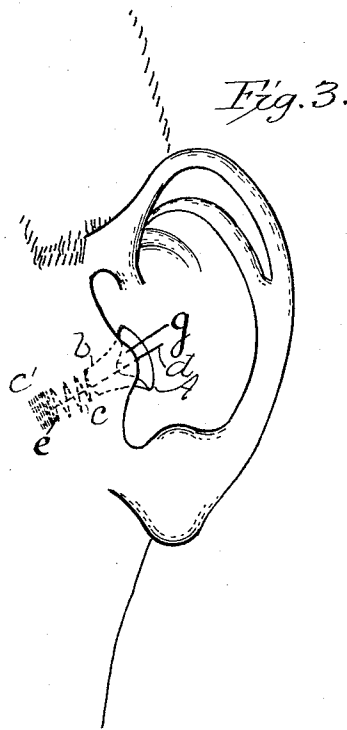
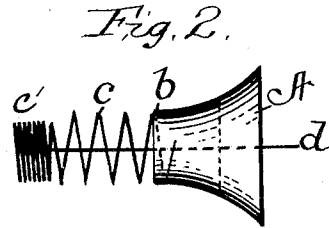
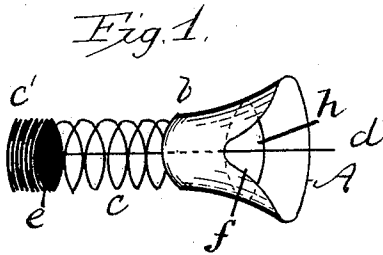


(No Model.)

E. SPAULDING.
AUDITORY DEVICE.

No. 565,872.

Patented Aug. 11, 1896.



Witnesses.

W. J. Morgan
S. H. Morgan

Inventor.

E. Spaulding
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att'y

UNITED STATES PATENT OFFICE.

EDWARD SPAULDING, OF BROOKLYN, NEW YORK.

AUDITORY DEVICE.

SPECIFICATION forming part of Letters Patent No. 565,872, dated August 11, 1896.

Application filed April 4, 1895. Serial No. 544,376. (No model.) Patented in England September 3, 1885, No. 10,448.

To all whom it may concern:

Be it known that I, EDWARD SPAULDING, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Auditory Instruments, (for which I have obtained Letters Patent in Great Britain, No. 10,448, dated September 3, 1885,) of which the following is a specification.

My invention consists of a short trumpet adapted to be entered to some extent in the chamber of the ear and having a coiled-wire extension of the inner end with a vibratory terminal extending outward from the inner end within the trumpet to the mouth or thereabout adapted to apply vibratory influences to the drum and other auditory organs of the ear with beneficial effect in aiding impaired hearing and recovery of the defective organs, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a side view of my improved instrument. Fig. 2 is a side view in reverse of the view of Fig. 1, and Fig. 3 a view indicating the application of the instrument to a human ear.

A represents the mouth, and *b* a truncated portion of the taper-tube of a small trumpet, of metal, rubber, celluloid, or other approved material, adapted to be inserted in the ear, and *c* represents a coiled-wire extension of the tube of such size and length as may be extended into the ear from the part *b* without injury, also preferably being tapered to some extent and having the inner end produced in a vibratory member *d*, extended backward along the inner space to the mouth or beyond without other support than its connection with the coil, so as to vibrate sensitively and thus excite vibratory action of the organs of the ear.

On the inner end of the wire coil I wind a small quantity of wool, silk, or other soft fibrous material, as *e*, for a protective pad.

In one side of the mouthpiece A, I make a notch *f* of suitable shape and dimensions for the lip *g* of the ear to engage in and keep the instrument in the position of use.

In this example I represent the part *b* of the trumpet as bushed with a metal or other thin bushing *h* as a foundation for the rest of the trumpet to be molded on and to afford greater strength than rubber or celluloid of the desired slight thickness would have. The wire may be coiled on this bushing to some extent, as indicated in Fig. 2, and be soldered thereto for connecting it. The part thus connected will be embedded and covered by the other material molded on; but I do not confine myself in the matter of the construction of the part A *b* of the trumpet. I also prefer to coil the wire closer in a portion of the inner extremity, as indicated at *c'*, for utilizing a greater length of wire for greater power.

I claim—

1. The improved auditory instrument consisting of the truncated trumpet having the coiled-wire extension and the vibratory terminal of the coil extended backwardly within the trumpet, said trumpet adapted to be inserted in the ear substantially as described.

2. The improved auditory instrument consisting of the truncated trumpet having the coiled-wire extension and the vibratory terminal of the coil extended backward within the trumpet, and said trumpet having the notch to be engaged by the tip of the ear for retaining the instrument therein, said trumpet adapted to be inserted in the ear substantially as described.

Signed at New York city, in the county and State of New York, this 28th day of February, A. D. 1895.

EDWD. SPAULDING.

Witnesses:

W. J. MORGAN,
Jos. S. LOCKWOOD.