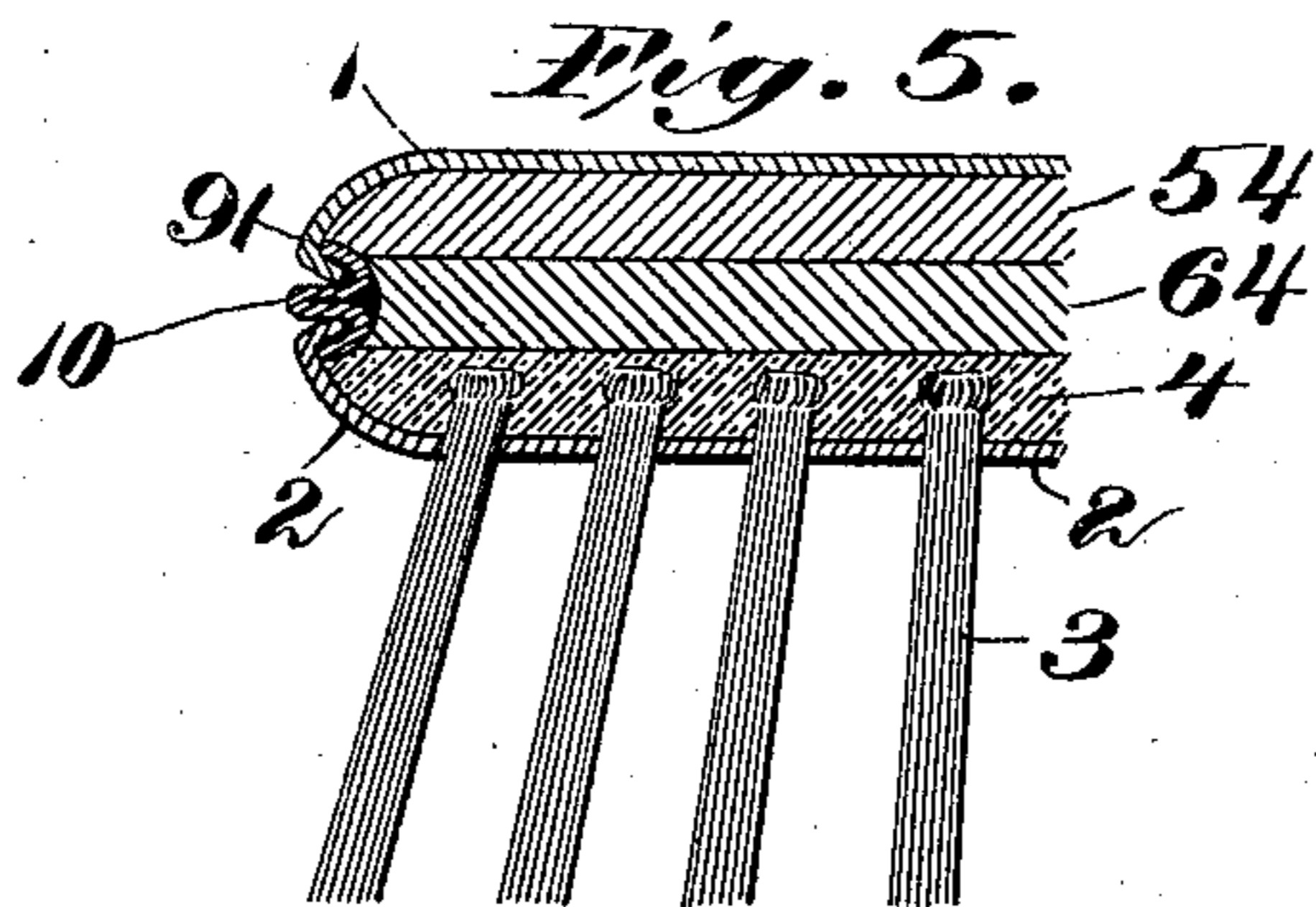
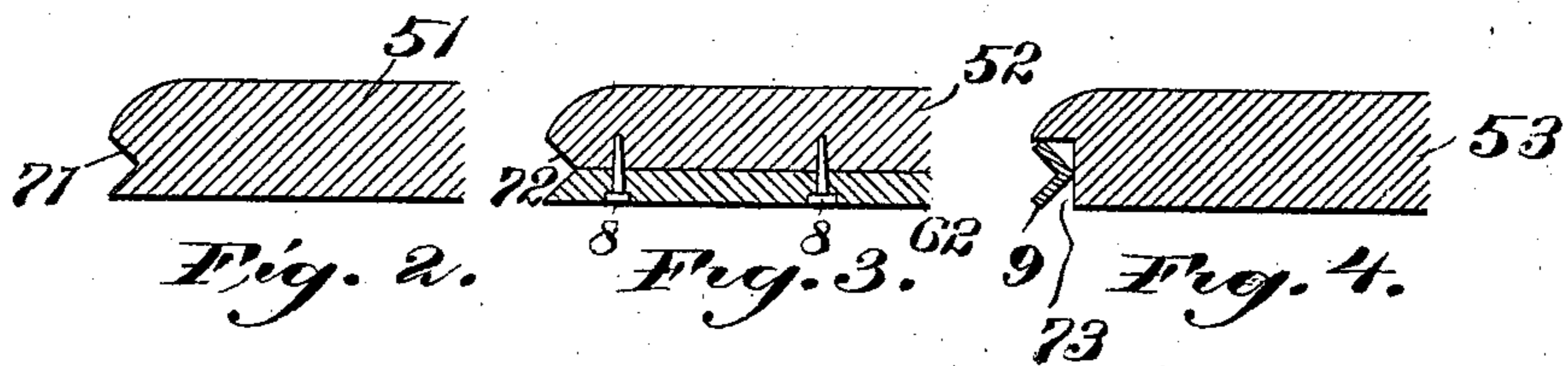
