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(12) **United States Patent**
Meadows

(10) **Patent No.:** **US 6,658,124 B1**
(45) **Date of Patent:** **Dec. 2, 2003**

- (54) **RECHARGEABLE HEARING AID**
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- (73) Assignee: **Advanced Bionics Corporation**, Sylmar, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 328 days.

* cited by examiner

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Assistant Examiner—Brian Ensey
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- (21) Appl. No.: **09/811,065**
- (22) Filed: **Mar. 16, 2001**

(57) **ABSTRACT**

A rechargeable hearing aid eliminates the requirement for frequent replacement of a disposable hearing aid battery. The rechargeable hearing aid features inductive recharging using a charging reservoir. In a preferred embodiment, a lithium-ion battery is used with a Completely-In-the-Canal (CIC) hearing aid. The CIC hearing aid is inserted into a reservoir throat of the charging reservoir. In a preferred embodiment a primary coil of the inductive recharger is wound around the reservoir throat, and a secondary coil of the hearing aid is wound around the diameter of the body of the CIC hearing aid, thus providing coupling of the primary and secondary coils that is independent of the rotation of the hearing aid in the charger throat.

Related U.S. Application Data

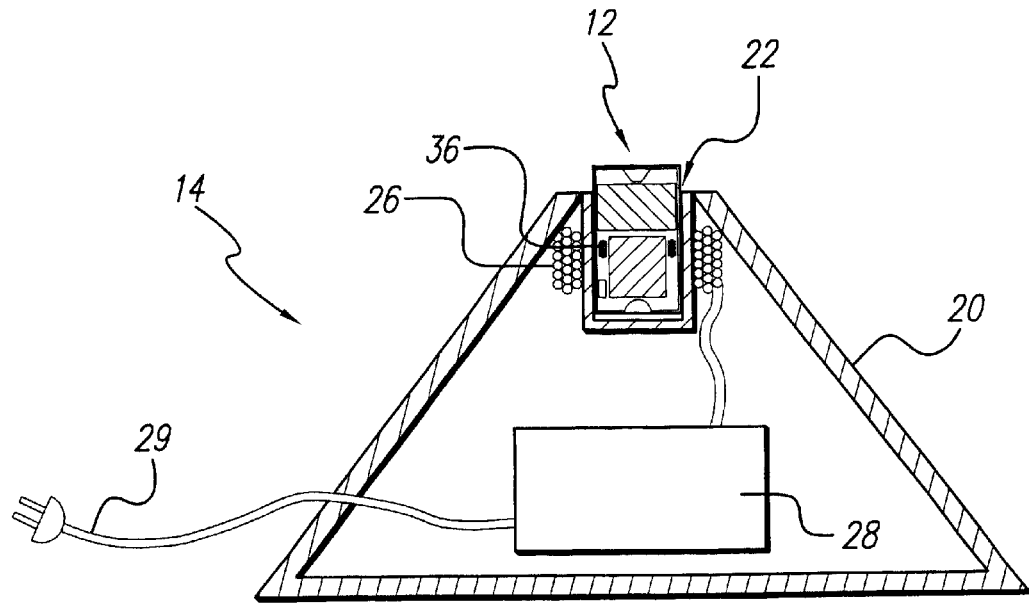
- (60) Provisional application No. 60/195,578, filed on Apr. 6, 2000.
- (51) **Int. Cl.⁷** **H04R 25/00**
- (52) **U.S. Cl.** **381/323; 381/328**
- (58) **Field of Search** 381/323, 322, 381/328, 331, FOR 127, FOR 133, FOR 135, FOR 137, 23.1, 312, 324, 327, 330; 429/94, 161, 163, 164, 175, 176, 189, 209

