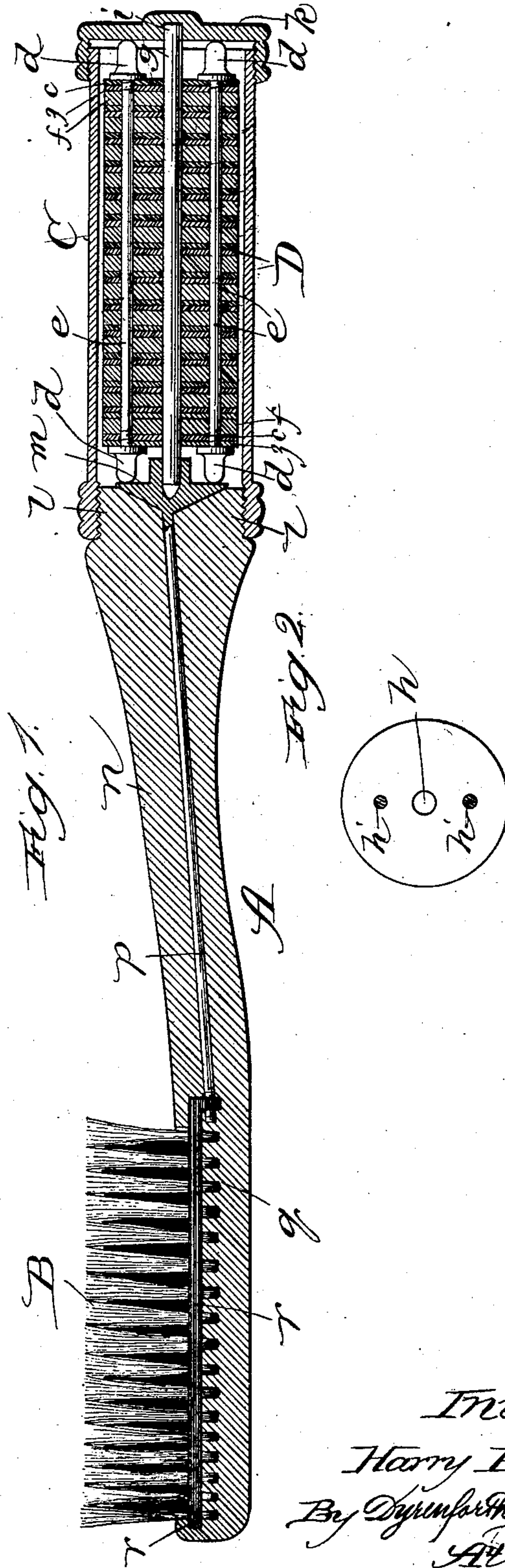


(No Model.)

H. P. PRATT.
ELECTRIC BRUSH.

No. 407,115.

Patented July 16, 1889.



Witnesses:
E. S. Gaylord,
J. H. Dyrenforth

Inventor,
Harry P. Pratt,
By Dyrenforth & Dyrenforth,
Attorneys.

UNITED STATES PATENT OFFICE.

HARRY P. PRATT, OF CHICAGO, ILLINOIS.

ELECTRIC BRUSH.

SPECIFICATION forming part of Letters Patent No. 407,115, dated July 16, 1889.

Application filed March 21, 1889. Serial No. 304,164. (No model.)

To all whom it may concern

Be it known that I, HARRY P. PRATT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Electric Brushes, of which the following is a specification.

The object of my invention is to provide an improved construction of the kind of brush having a galvanic battery so arranged and supported upon it that the battery-circuit shall be normally open, and closed through the body of the user when taken in the hand and applied to the body. The principle remains the same whatever the form of brush or analogous article in which my invention may be embodied, though I prefer to describe my improvement in detail in connection with a tooth-brush and the peculiar construction of the latter involved, and so illustrate it in the accompanying drawings, in which—

Figure 1 shows by an enlarged longitudinal sectional view a tooth-brush provided with my improvement, and Fig. 2 a face view of one of the battery-disks.

A is a tooth-brush, having the bristles B secured in a perforated metal plate *r*, fastened upon the head portion *q* of the brush, and having a metallic extension *p* passing through the neck portion *n*, (which, like the part *q*, is composed of non-conducting material, as ivory, bone, or the like,) and terminating in a flanged metal socket *m*. The neck portion *n* of the brush is enlarged toward its extremity and hollowed out to receive the flanged socket *m*, and it terminates in a screw *l*, to receive one threaded end of a metallic tube or handle C, forming the handle of the brush, and provided at its opposite end with a removable and adjustable metal screw-cap *k*, having a socket *i* in line, when the cap is in place, with the socket *m*.

