

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

K/S HIMPP
Petitioner

v.

BRAGI GmbH
Patent Owner

Case IPR2023-01150
U.S. Patent No. 9,843,853

PETITIONER'S DEMONSTRATIVE EXHIBITS

UNITED STATES PATENT AND TRADEMARK OFFICE
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U.S. Patent No. 9,843,853

K/S HIMPP

v.

BRAGI GmbH

IPR2023-01150

Petitioner's Demonstrative Exhibits

November 20, 2024

- The '853 Patent
- Petition Grounds & Prior Art
 - Brown
 - Hain
 - Steinbrecher
 - Shaffer
 - Sorensen
- Patent Owner's Revised Motion to Amend
- Disputed Issues

The '853 Patent



US009843853B2

(12) **United States Patent**
Hirsch et al.

(10) **Patent No.:** US 9,843,853 B2
(45) **Date of Patent:** Dec. 12, 2017

(54) **POWER CONTROL FOR BATTERY POWERED PERSONAL AREA NETWORK DEVICE SYSTEM AND METHOD**

(71) Applicant: BRAGI GmbH, München (DE)

(72) Inventors: Eric Christian Hirsch, München (DE); Peter Vincent Boesen, München (DE)

(73) Assignee: BRAGI GmbH, München (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 15/245,031

(22) Filed: Aug. 23, 2016

(65) **Prior Publication Data**
US 2017/0064433 A1 Mar. 2, 2017

Related U.S. Application Data

(60) Provisional application No. 62/211,767, filed on Aug. 29, 2015.

(51) **Int. Cl.**
H04R 1/10 (2006.01)
H02J 7/00 (2006.01)
H02J 7/02 (2016.01)
H04R 1/02 (2006.01)
H04W 52/02 (2009.01)
(Continued)

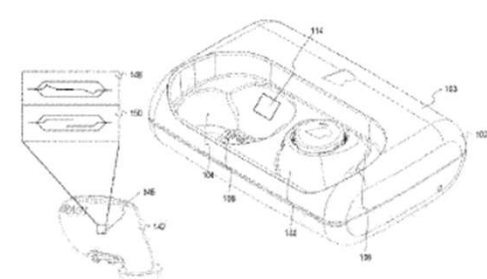
(52) **U.S. Cl.**
CPC H04R 1/1041 (2013.01); H02J 7/007 (2013.01); H02J 7/025 (2013.01); H02J 50/10 (2016.02); H04R 1/028 (2013.01); H04R 1/1025 (2013.01); H04W 52/0225 (2013.01); H04W 52/0229 (2013.01); H04W 52/0245 (2013.01); H04M 1/6066 (2013.01); H04R 2420/07 (2013.01); Y02B 60/50 (2013.01)

(58) **Field of Classification Search**
CPC H04R 1/1041; H04R 1/1025; H04R 1/028; H04R 2420/07; H04W 52/0225; H02J 7/025; H02J 7/007; H02J 50/10; H04M 1/6066
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
3,934,100 A 1/1976 Harada
4,150,262 A 4/1979 Ono
4,334,315 A 6/1982 Ono et al.
(Continued)
FOREIGN PATENT DOCUMENTS
EP 1017252 A2 7/2000
GB 2074817 4/1981
(Continued)
OTHER PUBLICATIONS
Announcing the \$3,333,333 Stretch Goal (Continued)
Primary Examiner — Brenda Bernard
(74) Attorney, Agent, or Firm — Goodhue, Coleman & Owens, P.C.

(57) **ABSTRACT**
A system and method for managing wireless earpieces. Circuitry of the wireless earpieces are powered utilizing a high power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces. The power sent to the circuitry of the wireless earpieces is altered to a low power mode in response to detecting the magnetic field is applied to one or more of the wireless earpieces.

21 Claims, 5 Drawing Sheets



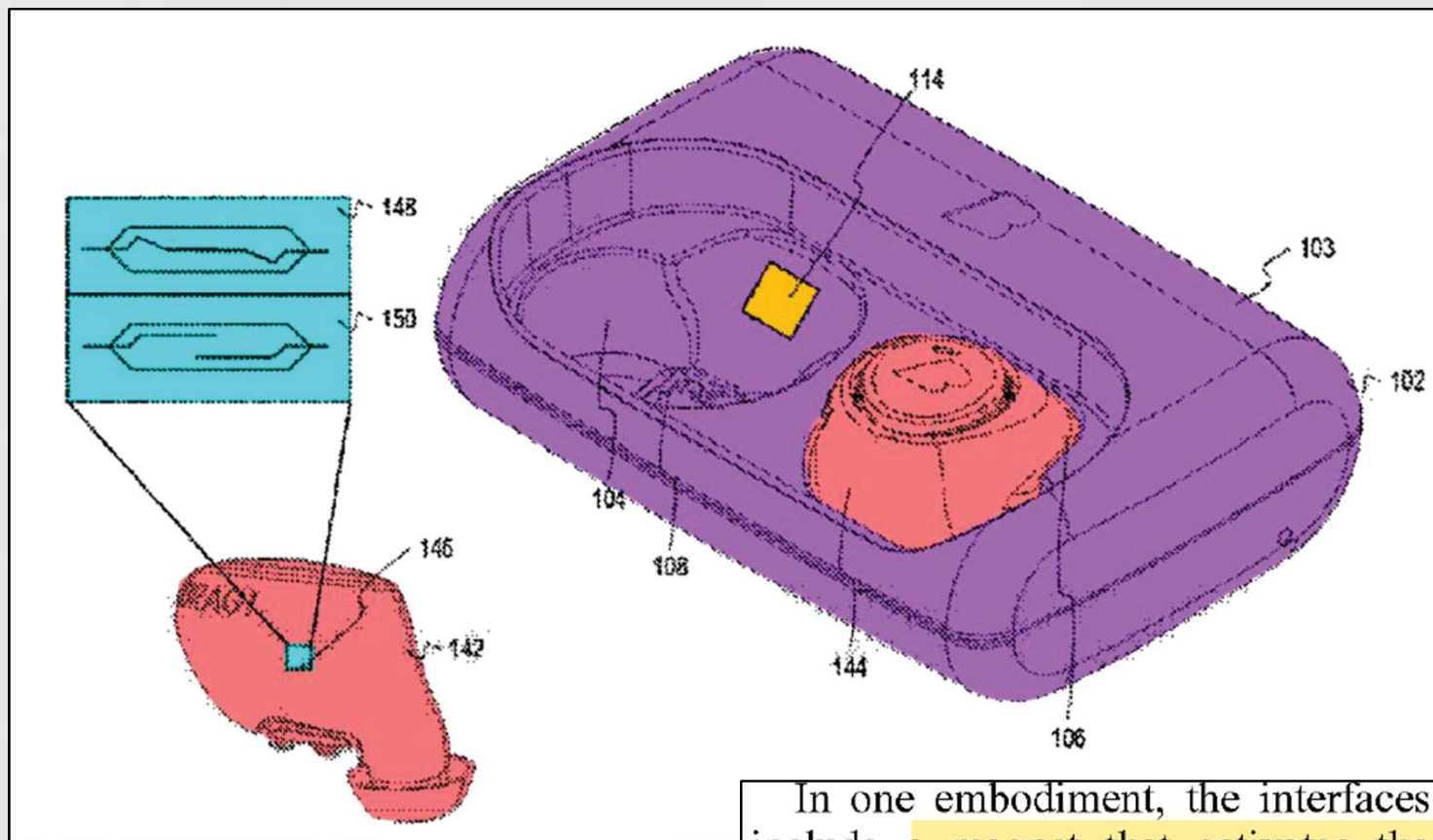
HIMPP 1001

I. Field of the Disclosure

The present invention relates to wireless electronics and battery systems. More specifically, but not exclusively, the present invention relates to wireless earpieces that manage and extend battery life.

Ex. 1001 at 1:13-17

Paper 1 (Petition) at 7



Ex. 1001 at Fig. 1 (annotated)

In one embodiment, the interfaces 108, 110 may each include a magnet that activates the corresponding reed switch (i.e., reed switch 146 described below) to power off or initiate a low power mode (e.g., lower power state or mode) for one or both of the wireless earpieces 142, 144 when one or more of the wireless earpieces 142, 144 are placed within the receptacles 104, 106. In another embodi-

Ex. 1001 at 4:27-33

1. A method for managing wireless earpieces, comprising: powering circuitry of the wireless earpieces utilizing a high power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces; and altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Ex. 1001 at 10:55-63

10. A wireless earpiece, comprising:
circuitry operating the wireless earpiece;
a battery powering the circuitry of the wireless earpiece;
and
a reed switch connecting the battery to the circuitry,
wherein the reed switch connects the circuitry to the
battery when a magnetic field is not detected, and
wherein the reed switch disconnects the circuitry from
the battery when a magnetic field is detected.

Ex. 1001 at 11:24-32

21. A system comprising:
a first wireless earpiece, comprising:
circuitry operating the first wireless earpiece;
a battery powering the circuitry of the first wireless earpiece; and
a switch connecting the battery to the circuitry, wherein the switch connects the circuitry to the battery when a magnetic field is not detected, and wherein the switch disconnects the circuitry from the battery when a magnetic field is detected;
a smart case for charging the first wireless earpiece and a second wireless earpiece, the smart case comprising:
a smart case housing;
a first receptacle for receiving the first wireless earpiece disposed within the smart case housing;
a second receptacle for receiving the second wireless earpiece disposed within the smart case housing;
a first interface associated with the first receptacle for electrically connecting the smart case to the first earpiece;
a second interface associated with the second receptacle for electrically connecting the smart case to the second earpiece;
an intelligent control disposed within the smart case housing and operatively connected to the first interface and the second interface.

