue spreading of the bristles while using the brush.

A bridle is commonly secured in position below the ferrule in which the upper end of the bunch of bristles is inserted, by providing it with upwardly extending arms which are secured to the outer surface of the ferrule by nails or the like. My invention improves upon such constructions by securing or supporting the upwardly extending arms of the bridle to the upper end of the bunch of bristles within the ferrule. In the preferred construction the upper end of the bunch of bristles is embedded in a rubber composition or the like, which is then vulcanized, the arms of the bridle being secured to the vulcanized or cemented upper end portion of the bristles.

Other objects of the invention comprise the provision of improved details of construction and combinations of parts, all as will be more fully set forth in the following specification and particularly pointed out in the appended claims.

In order that the invention may be more clearly understood attention is hereby directed to the accompanying drawings forming part of this application and illustrating one embodiment of the invention. In the drawings

Fig. 1 represents a side elevation of a brush provided with the invention;

Fig. 2 is a partial enlarged vertical section through the brush shown in Fig. 1;

Fig. 3 is a vertical section taken on line 3—3 of Fig. 2; and

Fig. 4 is a horizontal section taken on line 4—4 of Fig. 1.

Referring to the drawings, the brush comprises a metal ferrule 1 into the upper end of which is inserted the head portion 2 of the handle 3. The bunch of bristles 4 has its upper end portion dipped into a soft rubber cement or similar material, or the cement material may, of course, be applied to the upper end of the bristles in any other suitable way. This upper end portion of the bristles, indicated at 5, is inserted into the lower end of ferrule 1.

The bridle 6 comprises a band preferably of thin sheet metal which is intended to surround the bristles a short distance below the ferrule, as is common. The bridle is provided with upwardly extending arms, 7, 7, the upper ends of which are secured to or supported by the cemented upper end portion 5 of the bristles.

When the cementing material has been applied to the upper end portion of the bristles, this end portion is inserted within ferrule 1 together with the upper ends of the arms 7, 7, and the parts mentioned are then subjected to the usual vulcanizing process. The arms 7 may be provided with surfaces or portions adjacent the upper ends thereof which are specially formed and adapted to cooperate with the cementing material to secure the arms to the bristles. Thus, as shown in the drawings, the arms may be provided with perforations 8 through which the rubber will flow and in which the rubber will harden during the vulcanization to secure the arms to the bristles. The upper end portions 9 of the arms are also shown as bent inwardly above the upper end portions 5 of the bristles, so that the bridle will be supported thereby after the rubber composition has hardened. It will be understood that the invention is not limited to the joint use of perforations 8 and bent ends 9, but that other means may be used for securing the arms to the cementing material.

After the vulcanizing of the rubber and the securing in place of the bridle, as stated, the head portion 2 of handle 3 may be forced into ferrule 1 and the ferrule then secured tightly to the handle and the bristles, if this is necessary, in any suitable way as by pressing portions of the ferrule inwardly. When the ends of arm 7 are bent over, as shown at 9, the head 2 of the handle will be pushed into contact with these bent over ends 9 of the arms. The head 2 of the handle being forced into the ferrule a determined distance in each instance, the position of the bridle

6 a desired distance below the ferrule will be automatically determined.

I preferably also employ a bent strip of metal 10 in place of the solid plug which is commonly positioned within the rubber dipped upper end of the bristles to provide a centrally disposed space within the bunch so as to render the bristles more pliable in use. The metal strip 10 is provided with a lower horizontal portion, the end portions of the strip extending upwardly and then outwardly, as is indicated at 11, to form flanges which are supported on the upper surface of the vulcanized end portion 5 of the bunch.

It should be understood that the invention is not limited strictly to the details of construction described but is as broad as is indicated by the accompanying claims.

What I claim is:

1. In a brush the combination of a ferrule, a bunch of bristles having the upper end portion thereof embedded in hardened cementing material, extending into said ferrule, and a bridle surrounding the bristles and having rearwardly extending arms, said arms having portions thereof extending into the interior of said ferrule and cooperating with the cementing material to fixedly secure the arms to the cemented portion of the bristles.

2. In a brush, the combination of a ferrule, a handle extending into the upper end of the same, a bunch of bristles extending into the lower end of the same, and a bridle surrounding the bristles below the ferrule and having arms extending into the ferrule, said arms having their upper end portions bent inwardly above the upper end portion of the bristles, said upper end portion of the bristles being embedded in hardened cementing material.

3. In a brush the combination of a ferrule, a bunch of bristles having the upper end portion thereof embedded in hardened cementing material, and extending into said ferrule, and a bridle surrounding the bristles and having arms extending rearwardly into the interior of said ferrule, said arms having openings therein into which an integral portion of the cementing material extends to fixedly secure the arms to the bristles.

Signed at New York, in the county of New York and State of New York this 6th day of December A. D. 1921.

ERNEST B. WRIGHT.