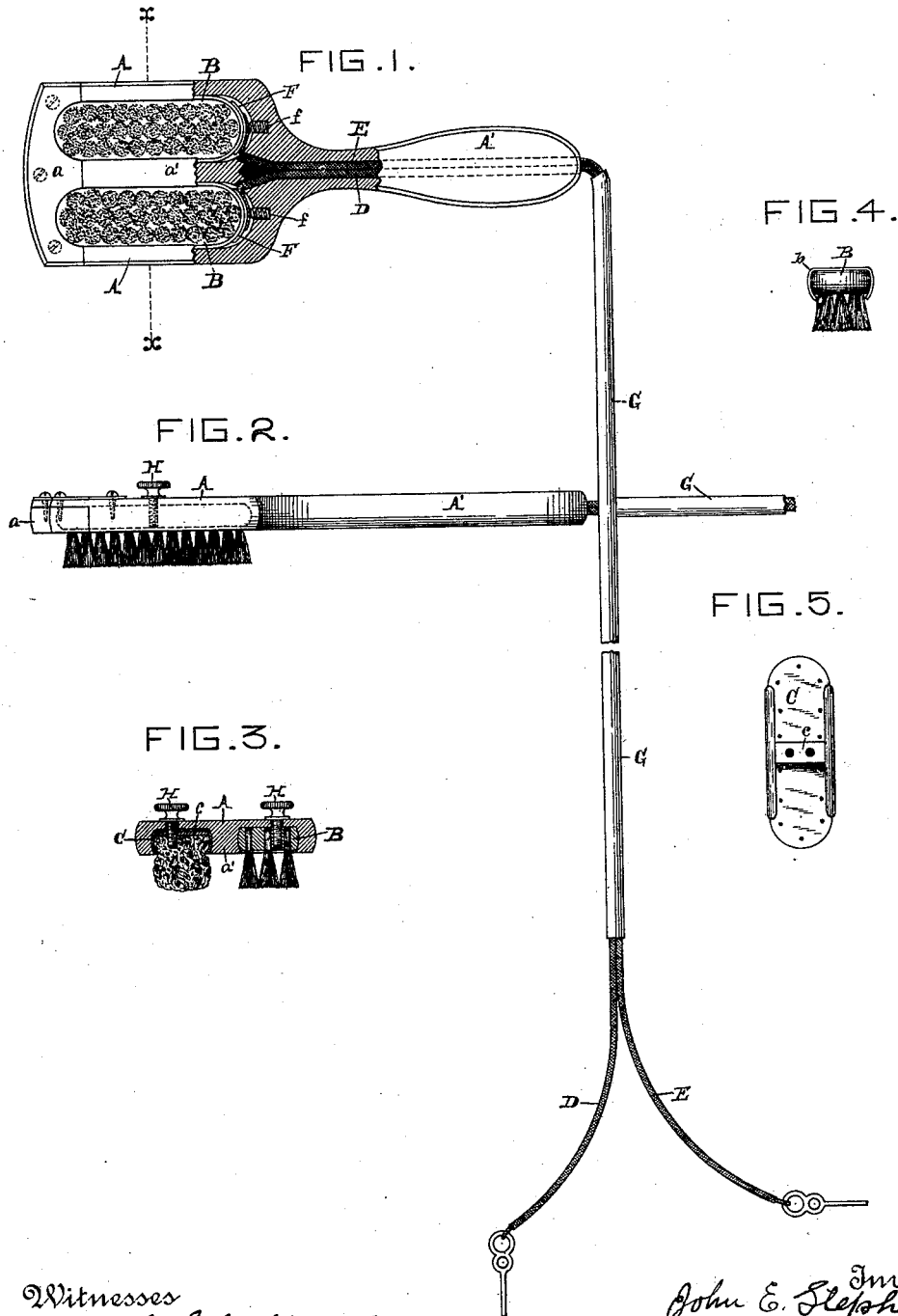


(No Model.)

J. E. STEPHENS.
ELECTRIC BRUSH.

No. 420,611.

Patented Feb. 4, 1890.



Witnesses
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Davis

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UNITED STATES PATENT OFFICE.

JOHN E. STEPHENS, OF CINCINNATI, OHIO.

ELECTRIC BRUSH.

SPECIFICATION forming part of Letters Patent No. 420,611, dated February 4, 1890.

Application filed December 2, 1889. Serial No. 332,342. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. STEPHENS, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Electric Brushes, of which the following is a specification.