Ex. 1001 at 12:26-51

Claim Construction

1. “smart case”

With respect to the phrase “smart case,” recited in claims 4, 6, 8, 11–13, and 17–21, we disagree with Patent Owner’s narrow construction requiring that the smart case be construed as including a rechargeable battery utilized to charge a wireless device, because such a construction ignores intrinsic evidence of multiple additional configurations, actions, or functionality of the smart case disclosed in the ’853 patent. These functions, other than charging a wireless device, include preserving battery life of the wireless earpieces, communication with the wireless earpieces through physical interactions or wireless connections, standards, or protocols, providing a magnetic field, and arrangements in which the smart case is configured to store data. *See* Ex. 1001, 2:38–57.¹²

Paper 8 (DI) at 20-21

Paper 21 (Pet. Reply) at 5

2. “earpiece[s]”

With respect to Patent Owner’s proposed construction of the term “earpiece[s]” as used in all challenged claims 1–21, we disagree with Patent Owner’s construction that limits the construction only to earpieces “configured to fit *into* a user’s ears.”¹³ We note a relevant dictionary definition of “earpiece” is: “**1.** A part, as of a telephone receiver, that fits in or is held next to the ear. **2.** See **earphone**.” *Earpiece*, THE AMERICAN HERITAGE DICTIONARY, 266 (3d ed. 1994); *and see id.* “Earphone” (“A device that converts electric signals to audible sound and fits over or in the ear.”).¹⁴

Paper 8 (DI) at 22

On this record, we conclude the latter construction is in line with the conventional rules for patent claim construction, i.e., “one or more wireless earpieces” reads on plural (non-singular) wireless earpieces. We reach this determination because, if “a” or “an,” construed by our reviewing court as non-singular in *SanDisk* can be construed to mean “one or more,” then it stands to reason that “one or more” in patent parlance would conversely mean “a” or “an,” that allow for plural instances.

Paper 8 (DI) at 50-51

Grounds

Ground	Basis	Claims	Reference(s)
1	§ 102	10, 14	Brown
2	§ 102	1-3, 5	Hain
3	§ 102	10, 21	Steinbrecher
4	§ 103	1-7, 9	Shaffer and Hain
5	§ 103	4, 6-8	Shaffer, Hain, and Sorensen
6	§ 103	10-12, 14, 16-21	Shaffer and Steinbrecher
7	§ 103	11-13, 15, 17-21	Shaffer, Steinbrecher, and Sorensen

Brown

PATENT SPECIFICATION

(11) 1254017

DRAWINGS ATTACHED

(21) Application No. 15595/69 (22) Filed 25 March 1969

(23) Complete Specification filed 24 March 1970

(45) Complete Specification published 17 Nov. 1971

(51) International Classification H 04 r 25/00

(52) Index at acceptance

H4J 3B3 3BX 3S

H2H 8E1 8F

(72) Inventor BERNARD JAMES BROWN



(54) IMPROVEMENTS IN HEARING AIDS

(71) We, BERNA INDUSTRIES LIMITED, a British Company, of Lancaster Road, High Wycombe, Buckinghamshire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to miniature hearing aids such as are worn in the ear, on the ear, or otherwise supported at ear level. The invention concerns certain problems involved in such aids, particularly the fact that it is difficult to provide a reliable switch of suitably small dimensions for switching the aid on and off.

The object of the present invention is to overcome this problem.

According to the invention there is provided a hearing aid comprising an amplifier, a primary or secondary cell for energising the amplifier, and a switch controlling the flow of current from the cell to the amplifier, the switch being a reed relay switch enclosed within the casing of the hearing aid and disposed for being rendered open circuit by a magnet outside the casing.

Such a magnetic reed relay switch can be used as a means of doing away with the troublesome, conventional mechanical switch, by mounting a permanent magnet movably on the aid to act as a manually operable control for a reed relay switch. Thus the troubles associated with the unsealed contacts on conventional switches is avoided.

The reed relay switch can be arranged automatically to disconnect the amplifying circuits from the cell when the aid is removed from the head and placed in its receptacle, the switch being opened by a permanent magnet or coil fixed in the receptacle in a suitable position, when the aid is placed in the receptacle.

The cell or cells which can be incorporated in ear level aids are very small and therefore of limited capacity. It is known to use secondary cells which can be recharged each night but this requires the user to plug a charging

circuit into the aid and it is difficult to ensure that the cells get the correct charge each night. If the charge is insufficient the aid will fail the following day and if the charge is excessive the life of the cells is reduced.

The hearing aid can include a secondary cell and a coil connected to the cell through a rectifier circuit, whereby the cell can be charged by coupling the coil to another coil outside the aid. This obviates the need for any direct connections to the aid. The said other coil is arranged in the receptacle and is provided with a cable for connection to the mains supply. The two coils can have numbers of turns such that they act as a step-down transformer.

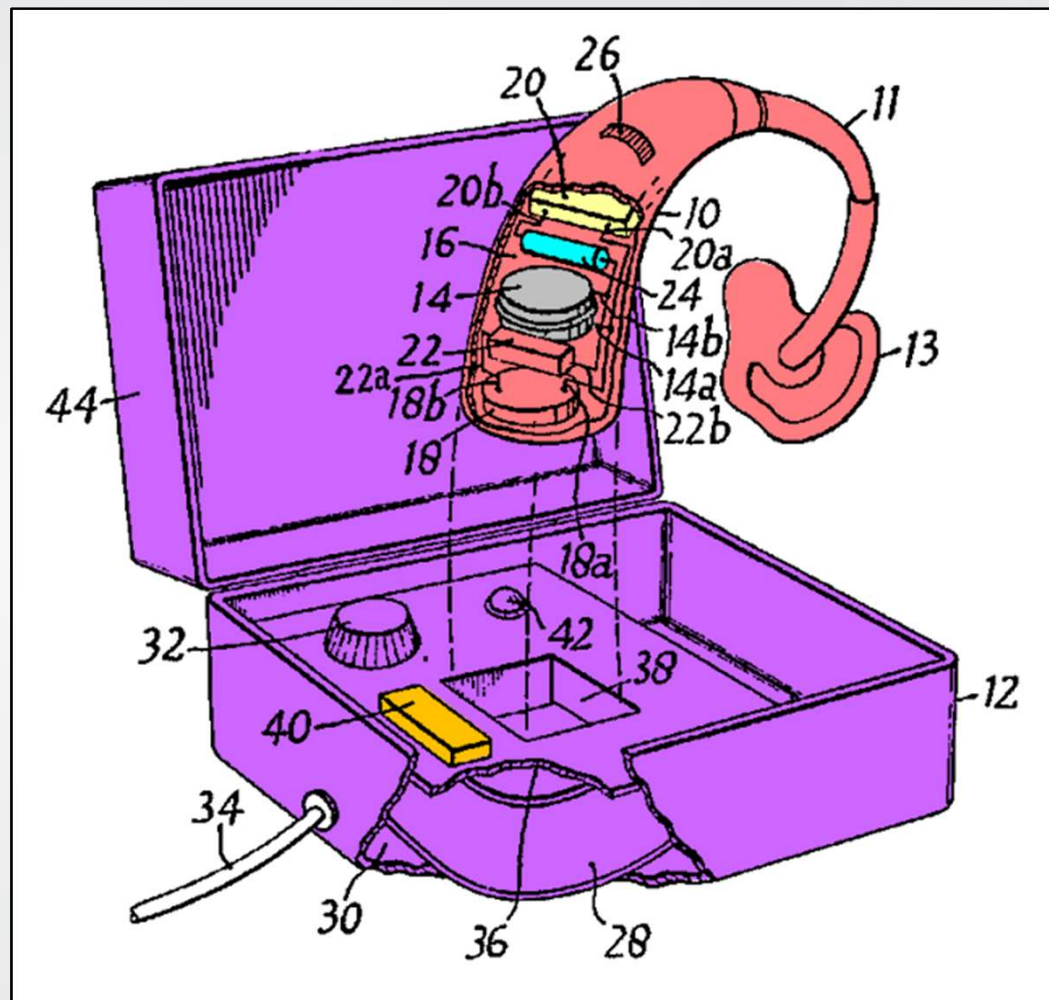
To recharge the cell the user places the aid in its receptacle. A reed relay switch can then be arranged automatically to disconnect the cell from the amplifier as described above. In order to match the period of charge correctly to the period of discharge, the aid is switched on all day, giving an average discharge period of 16 hours. The user has only a single control to operate, namely the volume control, which he turns right down when he does not want to use the aid. The charge period can consist of the whole of the remaining 8 hours of the day, although the receptacle can comprise a timer switch for adjusting the charge period to times less than that for which the aid is in its receptacle.

Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawing, in which:

Fig. 1 is a partially broken away perspective view of a hearing aid and its case, and Fig. 2 is a partially broken away view of another hearing aid.

In Fig. 1 there is shown a miniature hearing aid 10, and a receptacle or case 12 for storing the hearing aid 10 when the aid is not in use. The case 12 contains charging apparatus to be described hereinafter and can be closed by a hinged lid 44.

The hearing aid 10 has a sound tube 11 and earmould 13 and is shown partly cut away to disclose some of its internal parts.