D is the battery composed of a series of alternating copper, zinc, and felt plates or disks, marked, respectively, *c*, *z*, and *f*, and each having a central opening *h* and two smaller openings *h'* on opposite sides of the center, and the disks are strung in proper order on a rod or tube *g*, of insulating material, which passes through the openings in the centers of the series of disks, and sup-

ports the latter in the tube or handle C by resting at its opposite ends in the sockets *m* and *i*. The disks are held together by rods or tubes *e*, of insulating material, passed through the openings *h'* and threaded, where they extend beyond the ends of the pile, to receive the metallic nuts *d*, which serve to clamp the disks of the voltaic pile together and to produce metallic connection between the terminal metal disks (respectively zinc and copper) and the cap *k* at the one end and the flange of the socket *m* at the opposite end.

The voltaic pile afforded by the disks and their supporting means in the tube or handle C is readily removable on unscrewing the cap *k*, as for the purpose of taking it out to saturate it with the necessary exciting-liquid (as vinegar) and, when desired, reversing its poles.

To use the device, the bristles or non-metallic part corresponding therewith (as the block of corrugated felt in another form of tooth-brush) should be moistened, and on being applied to the teeth, with the tube C in the grasp of the hand, the circuit will be closed through the body and the effect of the current exerted upon the teeth.

By inserting the voltaic pile at its positive or negative end first into the handle C the current from the "acid" (positive) pole or that from the "alkali" (negative) pole may be directed to the teeth, the former serving to alleviate pain and the latter for use in destroying microbes, cleaning, polishing, and the like, and owing to the non-metallic nature of the bristle portion no disagreeable metallic taste will be experienced in the use of the device as a tooth-brush, and as a hair or flesh brush the compactness of the bristles, compared with the wires serving their purpose in metallic brushes, presents a conducting and distributing medium so extensive as to avoid burning of the body by the current.

By directing the positive current to the gums teething may be hastened and the attendant pain alleviated.

While I have thus mainly confined my description and the illustration to the application of my improvement in the form of a tooth-brush or analogous article, it may, obviously, be applied to other forms of brushes

and various toilet and other articles applied by the hand to the body, and through the medium of which it may be desirable to subject certain parts of the body to the effect of
 5 a galvanic current. Accordingly I desire to be understood to include as within the spirit of my invention any such appliance provided with my improvement.

What I claim as new, and desire to secure
 10 by Letters Patent, is—

1. In combination, a brush or the like article and a galvanic battery inclosed in the brush with the elements forming it secured together independently of the inclosure containing them, whereby the battery may be
 15 readily removed and readjusted with the poles reversed and having one terminal electrically connected with the part of the article to be applied to the body and the other with the
 20 part to be held in the hand, whereby, when the article is used, the circuit shall be closed through the body of the user, substantially as and for the purpose set forth.

2. In combination, a brush having its bristles or corresponding portion formed with non-metallic material secured to metal *r* and a handle portion conductive of electricity, and a galvanic battery inclosed in the handle and having one pole connected therewith and the
 25 opposite pole with the conductor *r*, substantially as and for the purpose set forth.

3. In combination, a brush or the like provided with a hollow handle conductive of electricity and containing a galvanic battery,
 35 formed with perforated plates of suitable ma-

terials, a rod *g*, extending through the plates and supported at opposite extremities in the opposite ends of the handle, rods *e*, extending through the plates and having clamp-nuts *d* on their opposite ends holding the
 40 plates of the battery together, and a conductor *r*, leading to the bristles B or analogous part of the brush and in contact with the nuts *d* at one end of the battery, those at the opposite end being in contact with the handle, substantially as and for the purpose set forth. 45

4. An electric brush comprising, in combination, a neck portion *n*, of insulating material carrying a conductor *r*, supporting bristles B or the like and extending through the neck and terminating in a flanged metal socket *m*, a hollow metal handle C, secured to the neck *n* and provided with a removable metal cap *k*, and a galvanic battery D in the
 55 handle formed with perforated plates of suitable materials, a rod *g*, extending through the plates and supported at opposite ends in the socket *m* and cap *k*, and rods *e*, extending through the plates and having clamp-nuts *d*
 60 on their opposite ends holding the plates of the battery together and in contact with the socket *m* and cap *k* at opposite ends of the battery, the whole being constructed and arranged to operate substantially as described. 65

HARRY P. PRATT.

In presence of—

J. W. DYRENFORTH,
 M. J. BOWERS.