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13 Claims, 4 Drawing Sheets



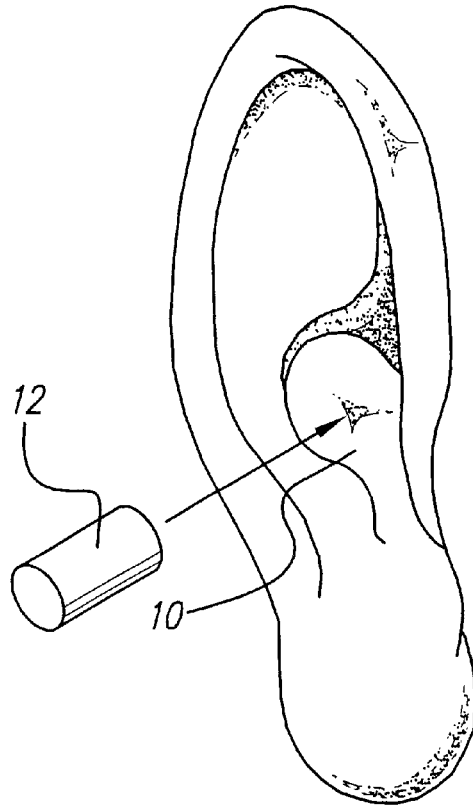


FIG. 1A

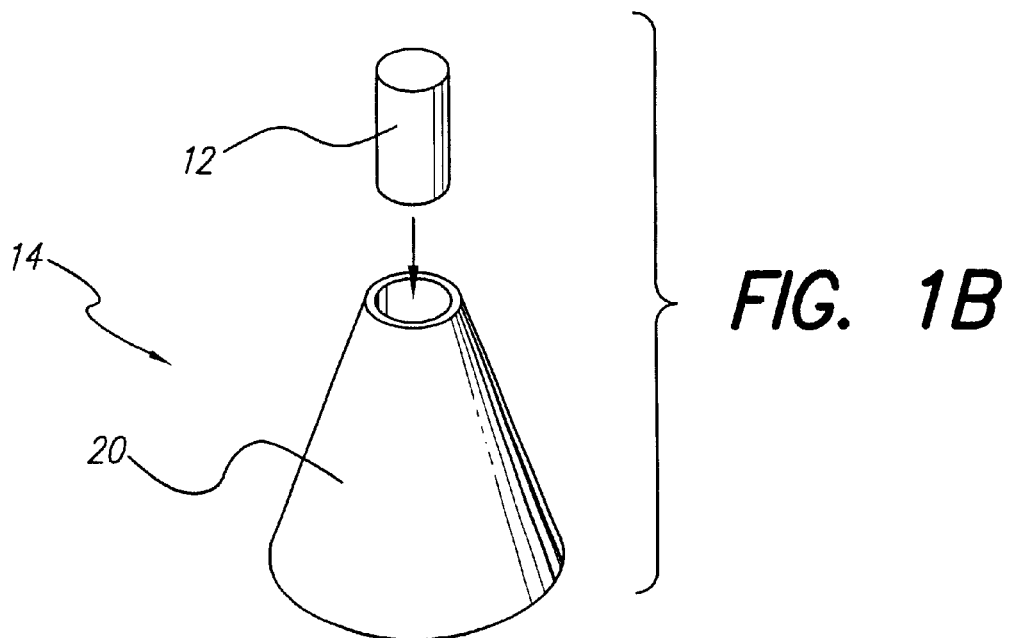


FIG. 1B