Ex. 1007 at Fig. 1 (annotated)

HIMPP 1007

Ex. 1007

Paper 1 (Petition) at 6, 18

Hain

(19) Federal Republic of Germany German Patent and Trademark Office

(10) DE 10 2007 039 455 A1 02/26/2009

(12) Patent Application

(21) Reference number: 10 2007 039 455.3
(22) Filing date: 08/21/2007
(23) Publication date: 02/26/2009

(51) Int Cl.: H04R 25/00 (2006.01)

(71) Applicant:
Siemens Audiologische Technik GmbH, 91058 Erlangen, DE

(72) Inventor:
Hain, Jens, 91077 Kleinsendelbach, DE

(74) Counsel:
Maier, D., Dipl.-Ing. Univ., Pat.-Ass., 85221 Dachau

(56) Documents considered for the assessment of patentability:
EP 13 98 994 A2
EP 09 41 014 A2
DE 31 09 049 C2

The following information is derived from the documents submitted by the applicant

Examination request pursuant to § 44 PatG [Patentgesetz (German Patent Act)] has been filed.

(54) Title: Hearing aid system with magnetic field sensors

(57) Abstract: In a hearing aid system with two hearing aids (1, 11) that can be worn on the head, an automatic detection of the hearing situation "telephoning" and an automatic switching off of the hearing aids (1, 11) when they are removed from the head should be implemented. According to the invention, the hearing aids (1, 11) have sensor devices (6, 16) for this purpose, which are used in order to detect whether the relevant hearing aid (1, 11) is in a magnetic field that exceeds a specific field strength. Relevant data in this regard can be exchanged between the hearing aids (1, 11) by means for wireless signal transmission (5, 7; 15, 17). If only one of the two hearing aids (1, 11) detects a magnetic field, it can be deduced that the hearing situation is "telephoning". On the other hand, if both hearing aids (1, 11) detect a magnetic field at the same time, then both hearing aids (1, 11) are located in a storage box equipped with a permanent magnet and are switched off automatically.

HIMPP 1004

Ex. 1004 at Fig. 1 (annotated)

(10) DE 10 2007 039 455 A1 2009.02.26

Offenlegungsschrift

(51) Int Cl.: H04R 25/00 (2006.01)

(72) Erfinder:
Hain, Jens, 91077 Kleinsendelbach, DE

(56) Für die Beurteilung der Patentfähigkeit in Betracht gezogene Druckschriften:
EP 13 98 994 A2
EP 09 41 014 A2
DE 31 09 049 C2

en Angaben sind den vom Anmelder eingereichten Unterlagen entnommen

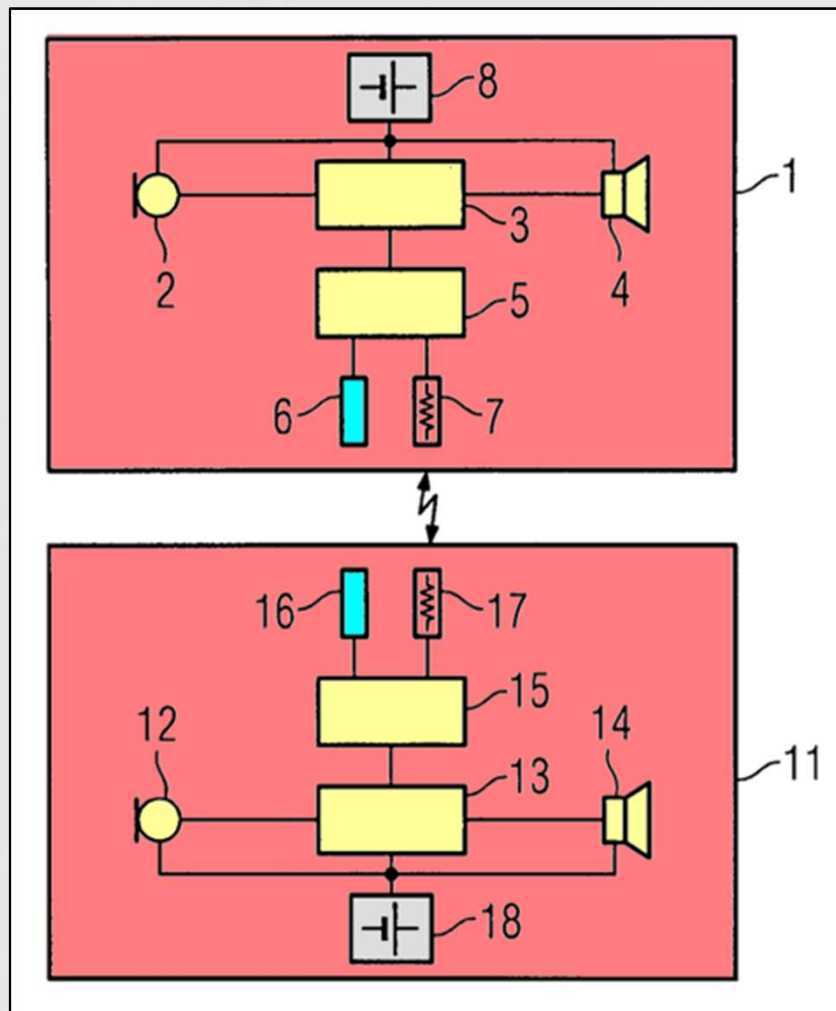
4 PatG ist gestellt.

gerätesystem mit Magnetfeldsensoren

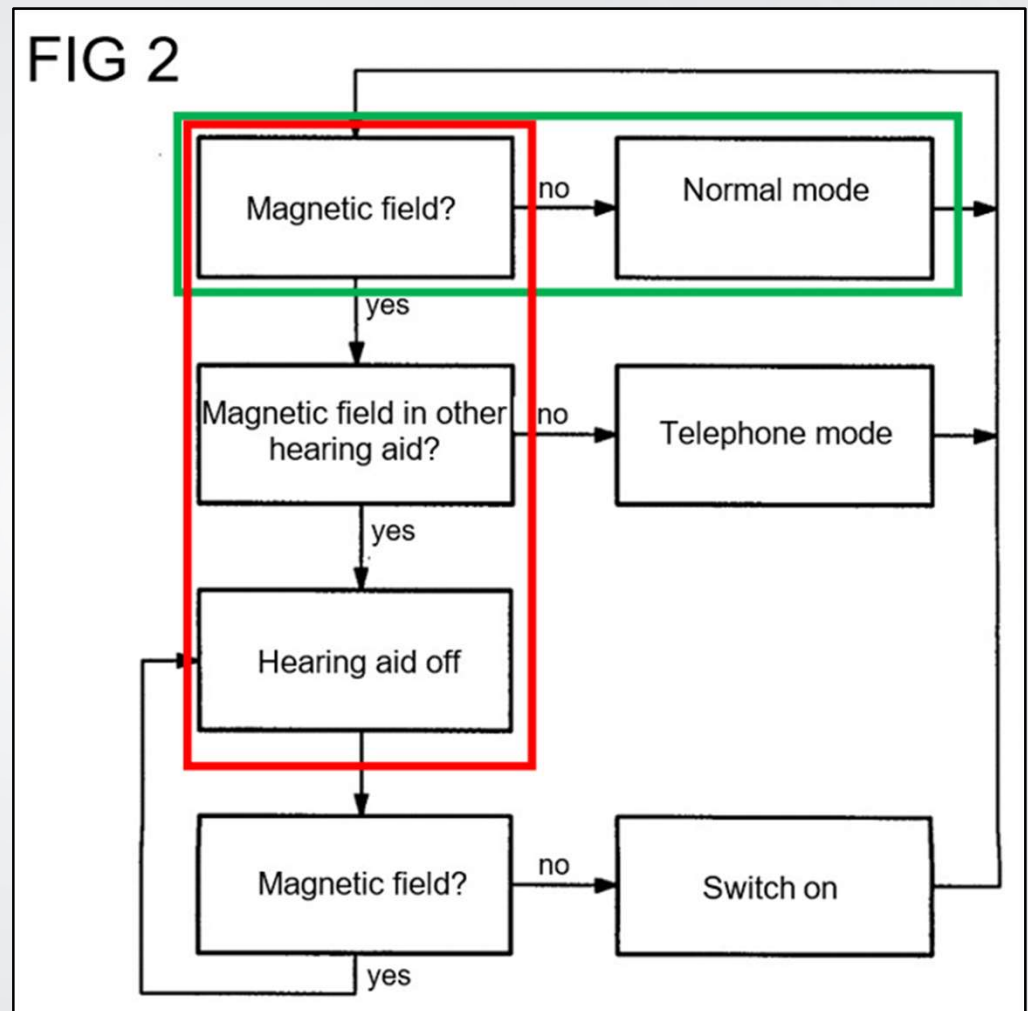
Bei einem Hörhilfegerätesystem mit zwei Hörhilfegeräten (1, 11) soll so erkannt werden, ob sich das betreffende Hörhilfegerät in einem Magnetfeld befindet, das eine bestimmte Feldstärke aufweist. Durch Mittel zur drahtlosen Signalübertragung (5, 7; 15, 17) lassen sich zwischen den Hörhilfegeräten (1, 11) Daten austauschen. Wenn nur ein Hörhilfegerät ein Magnetfeld detektiert, kann daraus geschlossen werden, dass sich das Hörhilfegerät in einer Telefonbox befindet. Wenn beide Hörhilfegeräte ein Magnetfeld detektieren, befinden sie sich in einer Telefonbox, die mit einem Permanentmagneten ausgestattet ist, und werden automa-