This invention relates to an improvement in electric brushes. Its object is to provide a reliable device for applying electricity to the cuticle with whatever force desired to excite a healthy action.

The invention will be first fully described in connection with the accompanying drawings, and will then be particularly referred to and pointed out in the claims.

Referring to the drawings, in which like parts are indicated by similar reference-letters wherever they occur throughout the various views, Figure 1 is a view, partly in front elevation and partly in section, of my improved brush. Fig. 2 is an edge elevation of the same. Fig. 3 is a transverse section taken through line *a* of Fig. 1. Fig. 4 is an end elevation of one of the removable brush-sections. Fig. 5 is a plan view of the sponge-holder shown in Fig. 3.

The brush-back A, which may be of wood or other suitable material, is formed with two cavities in it to receive the brushes or sponge-holders. The front end has a removable part *a* for the convenient introduction or removal of the brush-sections from the cavities, the walls of which are preferably undercut to retain the brush-holders B or sponge-holders C in place.

The brush-handle A' is centrally perforated from the end into the wall *a'*, which divides the cavities, and the rear walls of the cavities are perforated to connect with the perforation in the handle. The battery-wires D E pass through the handle A' and branch off within the brush-back, one wire entering each of the recesses in the back. The inner ends of the wires are connected to the curved metal plates F, which conform in shape to the rounded end walls of the recesses. These end walls are bored in for a short distance to receive coiled springs *f*, which press against the backs of plates F and hold them

in contact with the brush or sponge-holders B C, which are, like the plates F, of brass or other material which is a good conductor of electricity.

The wires D E, which are insulated in the usual manner, are incased outside of the handle in a rubber tube G, which protects them from being injured or become entangled, and provides for the easy handling of the brush.

The sponge-holder C is perforated around the edge, and the sponge or other absorbent material is secured in place by sewing through it and the perforations in the holder C. The holder has a transverse bar *c*, which is perforated and screw-tapped to receive the screw H, which may be employed for the purpose of more securely retaining the shell C in place. A similar screw H is also passed through the back and tapped into the bristle-holder B for the same purpose. It is evident that these screws H may be used as binding-posts, to which the battery-wires may be connected. In such case, of course, it would not be necessary to perforate the handle, and the plates F and springs *f* may be dispensed with; but the mode of connecting the battery-wire shown in the drawings is very much the best. The change above suggested is but an inferior modification. I have also shown the metal holder B incased in a shell *b* of hard rubber; but this is not necessary when the brush-back is made of wood or other non-conducting material.

To use my brush, one of the wires, either D or E, is connected to one pole of a battery or other source of electricity, and the other wire is connected to the opposite pole. The bristles or sponges, whichever are used, being moistened, the affected parts are brushed or wiped by passing the brush over them. As soon as the bristles or sponges touch the cuticle the circuit is closed and the current passes through it. The rubbing operation is continued until the cuticle is excited to a healthy action.

It has been known that electricity applied to the surface of the body or to its affected parts is beneficial, and many devices have been contrived to accomplish such purpose; hence I do not claim, broadly, any device in

which two or more brush-sections are arranged in a holder and connected to a battery.

What I do claim is—

5 1. In an electric brush, the combination of the back having two cavities forming separate chambers within it, metallic holders fitted within said cavities, the rubbing substances secured to said holders, and the battery-wires D E, passing through the handle
10 and connected to the metallic holders, substantially as shown and described.

2. The combination, substantially as here-
15 inbefore set forth, of the brush-back recessed to receive the bristle-holders and having its handle perforated from the end into each recess in the back of the brush, the bristle-holders fitted into said recesses, the spring-actuated contact-plates F in the recesses, and
20 the battery-wires passing through the handle and connected with said plates.

3. The combination of the brush-back A, having recessed face, perforated handle A', and removable end piece a, the metallic holders and contact-plates F, fitted to said recesses, the springs f for holding the said
25 plates in contact with the holders, and the battery-wires passing through the handle and connected to the plates F, substantially as shown and described.

4. The combination of the brush-back, having hollow handle and recessed front, the brush-sections fitted in said recesses, the battery-wire passing through the handle and in electric connection with said brush-sections,
35 and the rubber tube incasing said wires outside of the brush-handle, substantially as and for the purpose set forth.

JOHN E. STEPHENS.

Witnesses:

FRANK S. DAVIS,
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