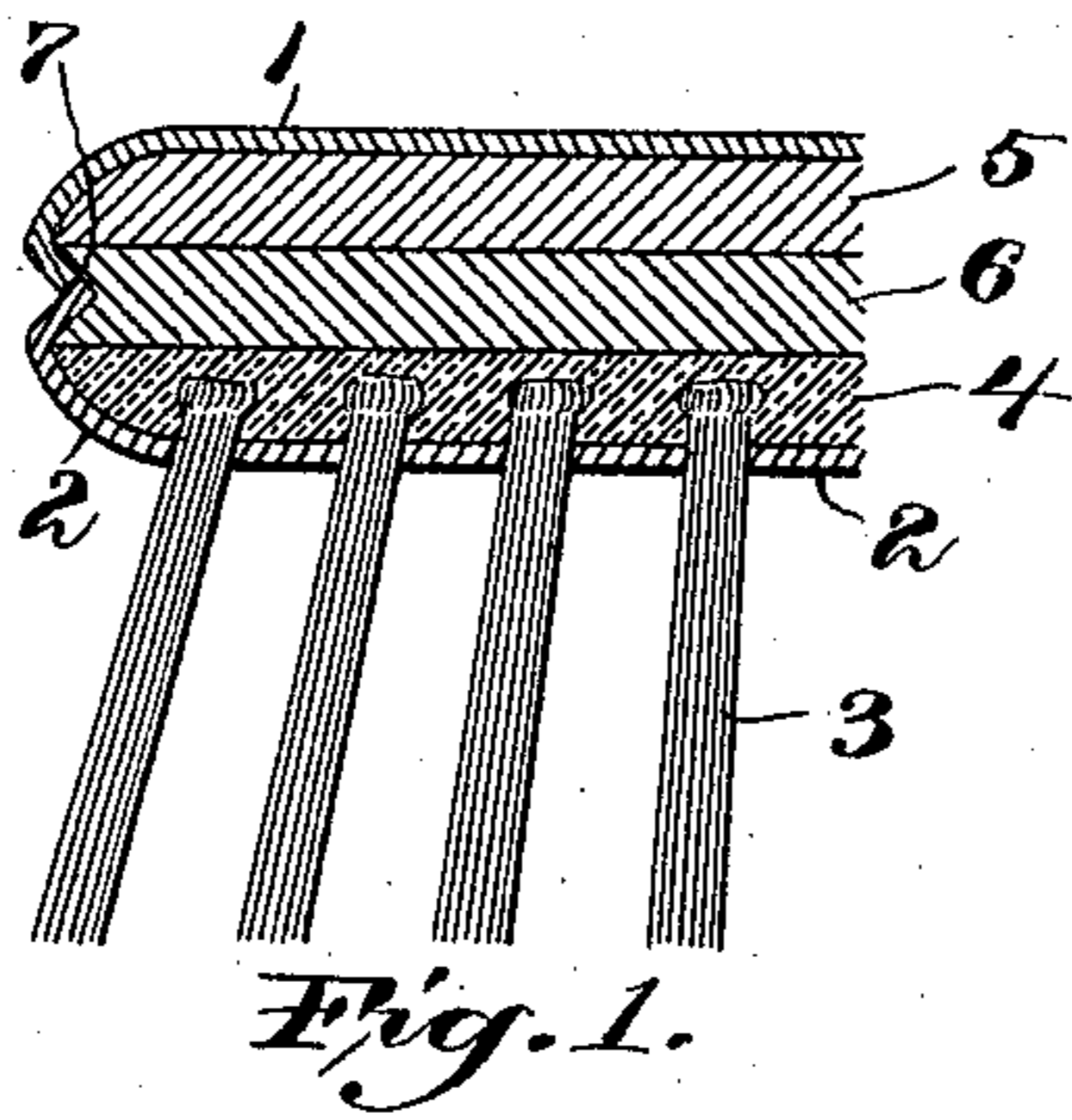