HIMPP 1009

Ex. 1009



Ex. 1004 at Fig. 1 (annotated)



Ex. 1004 at Fig. 2 (annotated)

Steinbrecher

(19)  (11) **EP 1 727 395 B1**

(12) **EUROPEAN PATENT APPLICATION**

(45) Publication date and disclosure of reference to granting of patent: 08/20/2008 Patent Bulletin 2008/34 (51) Int Cl.: H04R 25/00(2006.01)

(21) Application number: 06002561.6

(22) Filing date: 02/08/2006

(54) **Verfahren und Vorrichtung zum induktiven Laden von Hörgeräten**
Method and apparatus for charging hearing aids inductively
Procédé et dispositif pour le chargement de prothèses auditives de manière inductive

(84) Designated contracting states:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

(30) Priority: 05/25/2005 DE 102005024227

(43) Publication date of application: 11/29/2006 Patent Bulletin 2006/48

(73) Proprietor: Audia Akustik GmbH 99610 Sömmerda (DE)

(72) Inventor(s):
• Steinbrecher, Helmut
99625 Kölleda (DE)

(74) Counsel: Liedtke, Klaus
Liedtke & Partner
Patent Attorneys
Eisenbahnstrasse 10
99096 Erfurt (DE)

(56) Citations:
EP-A- 0 909 113
DE-UL- 29 718 104
US-B1- 6 291 968
EP-A2- 0 984 541
US-A- 4 379 988

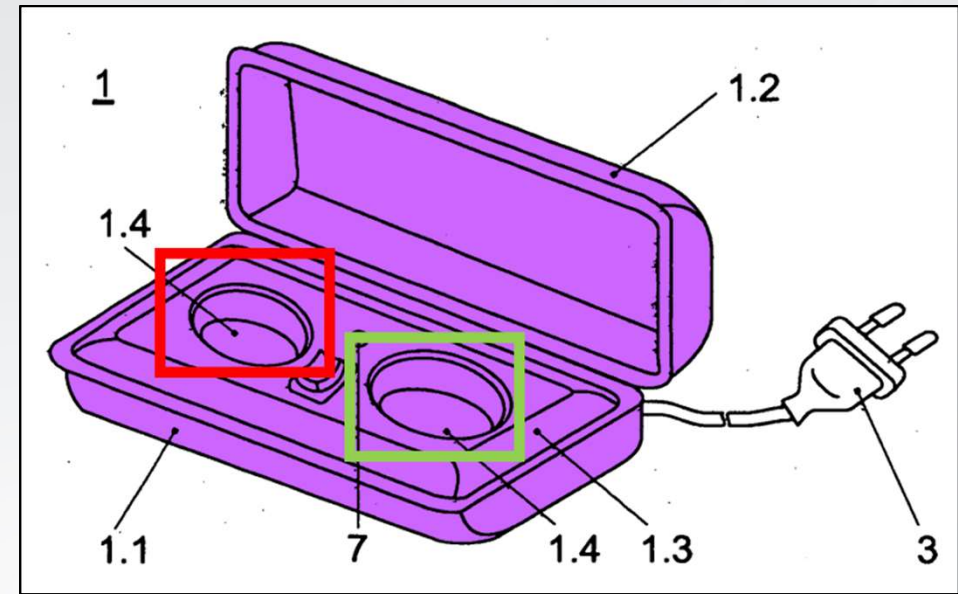
EP 1 727 395 B1

Note: Within nine months of the publication of the notification of the grant of the European patent in the European Patent Bulletin, anyone may file an opposition to this patent with the European Patent Office pursuant to the Implementing Regulations. The opposition is not deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

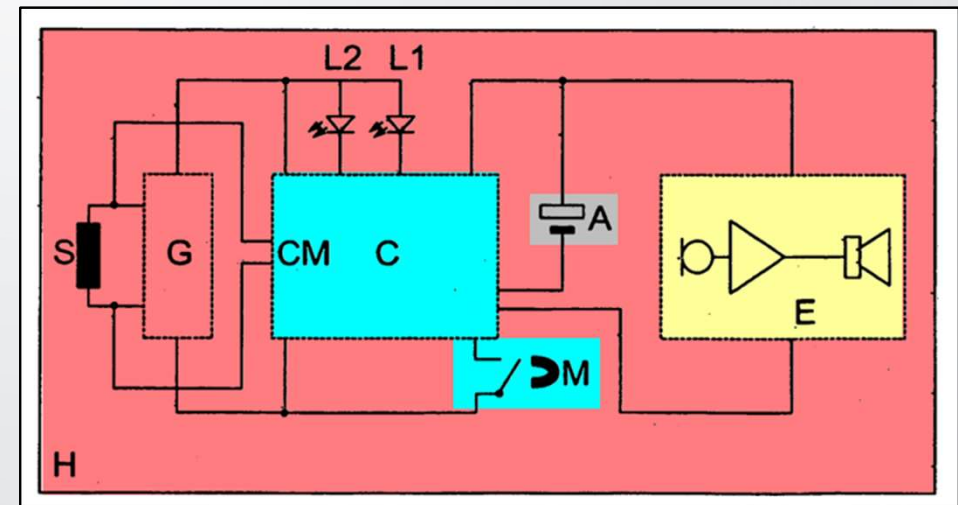
HIMPP 1006

Printed by Jouve, 75001 PARIS (FR)

Ex. 1006



Ex. 1006 at Fig. 1 (annotated)



Ex. 1006 at Fig. 2 (annotated)

Shaffer


 US 20150245126A1

(19) **United States**
 (12) **Patent Application Publication**
 (11) **Shaffer**

(10) **Pub. No.: US 2015/0245126 A1**
 (43) **Pub. Date: Aug. 27, 2015**

(54) **EARBUD CHARGING CASE FOR MOBILE DEVICE**

(71) Applicant: **Alpha Audiotronics, Inc.**, New York, NY (US)

(72) Inventor: **Jonathan Everett Shaffer**, Huntingdon Valley, PA (US)

(21) Appl. No.: **14/510,539**

(22) Filed: **Oct. 9, 2014**

Related U.S. Application Data

(63) Continuation-in-part of application No. 14/306,736, filed on Jun. 17, 2014, now Pat. No. 8,891,800.

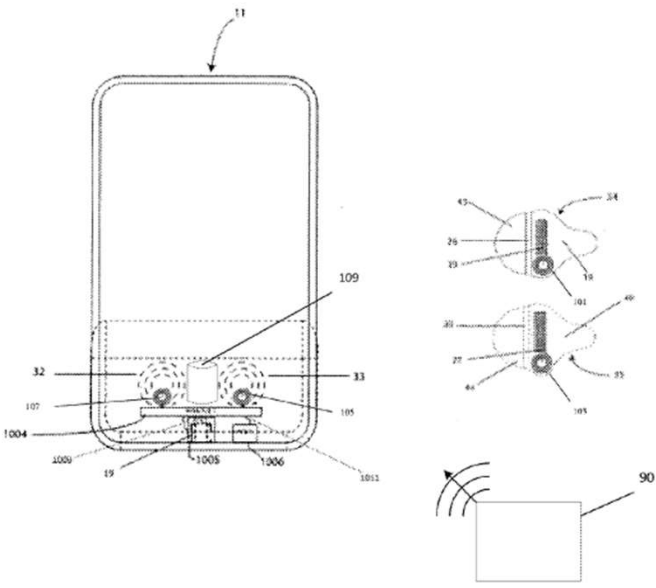
(60) Provisional application No. 61/942,698, filed on Feb. 21, 2014.

Publication Classification

(51) **Int. Cl.**
H04R 1/10 (2006.01)

(52) **U.S. Cl.**
CPC **H04R 1/1025** (2013.01)

(57) **ABSTRACT**
 A case for a mobile electronic device includes a portion configured to receive power via induction charging, an aperture configured to receive an earbud, and circuitry configured to simultaneously charge the earbud and the mobile electronic device.

