

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01150 (U.S. Patent No. 9,843,853)

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 OPPOSITION TO
PATENT OWNER'S MOTION TO AMEND**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE MTA IMPROPERLY INTRODUCES NEW MATTER	1
III.	THE SUBSTITUTE CLAIMS ARE INDEFINITE	5
IV.	THE PRIOR ART ANTICIPATES OR RENDERS OBVIOUS THE SUBSTITUTE CLAIMS	9
A.	Ground 1: Brown in view of Marks renders substitute claims 31 and 35 obvious.....	9
B.	Ground 2: Hain anticipates substitute claims 22–24 and 26	14
C.	Ground 3: Steinbrecher in view of Marks renders substitute claims 31 and 42 obvious	18
D.	Grounds 4 and 5: Shaffer in view of Hain and/or Sorensen renders substitute claims 22–30 obvious.....	21
E.	Grounds 6 and 7: Shaffer in view of Steinbrecher, Sorensen, and/or Marks renders substitute claims 31–42 obvious	21
V.	CONCLUSION.....	25

I. INTRODUCTION

HIMPP ("Petitioner") opposes Patent Owner ("PO") Bragi's Motion to Amend ("MTA"). PO's proposed amendments to the claims of U.S. Patent No. 9,843,853 ("the '853 patent") are fundamentally flawed for at least three reasons. First, more than half of PO's proposed substitute claims improperly introduce new matter. Second, all the substitute claims directly or indirectly include an amendment that renders these claims indefinite. Third, PO's proposed amendments to the original claims of the '853 patent still do not overcome the prior art. Accordingly, PO's MTA should be denied.

II. THE MTA IMPROPERLY INTRODUCES NEW MATTER

The Board should deny PO's MTA because substitute claims 31–42 improperly "introduce new matter." 35 U.S.C. §§ 316(d)(3) ("An amendment . . . may not . . . introduce new matter."). "New subject matter is any addition to the claims that lacks sufficient support in the subject patent's original disclosure." *Intuit, Inc. v. Samesurf, Inc.*, IPR2023-00342, Paper 51 (P.T.A.B. June 25, 2024) at 88 (citing *TurboCare Div. of Demag Delaval Turbomach. v. Gen. Elec. Co.*, 264 F.3d 1111, 1118 (Fed. Cir. 2001)).

"Sufficiency of a specification's written description is a fact question, and 'the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the

claimed subject matter as of the filing date.”” *Huhtamaki Flexible Packaging Germany GmbH & Co. KG v. adapa flexibles Denmark Slagelse A/S f/k/a Danapak Flexibles A/S*, PGR2023-00008, Paper 58 (P.T.A.B. June 18, 2024) at 54 (citing *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*)). Here, the original disclosure does not reasonably convey to a person of ordinary skill in the art (“POSITA”) that the inventors had possession of PO’s proposed claim amendment “a smart case comprising a rechargeable battery configured to receive charge inductively,” recited directly or indirectly by substitute claims 31–41 and similarly by substitute claim 42. Ex-1017-Kaiei-Decl., ¶10. At best, the only inductively charged battery disclosed in the original specification is *in an earpiece, not a smart case* as required by the proposed amendment.

Both PO’s citations to the original specification¹ and its expert’s chart containing excerpts of the original specification are insufficient to support the proposed amendment. See MTA at 5 (citing 3:27–29; 5:3–15; 6:6–20; 7:5–13; 9:14–20; 9:26–10:2 of the original specification); Ex-2001-Young-Decl. at 32–35. As discussed below, half of these citations refer to charging of earpieces, not a smart case, and the other half refer to wired, rather than inductive, charging of a smart case.

¹ The original specification may be found in Ex-1008-FH at 1–16.

