No. 651,472. Patented June 12, 1900.

W. J. TINDALL.

ELECTRICAL APPLIANCE FOR THE CURE OF DEAFNESS.

(Application filed Feb. 8, 1899.)

(No Model.)

Fig. 1.

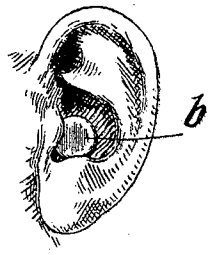


Fig. 2.

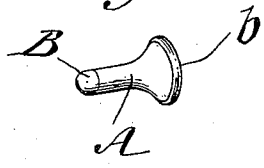


Fig. 3.

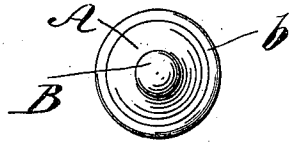
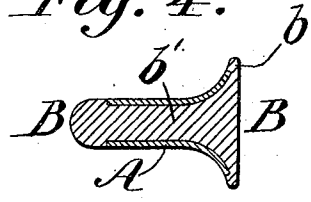


Fig. 4.



WITNESSES

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ELECTRICAL APPLIANCE FOR THE CURE OF DEAFNESS.

SPECIFICATION forming part of Letters Patent No. 651,472, dated June 12, 1900.

Application filed February 8, 1899. Serial No. 704,895. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. TINDALL, a citizen of the United States, and a resident of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Electric Appliances for the Cure of Deafness, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to an improved electric appliance for therapeutical purposes; and the object thereof is to provide a simple and effective means for applying a mild continuous current of galvanic electricity directly to the auditory organs of a human being for the alleviation and cure of deafness. This object is attained by the use of the invention comprised in the novel construction which will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side view of a human ear having my improved appliance attached. Fig. 2 is a perspective view of the device, drawn to actual size. Fig. 3 is an end view on an exaggerated scale; and Fig. 4 is a longitudinal sectional elevation, same scale as Fig. 3.

In the practice of my invention I employ, primarily, a galvano-electric generator comprising a copper anode A and a zinc cathode B, the anode being cylindrical and of a contour approximating a truncated cone and the cathode being contained within said cylinder and comprising a disk *b* and a solid projecting portion *b'*. This is my preferred construction; but I do not confine myself to the specific details thereof, as it is obvious that under the scope of my invention I am entitled to structural variations. Neither do I confine myself to the exact shape of the device as herein shown, and I may substitute other anodes and cathodes for the copper and zinc bodies above described.

In combination with the appliance, as a means for generating the galvanic current, I employ any adapted acid or combination of acids in dilute solution.

In use the fluid acid media is applied to the surface of the projected conical portion of the appliance by immersing the same, whereby a sufficient quantity of acid is absorbed to make the circuit and generate a current of electricity which is continuous until the acid is evaporated, a single application of acid being sufficient to maintain a current for a considerable length of time. Having charged the appliance, the projecting portion is forced within the auditory meatus toward the tympanic membrane, the outer face of the disk being back of and in contact with the tragus and the antitragus, as illustrated by Fig. 1 of the drawings, and the appliance is left within the ear until the current subsides.

It is well known that mild continuous currents of galvanic electricity regularly applied are conducive to general healthfulness, and this appliance, supplying such a current directly to the auditory organs, causes increased activity, restores vitality to the affected parts, and thereby alleviates and finally cures deafness.

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

1. As a thereapeutical appliance for the alleviation of deafness, the combination of a solid body or core and a sleeve surrounding and embedded into the same, the said parts alternatively consisting of an anode or a cathode and being of a form adapted for introduction into the meatus of a human ear; whereby when the device is coated with an exciting agent galvanic action will take place, substantially as shown and described.

2. As a new article of manufacture a galvano-electric appliance embodying a solid cathode and a cylindrical anode surrounding the same, the cathode having an annular flange on its outer end, the device being of a form adapted for insertion into the meatus of a human ear, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 25th day of January, 1899.

WILLIAM J. TINDALL.

Witnesses:
M. G. MACLEAN,
FRANK BEECHER.