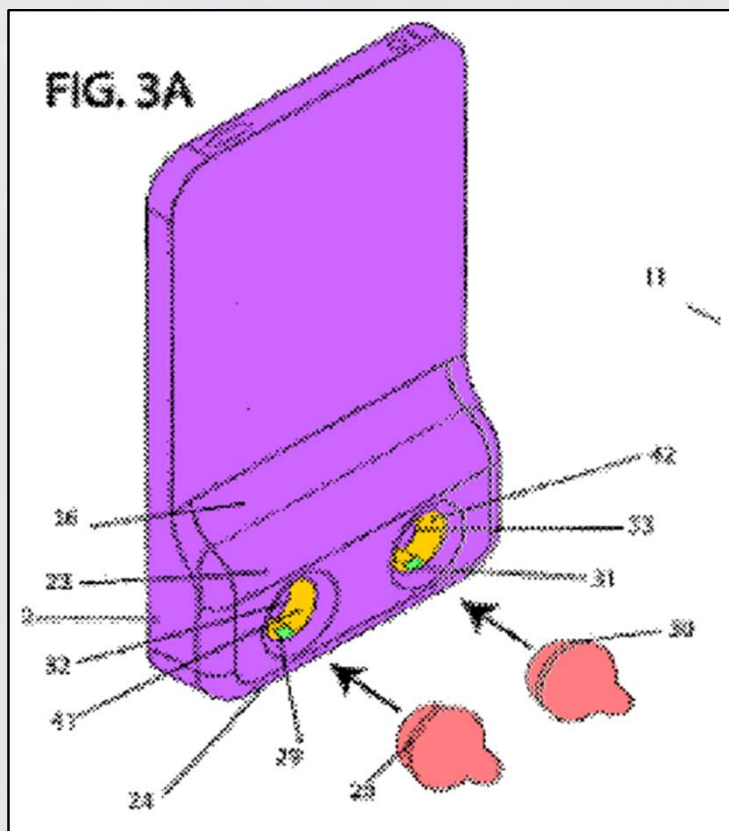


HIMPP 1003

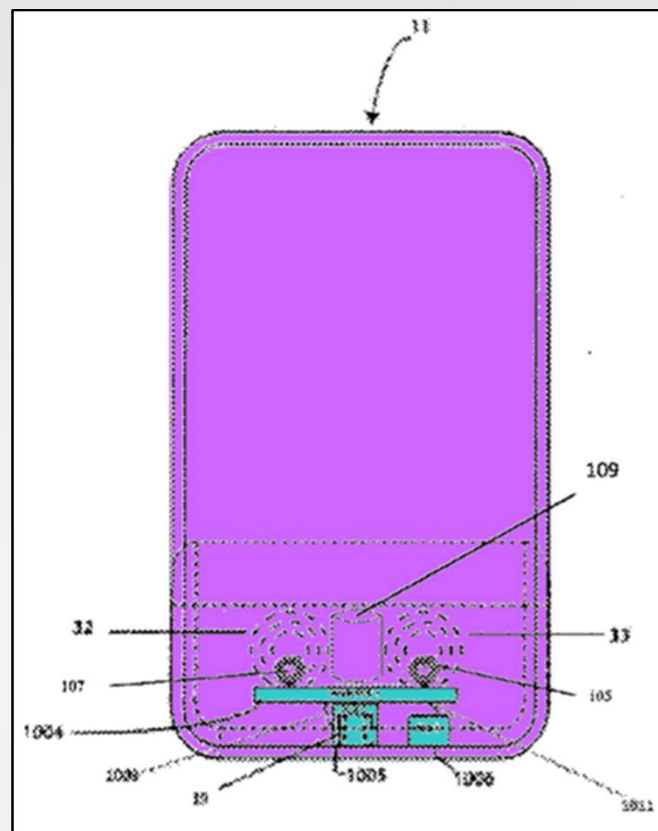
Ex. 1003

for rejection.” *Becton, Dickinson*, 17. Here, we agree with Petitioner that, although Shaffer was cited by the Examiner on a form PTO-892, Shaffer was not applied as a prior art reference in any rejection because claims 1–20 in the application leading to the ’895 patent were allowed in a first action allowance and then, after filing a Request for Continued Examination (RCE), claim 21 was added, and subsequently claims 1–21 were allowed and issued in the ’853 patent with no further discussion of Shaffer or any other reference. *See, generally* Ex. 1008; and *see* Pet. 10.

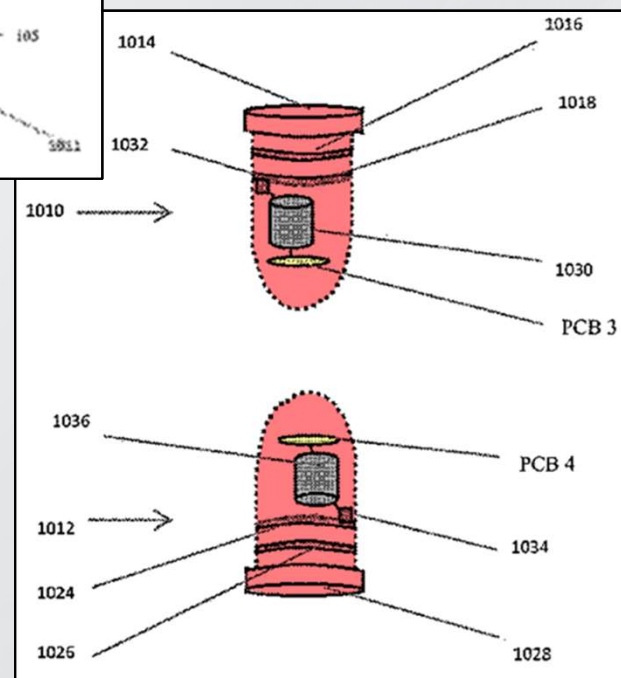
Paper 8 (DI) at 16



Ex. 1003 at Fig. 1 (annotated)



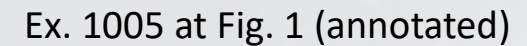
Ex. 1003 at Fig. 4 (annotated)



Ex. 1003 at Fig. 10 (annotated)

Sorensen

Ex. 1005



Institution Decision

3. *Ground 1: Summary*

In light of the above analysis, we preliminarily determine that Petitioner's evidence and arguments are sufficient to demonstrate a reasonable likelihood of success in its challenges to claims 10 and 14 under Ground 1, anticipation by Brown.

3. *Ground 2: Summary*

In light of the above analysis, we preliminarily determine that Petitioner's evidence and arguments are sufficient to demonstrate a reasonable likelihood of success in its challenges to claims 1–3 and 5 under Ground 2, anticipation by Hain.

1) *Ground 3: Summary*

In light of the above analysis, we preliminarily determine that Petitioner's evidence and arguments are sufficient to demonstrate a reasonable likelihood of success in its challenges to claims 10 and 21 under Ground 3, anticipation by Steinbrecher.

3. *Ground 4: Conclusion*

In light of the above analysis, we preliminarily determine that Petitioner's evidence and arguments are sufficient to demonstrate a reasonable likelihood of success in its challenges to claims 1–7 and 9 under Ground 4, obviousness over the combination of Shaffer and Hain.

As explained above, Petitioner establishes sufficiently for purposes of institution that the combined disclosures in Shaffer and Hain teach or suggest the subject matter in claims 4 and 6–8 under Ground 5.

As discussed above, Petitioner's analysis addresses how the combined disclosures in Shaffer and Steinbrecher variously teach the subject matter of claims 10–12, 14, and 16–21. Additionally, Petitioner provides a reason with rational underpinning as to why an ordinarily skilled artisan would have been motivated to combine Shaffer's teachings with Steinbrecher's teachings in the way Petitioner proposes and would have had a reasonable expectation of success. Pet. 73–76. Hence, Petitioner demonstrates a reasonable likelihood of prevailing in proving that claims 10–12, 14, and 16–21 would have been obvious over the combination of Shaffer and Steinbrecher.

Based on the current record and for the reasons advanced by Petitioner and supported by Dr. Kiaei's testimony, cited above, Petitioner establishes sufficiently that the combined disclosures in Shaffer, Steinbrecher, and Sørensen teach the subject matter in claims 11–13, 15, and 17–21. Hence, Petitioner demonstrates a reasonable likelihood of prevailing in proving that claims 11–13, 15, and 17–21 would have been obvious over Shaffer, Steinbrecher, and Sørensen.

Patent Owner Waived All
Arguments to Dispute
Unpatentability of Claims 1-21

PO was on notice and waived any argument against the anticipation and obviousness challenges in the Petition. *See* Paper 9 at 9 (“Patent Owner is cautioned that any arguments not raised in the response may be deemed waived.”). This includes the arguments that PO advanced in its preliminary response. *See* CTPG at 52 (citing *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (explaining that a patent owner waives an issue presented in its preliminary response if it fails to renew the issue in its response after trial is instituted)). Indeed, in similar

Paper 21 (Pet. Reply) at 2

IV. CONCLUSION

All claims of the '853 patent are unpatentable and should be canceled. Petitioner presented substantial evidence in its Petition to support a finding of unpatentability for each claim, as the Board correctly recognized in its Institution Decision. PO did not proffer rebuttal arguments or evidence, and thus more than a preponderance of the evidence demonstrates that the claims are unpatentable. *See In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1376 n. 1 (Fed. Cir. 2016) (“We note, however, that while the institution of an IPR does not by itself translate to a conclusion of unpatentability and the patent owner is not required to use its opportunity under the regulations to file a patent owner response, as in district court validity challenges, **the patent owner would be well advised to introduce evidence on the asserted challenge.**” (internal quotation omitted)).

Paper 21 (Pet. Reply) at 8

Patent Owner's Revised Motion to Amend

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high ~~power~~ power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics. and

altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Paper 25 (RMTA) at APPX A-1

Claim 31. [Proposed substitute for claim 10] A wireless earpiece, comprising:

circuitry operating the wireless earpiece, wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and

a battery powering the circuitry of the wireless earpiece; and

a reed switch connecting the battery to the circuitry, wherein:

the reed switch connects the circuitry to the battery when a magnetic field is not detected; ~~and wherein~~

the reed switch disconnects the circuitry from the battery when a magnetic field is detected.