(No Model.)

A. C. ESTABROOK.
BRUSH.

No. 576,978.

Patented Feb. 9, 1897.



Witnesses:

Arthur F. Randall.
A. Perry Randall

Inventor:

Alanson C. Estabrook
by Macleod Calver & Randall,
his Attorneys

UNITED STATES PATENT OFFICE.

ALANSON C. ESTABROOK, OF NORTHAMPTON, MASSACHUSETTS, ASSIGNOR
TO THE FLORENCE MANUFACTURING COMPANY, OF SAME PLACE.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 576,978, dated February 9, 1897.

Application filed August 16, 1894. Serial No. 520,472. (No model.)

To all whom it may concern:

Be it known that I, ALANSON C. ESTABROOK, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Brushes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The nature of the invention is set forth in full, clear, concise, and exact terms in the following description, in which reference is made to the accompanying drawings, and said invention is particularly defined in the claims
15 at the close of this application.

My invention relates to brushes of that class in which the body of the brush consists in a metallic shell, the latter usually being constructed in two parts or shells, namely, an
20 upper portion or half, which is termed the "back," and a lower portion or half, which is termed the "face," the latter being perforated for the reception of the bristles.

The present invention has for its object to
25 provide a strong and durable brush of the class mentioned of simple and inexpensive construction.

In the drawings, Figure 1 is a partial cross-section of a hair-brush embodying my invention. Figs. 2 and 3 are partial cross-sections showing modified forms of reinforces for the upper shell or back. Fig. 4 is a similar view of another form of reinforce and showing a
30 metallic strip for the joint between the shells of the back and face. Fig. 5 is a view corresponding in character with Fig. 1, showing a further modification.

At 1 in the drawings is shown the upper portion or back of a two-part metallic shell, and at 2 the lower portion or face thereof. The shell for the face is perforated for the reception of the tufts of bristles 3. The inner ends of the tufts of bristles project inside said shell and are shown as enlarged by burning
45 in the well-known manner. For the purpose of holding them securely in place, as also of stiffening and reinforcing the shell for the face, the said shell is filled or partially filled with a mass of composition 4, which is placed
50 in the shell in a plastic condition and is then allowed to set and harden. Various well-

