

No. 883,003.

PATENTED MAR. 24, 1908.

O. J. DAVY,  
AUDIPHONE.

APPLICATION FILED MAY 3, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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*By*

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2 SHEETS—SHEET 2.

Fig. 2—

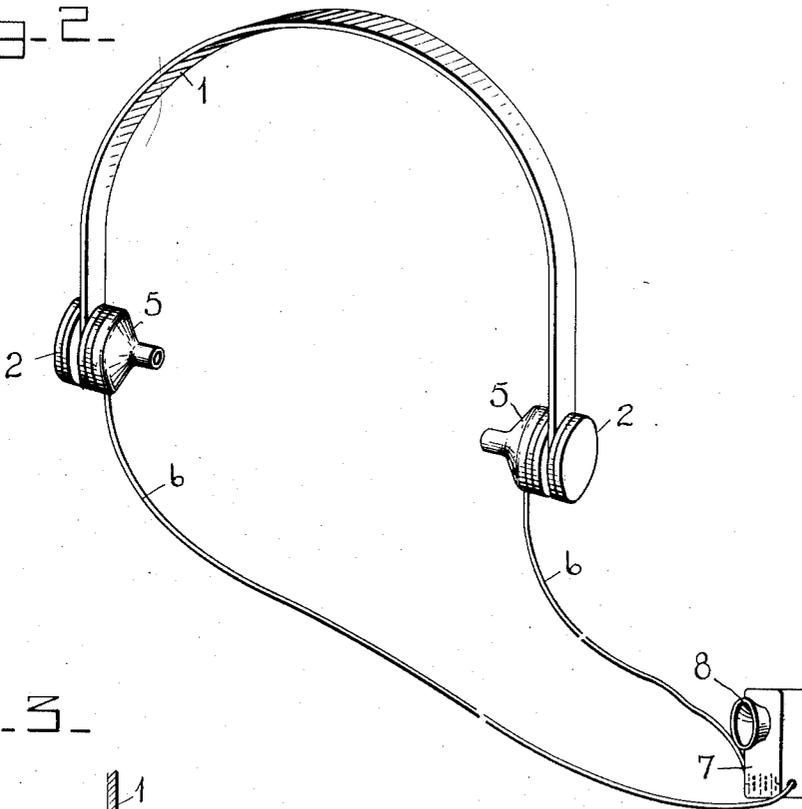
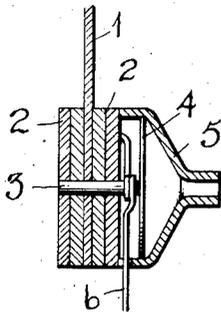


Fig. 3—



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# UNITED STATES PATENT OFFICE.

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## AUDIPHONE.

No. 883,003.

Specification of Letters Patent.

Patented March 24, 1908.

Application filed May 3, 1907. Serial No. 371,649.

*To all whom it may concern:*

Be it known that I, ORRIN J. DAVY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Audiphones, of which the following is a specification.

This invention relates to certain new and useful improvements in audiphones, and it has for its object the production of a simple and inexpensive instrument of this character adapted for use by persons who are suffering from impaired hearing, and by means of which sound vibrations are communicated directly to the ear drums of the user.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawing:—Figure 1 is a perspective view illustrating the method of using my improved audiphone. Fig. 2, is a perspective view of the instrument; and Fig. 3, is a sectional view of one of the pole ends of the magnet and the attached receiver.

The instrument consists of the flexible yoke 1, made preferably of spring steel and having the hardened or inflexible steel discus pieces 2, attached to the ends thereof. The said pieces 2, are laminated upon the ends of the yoke 1, and are located upon the opposite sides of the ends of the said yoke. The soft iron cores 3, pass transversely through the ends of the yoke and the adjacent pieces 2, and terminate at their inner ends in the vicinity of the diaphragms 4. The ear pieces 5, are substantially funnel shaped and hold the diaphragms 4, the large ends of said ear pieces being closed by said discus pieces. The electric wires 6 enter the ear pieces 5, and wind about the cores 3, and attach with the inner pieces 2. The said wires also connect with the battery 7, which is preferably located in the same casing as that upon which the transmitter 8 is located. The said transmitter is of the same construction as those usually employed in telephones and needs no further description here. The yoke 1 and the pole pieces 2, are preferably in the form of a magnet of a permanent nature, and receive in addition the magnetism imparted by the generator 7, and the ear pieces 5, cores 3 and diaphragms 4 form receivers. The yoke 1, straddles the head of the wearer and the ends or poles of the said yoke lie opposite the ears. The funnel shaped ear pieces 5 are in-

serted in the outer ears of the wearer or patient.

The battery 7, is carried in a pocket of the clothing of the wearer and the transmitter is exposed above the edge of the pocket as illustrated in Fig. 1, of the drawing. The sound vibrations are taken up by the transmitter and electrically conveyed by the wires 6, to the receivers at which points the diaphragms 4 give off synchronous vibrations which are directed through the ear pieces 5 against the ear drums.

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

1. An audiphone comprising a flat yoke, discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece, and means for electrically vibrating said diaphragms.

2. An audiphone comprising a flat yoke, discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece, a core for each diaphragm, each core being passed through one end of said yoke and also through the adjacent discus pieces, and means for energizing said cores.

3. An audiphone comprising a flat yoke, discus pieces secured directly to each face of said yoke adjacent each end thereof, funnel shaped ear pieces having their larger ends closed by the innermost discus pieces of each set, a diaphragm in each ear piece, and means for electrically vibrating said diaphragms.

4. An audiphone comprising a flat yoke, discus pieces secured directly to each face of said yoke adjacent each end thereof, funnel shaped ear pieces having their larger ends closed by the innermost discus pieces of each set, a diaphragm in each ear piece, a core for each diaphragm, each core being passed through one end of said yoke and also through the adjacent discus pieces, and means for energizing said cores.

5. An audiphone comprising a flat yoke, discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece, a core for each diaphragm, each core being passed through one end of said yoke and also through the adjacent discus pieces, and an electric circuit

for energizing said core, said circuit including said yoke.

- 5 6. An audiphone comprising a flat yoke, discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece, a core for each diaphragm, each core being passed through one end of said yoke and also through the adjacent discus pieces, an electric circuit including conductors having each end wrapped around one of said cores and its terminal in contact with the adjacent discus plate, and a transmitter also in said circuit.
- 10
- 15 7. An audiphone comprising a flat yoke, discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece and spaced 20 apart from the adjacent discus pieces, a core for each diaphragm, each core being passed

through one end of said yoke and also through the adjacent discus pieces, an electric circuit including conductors having one end wrapped around each of said cores at a point between the diaphragm and the adjacent discus pieces, the terminal being in contact with the adjacent discus plate, and a transmitter also in said circuit. 25

8. An audiphone comprising a flat yoke of flexible material, inflexible discus pieces secured directly to the ends of said yoke, funnel shaped ear pieces having their larger ends closed by said discus pieces, a diaphragm in each ear piece, and means for electrically vibrating said diaphragms. 30 35

In testimony whereof I affix my signature, in presence of two witnesses.

ORRIN J. DAVY.

Witnesses:

WM. L. STUARD,  
F. LIEBSCHUTZ.