Paper 25 (RMTA) at APPX A-3

Claim 42. [Proposed substitute for claim 21] A system comprising:

- a first wireless earpiece, comprising:
- circuitry operating the first wireless earpiece;
- wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and
- a battery powering the circuitry of the first wireless earpiece; and
- a switch connecting the battery to the circuitry, wherein the switch connects the circuitry to the battery when a magnetic field is not detected, and wherein the switch disconnects the circuitry from the battery when a magnetic field is detected;
- a smart case for charging the first wireless earpiece and a second wireless earpiece, the smart case comprising:
- a smart case housing;
- a first receptacle for receiving the first wireless earpiece disposed within the smart case housing;
- a second receptacle for receiving the second wireless earpiece disposed within the smart case housing;
- a first interface associated with the first receptacle for electrically connecting the smart case to the first wireless earpiece;
- a second interface associated with the second receptacle for electrically connecting the smart case to the second wireless earpiece;

Paper 25 (RMTA) at APPX A-5-6

A. Ground 1 – Brown

The Petition states that Brown discloses claims 10 and 14 (Petition at 18), which corresponds to proposed substitute claims 31 and 35, respectively. However, Brown does not disclose a wireless earpiece(s) “configured to read user biometrics.”³ Brown does not state the claimed hearing aids are configured to read

B. Ground 2 – Hain

The Petition states that Hain discloses claims 1-3 and 5 (substitute claims 22-24 and 26). But Hain does not disclose a wireless earpiece(s) “configured to read user biometrics.” Hain does not state the claimed hearing aids are configured

C. Ground 3 – Steinbrecher

8. The Petition states that Steinbrecher discloses claims 10 and 21 (Petition, 30), which corresponds to proposed substitute claims 31 and 42, respectively. Steinbrecher does not disclose a wireless earpiece(s) “configured to read user biometrics,” as required by the substitute claims. The '031 Application

E. Grounds 6-7

Grounds 6-7 rely on a combination of references, including some combination of Shaffer, Steinbrecher and Sorensen. *See* Petition, 42-92. Grounds 6-7 challenge claims 10-21 (corresponding to proposed substitute claims 31-42). However, none of these references disclose a wireless earpiece(s) “configured to read user biometrics,” as required by proposed substitute claims 31 and 42 (the independent claims challenged by Grounds 6-7). Ex. 2003 at ¶ 31.

Aumer



(43) **Pub. Date:** **Mar. 31, 2016**

Publication Classification

(52) U.S. Cl. *H04Q 9/00* (2013.01); *G08B 21/18* (2013.01); *H04R 1/091* (2013.01)

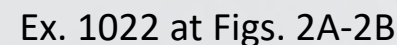
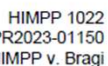
(57) ABSTRACT

A wearable biometric monitoring device is configured to assess the biometric signal quality of a user by means of sensors associated with the monitoring device, determine how the user should adjust the device to improve the biometric fit, and instruct the user to wear the biometric monitoring device a certain way. Communicating instructions to a user may include instructing the user to execute a testing regimen while wearing the biometric monitoring device. The testing regimen facilitates an estimation of a signal quality that can be used to provide feedback to the user that he/she needs to adjust the device to improve the biometric fit and the biometric signal quality.

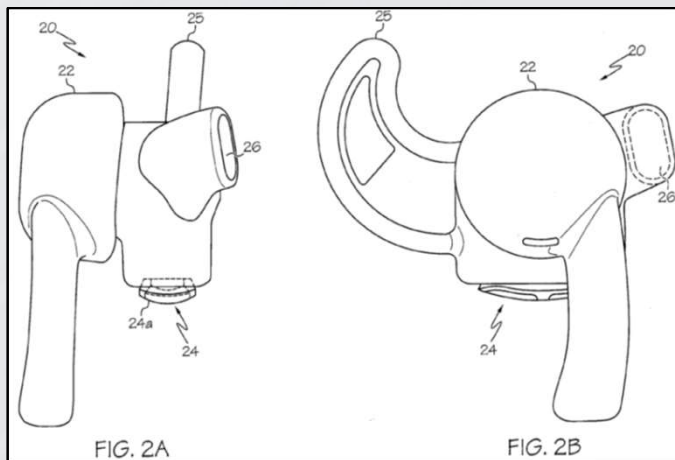
(22) Filed: Aug. 18, 2015

Related U.S. Application Data

(60) Provisional application No. 62/056,510, filed on Sep. 27, 2014, provisional application No. 62/110,655, filed on Feb. 2, 2015.



38



Ex. 1022 at Figs. 2A-2B

[0066] FIGS. 2A-2B illustrate a monitoring apparatus 20 configured to be secured to an ear of a subject and that may function as the monitoring device 10 of FIG. 1, according to some embodiments of the present invention. The illustrated apparatus 20 includes an earpiece body or housing 22, a sensor module 24, a stabilizer 25, and a sound port 26. When positioned within the ear of a subject, the sensor module 24 has a region 24a configured to contact a selected area of the ear. The illustrated sensor region 24a may be contoured (i.e.,

Ex. 1022 at ¶ 66

[0069] The sensor modules 24, 34 for the illustrated monitoring devices 20, 30 of FIGS. 2A-2B and 3A-3B are configured to detect and/or measure physiological information from the subject. In some embodiments, the sensor modules 24, 34

Ex. 1022 at ¶ 69

Aumer

[0064] The ear is an ideal location for wearable health and environmental monitors. The ear is a relatively immobile platform that does not obstruct a person's movement or vision. Monitoring devices located at an ear have, for example, access to the inner-ear canal and tympanic membrane (for measuring core body temperature), muscle tissue (for monitoring muscle tension), the pinna, earlobe, and elsewhere (for monitoring blood gas levels), the region behind the ear (for measuring skin temperature and galvanic skin response), and the internal carotid artery (for measuring cardiopulmonary functioning), etc. A particularly distinct pulsatile blood flow waveform can be discerned optically, via PPG, between the anti-tragus and concha region of the ear. The ear is also at or near the point of exposure to: environmental breathable toxicants of interest (volatile organic compounds, pollution, etc.); noise pollution experienced by the ear; and lighting conditions for the eye. Furthermore, as the ear canal is naturally designed for transmitting acoustical energy, the ear provides a good location for monitoring internal sounds, such as heartbeat, breathing rate, and mouth motion.

Ex. 1022 at ¶ 64

'853 Patent

dard or protocol being utilized (e.g., NFC, RFID, etc.). In another embodiment, biometric readings, such as heart beat or temperature may be utilized by the wireless earpieces

Ex. 1001 at 5:15-17

the smart case. The data may include biometric information (e.g., pulse rate, oxygenation, distance travelled, calories burned, etc.), exercise information, commands received, and other data logged by sensors (e.g., heart rate monitor, pulse oximeter, accelerometers, gyroscopes, etc.) of the wireless earpiece or otherwise determined. The data may represent

Ex. 1001 at 9:62-67

Aumer

[0070] A sensor module utilized in accordance with embodiments of the present invention may be an optical sensor module that includes at least one optical emitter and at least one optical detector. Exemplary optical emitters include, but are not limited to light-emitting diodes (LEDs), laser diodes (LDs), organic light-emitting diodes (OLEDs), compact incandescent bulbs, micro-plasma emitters, IR black-body sources, or the like. In addition, a sensor module may include various types of sensors including and/or in addition to optical sensors. For example, a sensor module may include one or more inertial sensors (e.g., an accelerometer, piezo-electric sensor, vibration sensor, photoreflector sensor, etc.) for detecting changes in motion, one or more thermal sensors (e.g., a thermopile, thermistor, resistor, etc.) for measuring temperature of a part of the body, one or more electrical sensors for measuring changes in electrical conduction, one or more skin humidity sensors, and/or one or more acoustical sensors.

Ex. 1022 at ¶ 70

'853 Patent

the smart case. The data may include biometric information (e.g., pulse rate, oxygenation, distance travelled, calories burned, etc.), exercise information, commands received, and other data logged by sensors (e.g., heart rate monitor, pulse oximeter, accelerometers, gyroscopes, etc.) of the wireless earpiece or otherwise determined. The data may represent

Ex. 1001 at 9:62-67

POSITA Would Have Been
Motivated to Combine Aumer
with Brown, Hain, Steinbrecher,
or Shaffer

Petitioner's Expert Dr. Sayfe Kiaei

- Aumer is from the same field of endeavor.
- POSITA would have known how to include a sensor to read user biometrics, as taught by Aumer, in earpieces, as taught by Brown, Hain, Steinbrecher, or Shaffer.
- Increased consumer interests in monitoring personal health and advances in miniaturizing sensors.
- Switching an earpiece on or off depending on user biometrics was known and provides added benefit of saving battery life of the earpiece.

Ex. 1021 at ¶¶ 15-20, 24-29, 33-38, 42-47

6. The predictability or unpredictability of the art. Techniques to read biometrics that would be implemented in an earpiece, such as heartbeat or temperature, were known in the art and within the skill level of a POSITA to implement as of the priority date. Ex. 2007 ¶ 60.

Paper 37 (PO Reply) at 10

establish this was well-known. Petitioner points to a single patent (Ex. 1028 – Rass) that discloses the ability to power up or down a hearing aid based on temperature of the hearing aid or shell, registered by a temperature sensor. Ex. 2007 ¶¶ 68-69.

Paper 37 (PO Reply) at 5

6. The predictability or unpredictability of the art. Techniques to read biometrics that would be implemented in an earpiece, such as heartbeat or temperature, were known in the art and within the skill level of a POSITA to implement as of the priority date. Ex. 2007 ¶ 60.

Paper 37 (PO Reply) at 10

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high ~~power~~ power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics, and

altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Paper 25 (RM TA) at APPX A-1

US007522739B2

(12) **United States Patent**
Rass et al.

(10) **Patent No.:** US 7,522,739 B2
(45) **Date of Patent:** Apr. 21, 2009

(54) **HEARING AID WITH A SWITCHING DEVICE FOR SWITCHING ON AND OFF AND CORRESPONDING METHOD**

(75) **Inventors:** Uwe Rass, Nürnberg (DE); Riku Sinkkällo, Erlangen (DE)

(73) **Assignee:** Siemens Audiologische Technik GmbH, Erlangen (DE)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 571 days.