known compositions may be employed for this purpose. The composition flows around the inner ends of the tufts of bristles, which become embedded therein, and are thereby held
55 firmly in place. The shell for the back, after being molded or formed to the shape required by dies or the like, is provided with a reinforce of wood 5, formed to the required shape and applied thereto and molded therein
60 under pressure, the shell being placed in a die and the wood being molded therein to conform to the shell. In the molding operation the wood is also densified and forms a firm, but comparatively light, reinforce for the
65 metal shell. Before the wood reinforce is placed in the shell the contact faces of the shell and wood are preferably covered with an adhesive, as shellac or the like, so that after the molding operation the metal shell
70 and wood reinforce are firmly secured together. The wood reinforce 5 does not fill the shell 1 of the back, but the edges of the shell project beyond the wood, and in the same manner the edges of the shell 2 of the face
75 project beyond the composition. An intermediate reinforce 6, also preferably of wood and of sufficient thickness to fill the space between the reinforce 5 and the composition 4, is provided. This intermediate reinforce is
80 provided with a groove 7, preferably V-shaped, to receive the inturned edges of the shells 1 and 2. The upper and lower faces of the intermediate reinforce 6 are also preferably
85 covered with an adhesive or similar securing means. The reinforce 6 is then placed between the back and face portions of the brush, and the edges of the shells 1 and 2 are turned inwardly and laid smoothly in the circumferential groove 7 formed to receive them
90 in the intermediate reinforce 6. In this way the parts of the brush are firmly secured together through the medium of the intermediate reinforce 6.

The operation is simple and may be readily
95 performed by the aid of less skilful labor than is usually employed in the manufacture of such brushes, thus effecting a saving in the cost of construction. As will be obvious, the contour of the reinforces 5 and 6 may be made
100 to conform to any contour of shell, and the contours of the shells will differ with the char-

acter of the brush which is to be constructed. In the case of brushes having a handle these reinforces extend into the handle.

In the modified form shown in Fig. 2 the construction is the same, but the reinforces 5 and 6 of Fig. 1 are in this modified form formed integral with each other, the reinforce thus produced being designated 51 and its groove being designated 71.

In the modification shown in Fig. 3 the reinforces 52 and 62 are secured together by mechanical means, as, for example, brads or dowels, which are shown at 8, and the circumferential groove 72 is formed at the joint of the said reinforces, one side of said groove being on one side of the reinforce and the opposite side on the other reinforce.

In Fig. 4 the reinforces are formed integral, as in Fig. 2, being designated 53 in said Fig. 4, and the circumferential groove 73 is provided with a backing-strip 9, into which the inturned edges of the shell are bent, the said strip forming a backing for the joint between the shells, stiffening the joint and insuring a better finish.

In the modification shown in Fig. 5 the backing-strip (here designated 91) is formed with a central projection or bead 10 and a groove on either side thereof, one of which grooves receives the inturned edge of the upper shell or back and the other the inturned edge of the lower shell or face 2, the bead projecting between the edges of the shells and serving not only to strengthen the joint and render the brush more durable at this point, but also to improve the style and finish thereof. This modified form of backing-strip for the joint may be employed with the wood reinforce in two parts 54, 64, or with a wood reinforce formed integral, as in Figs. 2 and 4.

What I claim is—

1. A brush comprising two metallic shells, one for the face and one for the back, the shell for the face being perforated and having bristles in the perforations, a mass of composition in said shell securing the bristles in place and reinforcing the said shell, a reinforce for the shell for the back, a portion of said reinforce entering the shell for the face, said reinforce being grooved circumferentially and receiving the inturned edge of the shell for the face, substantially as set forth.

2. A brush comprising two metallic shells, one for the face and one for the back, the shell for the face being perforated and having bristles in the perforations, a mass of composition in said shell securing the bristles in place and reinforcing the said shell, and a reinforce for the shell for the back, said reinforce consisting of two parts, one of which is grooved circumferentially and receives the inturned edge of each of the said shells, substantially as set forth.

3. A brush comprising two metallic portions, one for the face and one for the back, the shell for the face being perforated and having bristles in the perforations, a mass of composition in said shell securing the bristles in place and reinforcing the shell, a reinforce for the shell for the back, a portion of said reinforce entering the shell for the face and being grooved or reduced circumferentially, and a concave strip placed in the groove and receiving the inturned edge of each of said shells, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALANSON C. ESTABROOK.

Witnesses:

FRANK N. LOOK,
JOSEPH E. WINCHELL.