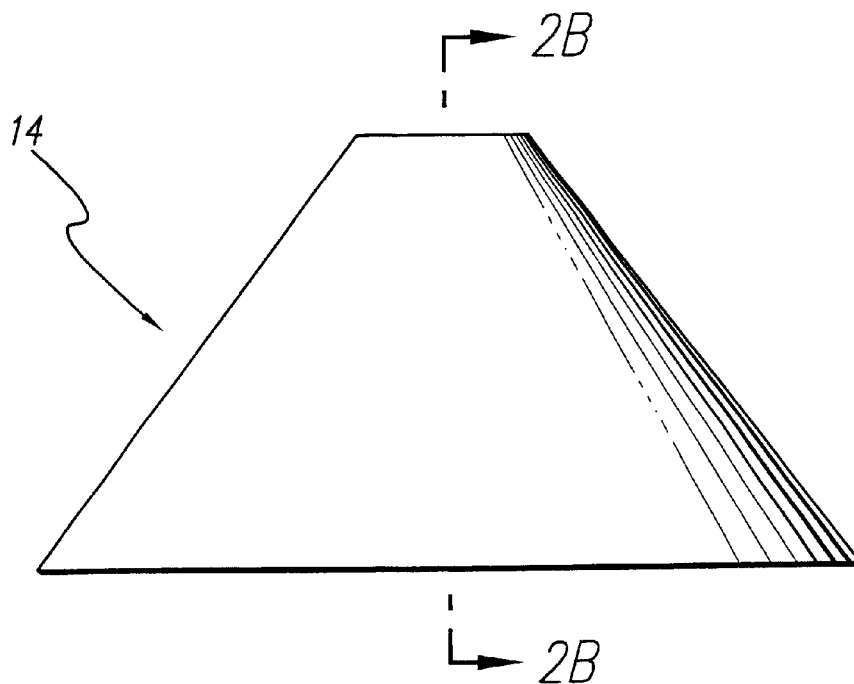


FIG. 2A

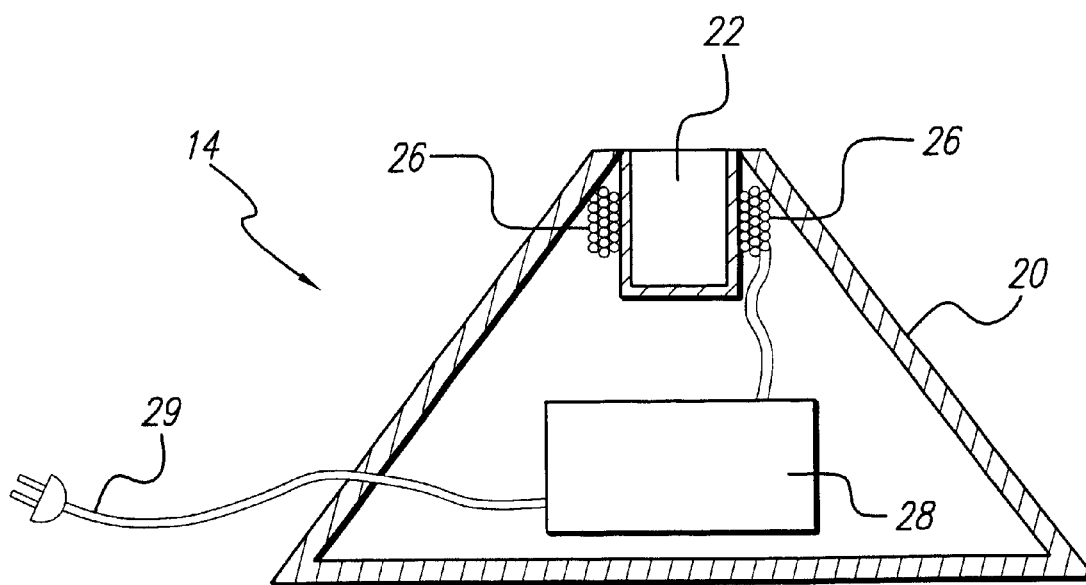


FIG. 2B

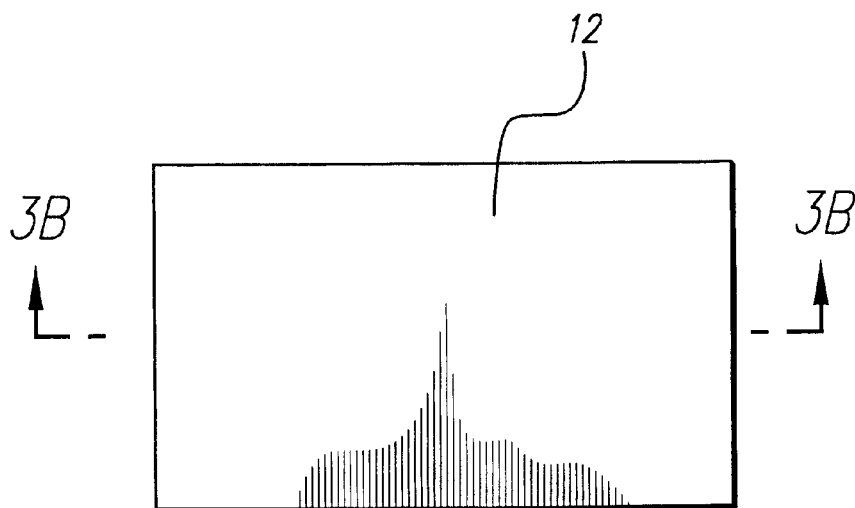


FIG. 3A

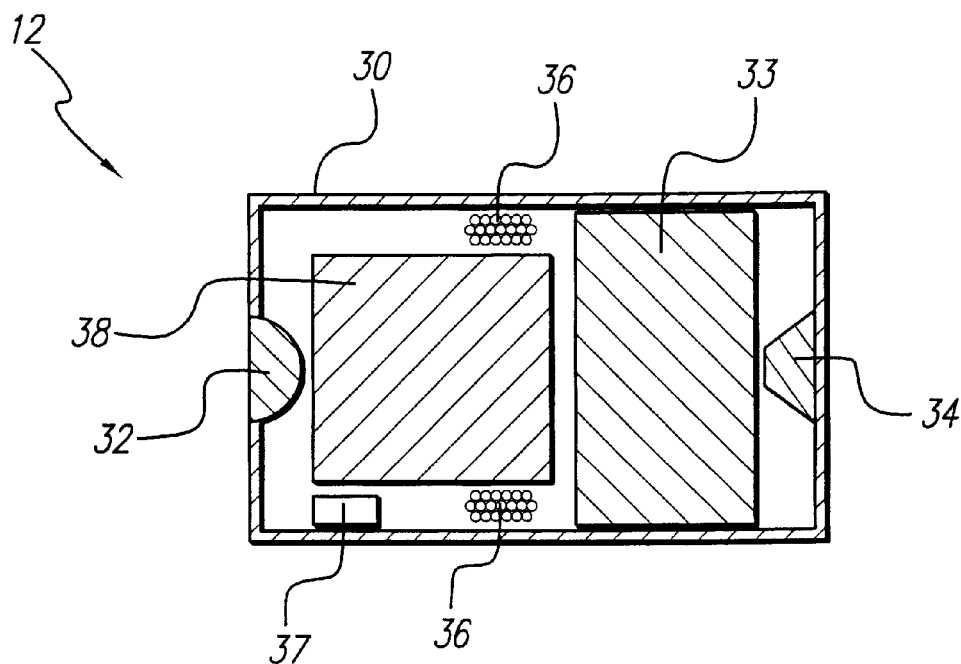