(21) **Appl. No.:** 11/126,088

(22) **Filed:** May 10, 2005

(65) **Prior Publication Data**
US 2005/0254676 A1 Nov. 17, 2005

(30) **Foreign Application Priority Data**
May 11, 2004 (DE) 10 2004 023 049

(51) **Int. Cl.**
H04R 25/00 (2006.01)

(52) **U.S. Cl.** 381/323; 381/60; 381/312; 381/318; 381/321; 381/328

(58) **Field of Classification Search** 381/318; 381/56, 60, 320, 324, 104, 107, 312, 321, 381/323, 328; 73/587
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
4,955,729 A * 9/1990 Marx 381/322

FOREIGN PATENT DOCUMENTS

DE	36 42 828 A1	8/1987
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EP	1 301 060 A1	4/2003
JP	11-275694 A	10/1999

* cited by examiner
Primary Examiner—Curtis Kuntz
Assistant Examiner—Jesse A Elbin

(57) **ABSTRACT**

It is intended that the switching on and off of a hearing aid (I) should be made more user-friendly. To this end the hearing aid (I) is fitted with a temperature sensor (TS) to detect the body heat of the hearing aid wearer and therefore that the hearing aid is inserted in the auditory canal. The hearing aid is then switched on and off again based on the temperature signal. As an alternative to the temperature sensor, it is possible to use a pressure sensor to detect contact pressure of the hearing aid housing on the auditory canal, a resistance sensor to detect an electrical load resistance as a function of volume or an acoustic sensor to detect a sound level. It is also possible to switch the hearing aid (I) on and off wirelessly using a remote control.

15 Claims, 1 Drawing Sheet

HIMPP 1028
IPR2023-01150
HIMPP v. Bragi

FIG 1

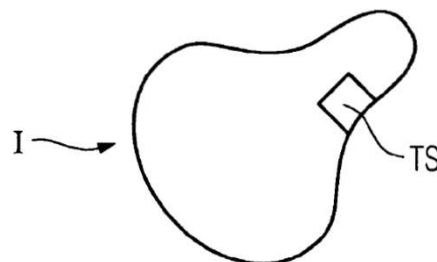


FIG. 1 shows a schematic diagram of an in-the-ear hearing aid I. It has a temperature sensor TS. When worn, the hearing aid I or its shell heats up. The temperature sensor TS registers this heat. Once a certain temperature threshold is exceeded, the device is switched on. If the temperature drops back to below a lower temperature threshold, the hearing aid I switches off again. This temperature-controlled switching on

Ex. 1028 at 2:63-3:2

(cited by Paper 31 (Pet. Opp. to RMTA) at 8-9, 12, 15, 18)

Patent Owner's Reply

establish this was well-known. Petitioner points to a single patent (Ex. 1028 – Rass) that discloses the ability to power up or down a hearing aid based on temperature of the hearing aid or shell, registered by a temperature sensor. Ex. 2007 ¶¶ 68-69.

Ex. 1028

Paper 37 (PO Reply) at 5

Aumer
is
Analogous Art

Airbus S.A.S. v. Firepass Corp., 941 F.3d 1374, 1379 (Fed. Cir. 2019)
(quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004))

“Two separate tests define the scope of analogous prior art: ‘(1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.’”

Aumer is from Same Field of Endeavor

HIMPP

Airbus, 941 F.3d at 1380 (quoting Bigio, 381 F.3d at 1325)

“To determine the applicable field of endeavor, the factfinder must consider ‘explanations of the invention’s subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.’”

Netflix, Inc. v. DivX, LLC, 80 F.4th 1352, 1359 (Fed. Cir. 2023)

“field of endeavor may be broadly defined because it relies on ‘the complete disclosure of all embodiments in the patent’s specification’”

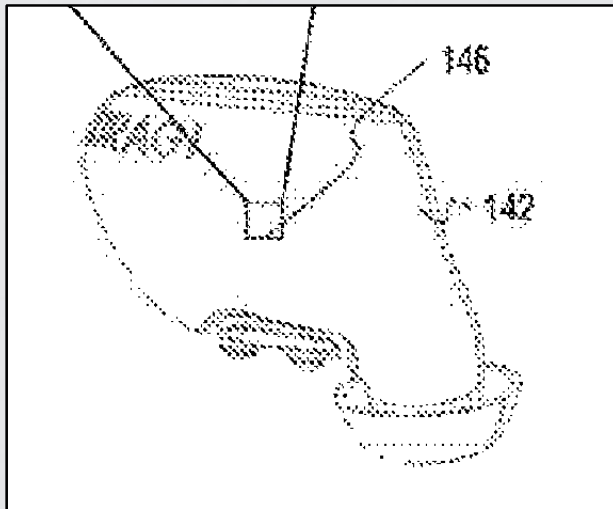
Patent Owner’s Reply

as the '853 Patent. The '853 Patent “relates to wireless electronics and battery systems. More specifically, but not exclusively, the present invention relates to wireless earpieces that manage and extend battery life.” Ex. 1001. Aumer, on the

Paper 37 (PO Reply) at 4

Paper 38 (Pet. Sur-Reply) at 2-3

'853 Patent

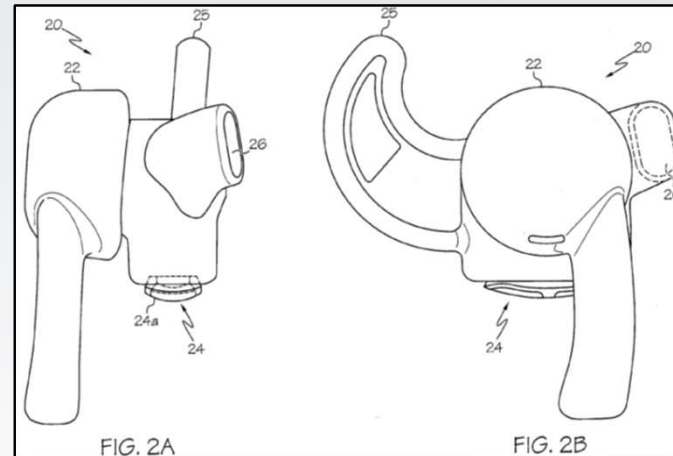


I. Field of the Disclosure

The present invention relates to wireless electronics and battery systems. More specifically, but not exclusively, the present invention relates to wireless earpieces that manage and extend battery life.

Ex. 1001 at Fig. 1 (excerpted), 1:13-17

Aumer



FIELD OF THE INVENTION

[0002] The present invention relates generally to monitoring devices and methods, more particularly, to monitoring devices and methods for measuring physiological information.

[0066] FIGS. 2A-2B illustrate a monitoring apparatus 20 configured to be secured to an ear of a subject and that may function as the monitoring device 10 of FIG. 1, according to some embodiments of the present invention. The illustrated apparatus 20 includes an earpiece body or housing 22, a sensor module 24, a stabilizer 25, and a sound port 26. When

Ex. 1022 at Figs. 2A-2B, ¶¶ 2, 66

Paper 1 (Petition) at 7-8; Paper 31 (Pet. Opp. to RMTA) at 3-4; Paper 37 (PO Reply) at 4; Paper 38 (Pet. Sur-Reply) at 3-4

Aumer is from Same Field of Endeavor

HIMPP

Unwired Planet, LLC v. Google Inc., 841 F.3d 995, 1001 (Fed. Cir. 2016)

“The field of endeavor of a patent is not limited to the **specific point of novelty**, the narrowest possible conception of the field, or the particular focus within a given field.”

Patent Owner's RMTA

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high ~~power~~ power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics. and

altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Paper 25 (RMTA) at APPX A-1

Paper 38 (Pet. Sur-Reply) at 3-4

Aumer

FIELD OF THE INVENTION

[0002] The present invention relates generally to monitoring devices and methods, more particularly, to **monitoring devices and methods for measuring physiological information.**

Ex. 1022 at ¶ 2

Netflix, 80 F.4th at 1361–1362

(quoting *In re GPAC Inc.*, 57 F.3d 1573, 1578 (Fed. Cir. 1995))

“[A] prior art reference is reasonably pertinent only if ‘a person of ordinary skill would reasonably have consulted those references and applied their teachings in seeking a solution to the problem that the inventor was attempting to solve.’”

In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992)

“If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection.”

Aumer is Reasonably Pertinent

HIMPP

Patent Owner's RMTA

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high power power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics, and

altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Paper 25 (RMTA) at APPX A-1

Aumer's Title

(54) **METHODS AND APPARATUS FOR IMPROVING SIGNAL QUALITY IN WEARABLE BIOMETRIC MONITORING DEVICES**

Ex. 1022 at Title

Aumer's Abstract

(57) **ABSTRACT**

A wearable biometric monitoring device is configured to assess the biometric signal quality of one or more sensors associated with the monitoring device, determine how the user should adjust the device to improve the biometric fit, and instruct the user to wear the biometric monitoring device a certain way. Communicating instructions to a user may include instructing the user to execute a testing regimen while wearing the biometric monitoring device. The testing regimen facilitates an estimation of a signal quality that can be used to provide feedback to the user that he/she needs to adjust the device to improve the biometric fit and the biometric signal quality.

Ex. 1022 at Abstract

Paper 38 (Pet. Sur-Reply) at 4-5

Patent Owner's Substitute Claims Lack Enablement

Amgen Inc. v. Sanofi, 598 U.S. 594, 610 (2023)

“If a patent claims an entire class of processes, machines, manufactures, or compositions of matter, the patent’s specification must enable a person skilled in the art to make and use the entire class. In other words, the specification must enable the full scope of the invention as defined by its claims. The more one claims, the more one must enable.”

