(No Model.)

M. E. MOORE.

EAR BATTERY FOR THE DEAF.

No. 380,215. Patented Mar. 27, 1888.

Fig. 1.

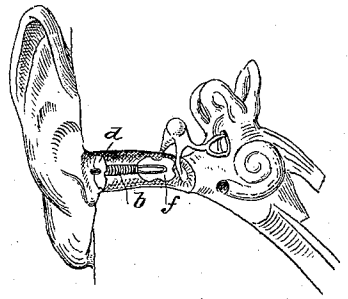


Fig. 2.

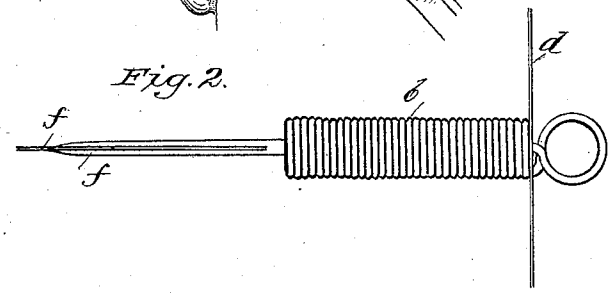


Fig. 3.

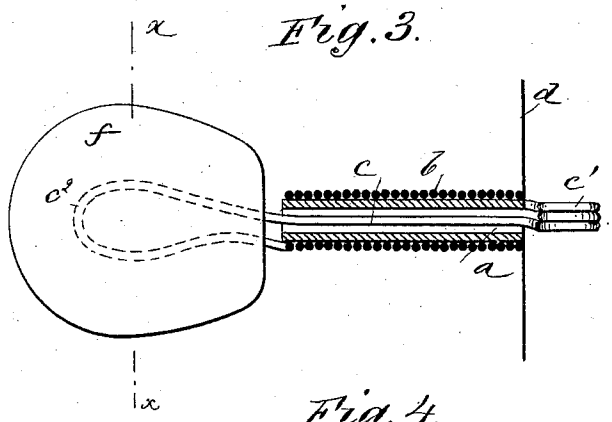
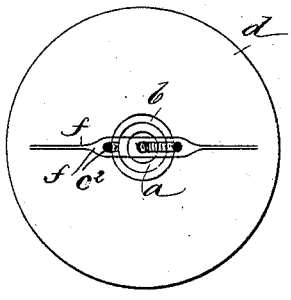


Fig. 4.



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EAR-BATTERY FOR THE DEAF.

SPECIFICATION forming part of Letters Patent No. 380,215, dated March 27, 1888.

Application filed June 15, 1887. Serial No. 241,363. (No model.)

To all whom it may concern:

Be it known that I, MARY E. MOORE, of the city, county, and State of New York, have invented a new and Improved Electric Ear-Battery for the Deaf, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of my improvement, showing it in position in the ear. Fig. 2 is an enlarged side elevation of my device. Fig. 3 is a longitudinal sectional elevation of the same; and Fig. 4 is a transverse sectional elevation taken on the line *x x* of Fig. 2.

The object is to catch the sounds of the outer world and to increase them by the use of sound-tubes and electrical currents or conductors leading to a diaphragm placed close to the organ of hearing. The vibrations caused by the sound become stronger and more perceptible on the diaphragm as the entrances to the channels leading to the ear-drum become narrower, and in this way the device gives great assistance to a defective ear. To this end the following arrangement is used.

a represents a small zinc tube of a size to be adapted to enter the orifice of the human ear without inconvenience to the wearer. Around the tube *a* is wound the copper wire *b*, which is put in electric connection with the tube *a* by the wire *c*, which is bent to form the eye or coil *c'* at its outer end, then passed through the tube *a*, and bent to form the loop c^2 at its inner end. A diaphragm, *d*, of paper, fabric, rubber, metal, or animal tissue, is attached to the outer end of the tube *a*, and held by the wire or other means. The loop c^2 is inclosed by the sheets *f f* of thin flexible material secured together at the edges by some adhesive substance.

In use the whole device is to be inserted into the ear, so that the diaphragm *d* will close the ear-orifice. The sheets *f*, being of very thin tissue, fold on entering the ear.

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

1. The electric ear-battery herein shown and described, the same consisting of a tube of zinc and a copper wire coiled around the same, and connected to the zinc tube by a wire shaped to enter the ear, in combination with the diaphragm *d*, held at the outer end of the device, substantially as described.

2. The electric ear-battery herein shown and described, composed of a tube of zinc and copper coil connected by the wire *c*, in combination with diaphragms at the outer and inner ends of the device, substantially as described.

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