FIG. 3B

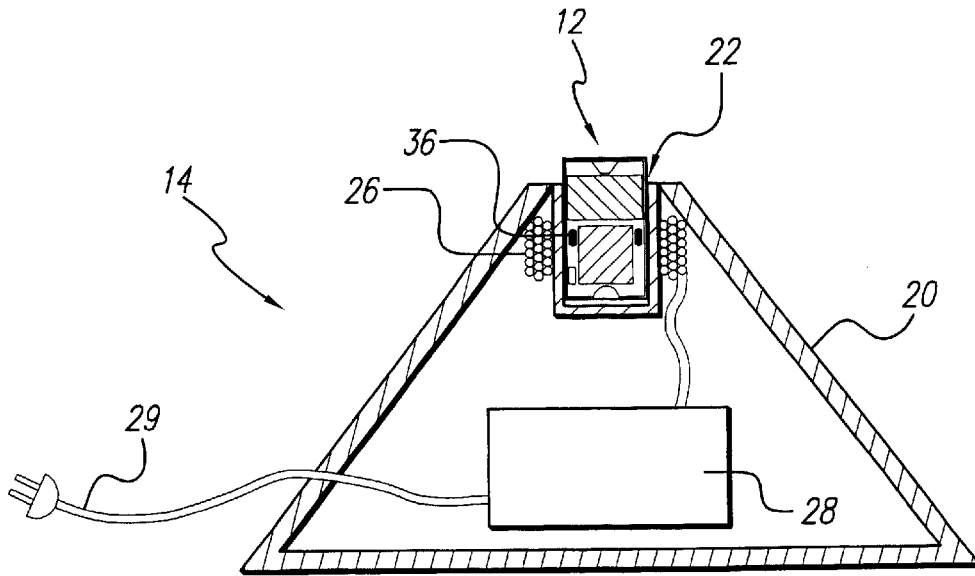


FIG. 4

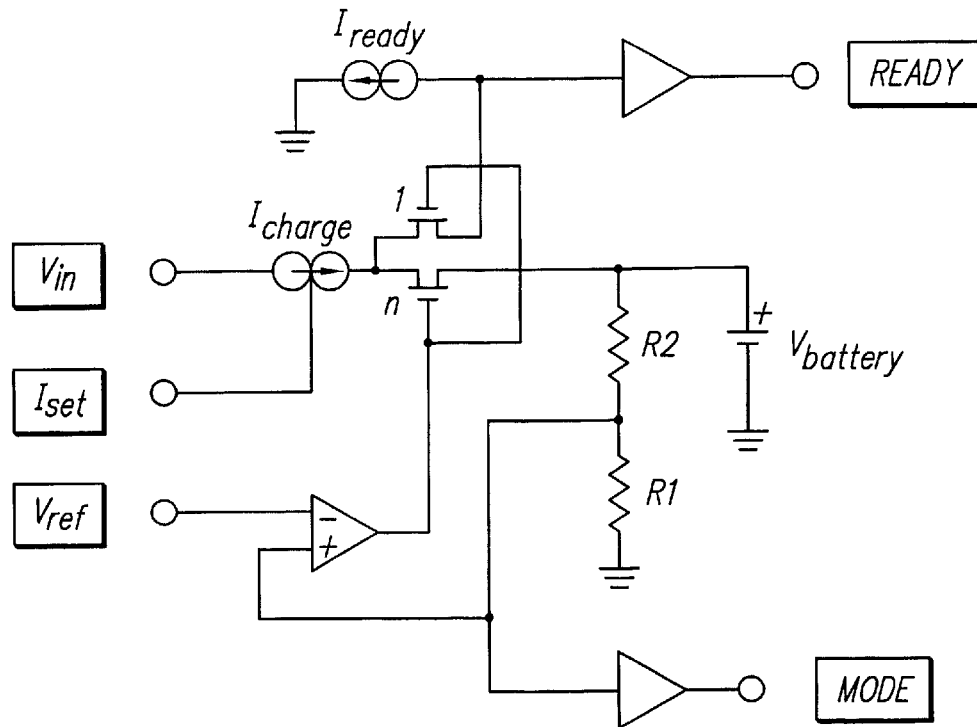


FIG. 5

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