Patent Owner’s Expert Dr. Darrin Young

2 Q As a person of ordinary skill in
3 the art, what would you say is the meaning of
4 user biometrics in the context of the '853
5 Patent?

6 A Well, the user biometrics, you
7 know, to a person of ordinary skill in the
8 art looking at the claim term, the art of the
9 specification, that term means about
10 biological, physiological or chemical
11 characteristics with respect to the
12 individual. And that individual is a user,
13 right, and that user is the person who -- who
14 uses or wears the wireless earpieces.

Ex. 1027 at 15:2-14

18 Q So in your opinion, user biometrics
19 in the context of the '853 patent means
20 biological, physiological or chemical
21 characteristics of the user, correct?
22 A I remember that's what I said.

Ex. 1027 at 15:18-22

“User Biometrics” Examples

HIMPP

Petitioner’s Expert Dr. Sayfe Kiaei

a part of the overall device.”). But Dr. Young’s broad definition of “user biometrics” also includes, for example, DNA sequencing, retinal scans, vein patterns, and facial features. *See id.* at 16:24–17:3 (“for example, I [came across] technology where

Ex. 1021, ¶ 51

Patent Owner’s Expert Dr. Darrin Young

20 Q Is a facial feature for facial
21 recognition a type of using biometrics?
22 A I didn't offer that opinion in my
23 report, but I can maybe -- just to be fair, I
24 can tell you that for example, I can cross
25 technology where something is scanning an
1 individual's retinal eye, for example.
2 You know, that will be considered a
3 biometrics, but when you say facial, I just
4 have not thought about that yet.

Ex. 1027 at 16:20-17:3

Paper 31 (Pet. Opp. to RMTA) at 20-21; Paper 38 (Pet. Sur-Reply) at 7

4. The state of the prior art. The “evolving” research Petitioner points to relating to DNA sequencing, facial recognition, and retinal scans is irrelevant as these techniques would not be employed in an earpiece. Ex. 2007 ¶ 60.

1. The breadth of the claims. The claims require a wireless earpiece configured to fit within the ear canal and to read user biometrics. The reading of user biometrics is confined to the structure of the earpiece. Thus, a POSITA would understand that only a limited set of biometrics would be appropriate for use in an earpiece worn within the ear and for performing associated functions, which would include powering down. See Ex. 1008 at 7:27-8:8. Ex. 2007 ¶ 60.

Substitute Claims	
Do <u>not</u> limit type of user biometrics Do <u>not</u> recite any use of measured user biometrics	Any “biological, physiological or chemical characteristics of the user”
Require only “a <u>portion</u> of the wireless earpiece” to fit within the ear canal	Portion of the earpiece may be outside the ear canal
Do <u>not</u> require earpiece to read user biometrics while worn within the ear	Earpiece could read user biometrics while not positioned within the ear

Paper 38 (Pet. Sur-Reply) at 8-9

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high ~~power~~ power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics, and

altering the power sent to the circuitry of the wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the wireless earpieces.

Paper 25 (RMTA) at APPX A-1

- Substitute claims indefinite under 35 U.S.C. § 112(b) if Patent Owner's interpretation were to be accepted.
- Unclear which types of biometrics fall within the claims that are:
 - “appropriate for use in an earpiece worn within the ear” and
 - “[appropriate] for performing associated functions, which would include powering down”

Patent Owner's Revised Motion to Amend Improperly Broadens Claim Scope

Limitation “the magnetic field is applied by a smart case,” deleted in claim 32, not added elsewhere.

Claim 31. [Proposed substitute for claim 10] A wireless earpiece, comprising:

circuitry operating the wireless earpiece, wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and

a battery powering the circuitry of the wireless earpiece; and

a reed switch connecting the battery to the circuitry, wherein:

the reed switch connects the circuitry to the battery when a magnetic field is not detected; ~~and wherein~~

the reed switch disconnects the circuitry from the battery when a magnetic field is detected.

Claim 32. [Proposed substitute for claim 11] The wireless earpiece of claim ~~10~~31, ~~wherein the magnetic field is applied by a smart case;~~

wherein the smart case is configured to receive the wireless earpiece,

and powers the wireless earpiece when received in the smart case.

Paper 25 (RM TA) at APPX A-3

Paper 31 (Pet. Opp. to RM TA) at 24-25

VI. THE SUBSTITUTE CLAIMS DO NOT BROADEN THE CLAIM SCOPE

“A motion to amend may not present substitute claims that enlarge the scope of the claims of the challenged patent or introduce new subject matter.” *Lectrosonics* at 6-8 (citing 35 U.S.C. § 316(d)(3); 37 C.F.R. § 41.121(a)(2)(ii)). PO's Substitute Claims comply with both requirements.

Paper 37 (PO Reply) at 12

Patent Owner's Expert Dr. Darrin Young

Claim 32, improperly broaden the claim scope. Pet. Opp. at 24. But the claim limitation deleted from proposed substitute claim 32, “the magnetic field is applied by a smart case,” is present in proposed substitute claim 31, the claim in which proposed substitute claim 32 depends from. Thus, claim 32 necessarily still includes

Ex. 2007 at ¶ 98

Limitation “the magnetic field is applied by a smart case,” deleted in claim 32, is **not** present in claim 31.

Claim 31. [Proposed substitute for claim 10] A wireless earpiece, comprising:

circuitry operating the wireless earpiece, wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and

a battery powering the circuitry of the wireless earpiece; and

a reed switch connecting the battery to the circuitry, wherein:

the reed switch connects the circuitry to the battery when a magnetic field is not detected; ~~and wherein~~

the reed switch disconnects the circuitry from the battery when a magnetic field is detected.

Claim 32. [Proposed substitute for claim 11] The wireless earpiece of claim ~~10~~31, ~~wherein the magnetic field is applied by a smart case;~~

wherein the smart case is configured to receive the wireless earpiece, and powers the wireless earpiece when received in the smart case.

Paper 25 (RMTA) at APPX A-3

Paper 38 (Pet. Sur-Reply) at 11-12

Amendments
Do Not Respond
to Grounds

IV. THE SUBSTITUTE CLAIMS RESPOND TO PATENTABILITY GROUNDS INVOLVED IN THIS TRIAL

Substitute Claims 22-42 respond to the grounds asserted in the Petition and Petitioner's Opposition by including the limitation "the wireless earpieces are configured to read user biometrics." Ex. 2007 ¶ 93.

Paper 37 (PO Reply) at 11

37 C.F.R. § 42.121(a)(2)(i)

“A motion to amend may be denied where . . . [t]he amendment does not respond to a ground of unpatentability involved in the trial.”

Lectrosonics, Inc. v. Zaxcom, Inc., IPR2018-01129,
Paper 15 at 6 (PTAB Feb. 25, 2019) (precedential)

“[O]nce a proposed claim includes amendments to address a prior art ground in the trial, a patent owner also may include additional limitations to address potential § 101 or § 112 issues, if necessary”

Claim 22. [Proposed substitute for claim 1] A method for managing wireless earpieces, comprising:

powering circuitry of the wireless earpieces utilizing a high ~~power~~ power mode in response to detecting a magnetic field is not applied to one or more of the wireless earpieces;

wherein a portion of the wireless earpieces fits within the ear canal opening and the wireless earpieces are configured to read user biometrics, and

Claim 31. [Proposed substitute for claim 10] A wireless earpiece, comprising:

circuitry operating the wireless earpiece, wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and

Claim 42. [Proposed substitute for claim 21] A system comprising:

a first wireless earpiece, comprising:

circuitry operating the first wireless earpiece;

wherein a portion of the wireless earpiece fits within the ear canal opening and the wireless earpiece is configured to read user biometrics, and

a battery powering the circuitry of the first wireless earpiece; and

a switch connecting the battery to the circuitry, wherein the switch connects the circuitry to the battery when a magnetic field is not detected, and wherein the switch disconnects the circuitry from the battery when a magnetic field is detected;

Claim 27. [Proposed substitute for claim 6] The method of claim ~~1~~22, further comprising:

coupling the wireless earpieces to interfaces of a smart case, wherein the smart case comprises a rechargeable battery configured to charge the wireless earpieces and applies a magnetic field to one or more of the wireless earpieces.

Claim 28. [Proposed substitute for claim 7] The method of claim ~~1~~22, wherein the magnetic field is detected by a reed switch integrated in magnetic contacts that interface with a smart case, the smart case comprising a rechargeable battery configured to charge the wireless earpieces, for securing the wireless earpieces.

Claim 29. [Proposed substitute for claim 8] The method of claim ~~1~~22, further comprising:

synchronizing data between the wireless earpieces and a smart case, the smart case comprising a rechargeable battery configured to charge the wireless earpieces, in response to detecting the magnetic field.

Petitioner's Demonstrative Exhibits
IPR2023-01150 (U.S. Patent No. 9,843,853)

Respectfully submitted,

/Trishan Eram/

Trishan Eram

Registration No. 74,075

CERTIFICATE OF SERVICE

I hereby certify that on November 18, 2024, I caused a true and correct copy
of the foregoing materials:

- Petitioner's Demonstrative Exhibits

to be served via electronic mail by consent on counsel of record at:

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shejny@mckoolsmith.com

bjarrett@mckoolsmith.com

Bragi_IPR@mckoolsmith.com

Respectfully Submitted

/Trishan Efram/

Trishan Efram

Registration No. 74,075