Notably, neither PO nor its expert explains why or how the original specification supports this proposed claim limitation. Ex-1017-Kaiei-Decl., ¶10. Prof. Kiaei, on the other hand, explains that a POSITA reading these cited portions of the original specification—including the sentences before and after for context—would have understood that “inductive charging” in the patent refers to charging of the earpieces, not the smart case. For example, the original specification at 3:23–4:2 discloses:

The wireless earpieces may interact with a smart case to perform various actions. For example, the smart case may be utilized to preserve the battery life of the wireless earpieces by interacting with the wireless earpieces while in a low power mode or state. In addition, **the smart cases may ensure that the wireless earpieces are charged** to a desired level. Charging may be performed utilizing contact or wirelessly (e.g., inductive charging). The smart case may communicate with the wireless earpieces through physical interactions (e.g., magnetic contact points, physical switches, etc.) or through wireless connections, standards, or protocols (e.g., near field communications, Bluetooth, Wi-Fi, etc.).²

This passage is about the interaction between the smart case and the earpieces, including “wirelessly” or “inductively” charging the earpieces. *See also* original specification at 5:3–5 (“The smart case 102 encloses a battery, and various other circuitry (not shown). The battery of the smart case 102 may be utilized to **charge the wireless earpieces** 142, 144 through direct contact or wirelessly.”), 6:6–11

² All emphasis added unless otherwise noted.

(“The smart case includes interfaces 108, 110 within the receptacles 104, 106. . . . The interfaces 108, 110 may alternatively include **inductive chargers for charging the wireless earpieces** 142, 144.”). Ex-1017-Kaiei-Decl., ¶11.

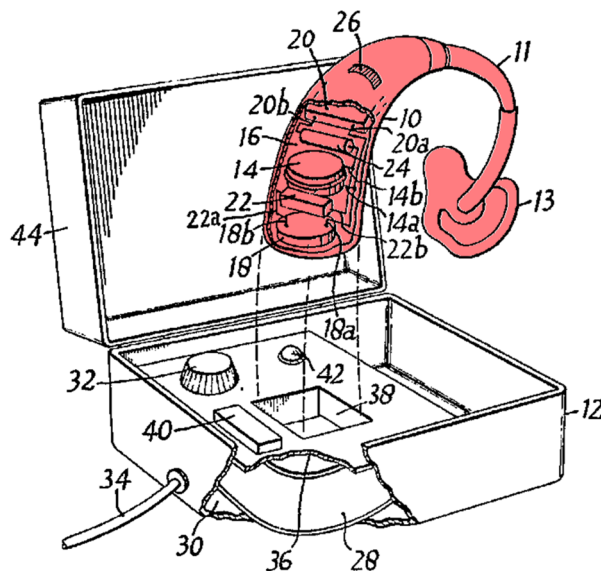
By contrast, the original specification makes clear that charging the battery of the smart case is through a “hardware interface” or “connector.” *See* original specification at 9:14 (“the smart case 402 may include a battery 404”), 9:26–10:2 (“**The battery 404 may itself be charged through an interface 410. The interface 410 is a hardware interface** for connecting the smart case to a power supply or other electronic device. The interfaces 410 may be utilized for charging as well as communications with externally connected devices. For example, the **interface 410 may represent a mini-USB, micro-USB or other similar miniature standard connector.**”), 7:5–7 (“The smart case 102 may also include a port 112. The port 112 may be utilized to interface with the smart case 102. For example, **the port 112 may be utilized with a connector to charge the battery of the smart case 102.**”). According to Prof. Kiaei, there is no indication that the inventors contemplated inductively charging the battery of the smart case and the original specification would not have conveyed to a POSITA that the inventors were in possession of such a feature. Ex-1017-Kaiei-Decl., ¶12.

Accordingly, PO has failed to show written description support for “a smart case comprising a rechargeable battery configured to receive charge inductively.”

III. THE SUBSTITUTE CLAIMS ARE INDEFINITE

The Board should also deny PO's MTA because PO's proposed claim amendment “in-ear,” recited directly or indirectly by all substitute claims, renders the claims indefinite. The scope of the substitute claims is uncertain because the metes and bounds of an “in-ear” wireless earpiece are unclear in view of the specification, the prosecution history, and the rest of the substitute claims. Ex-1017-Kaiei-Decl., ¶13. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014) (“A patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”); *see also* USPTO Memorandum on the Approach to Indefiniteness Under 35 U.S.C. § 112 in AIA Post-Grant Proceedings (Jan. 6, 2021), *available at* <https://www.uspto.gov/sites/default/files/documents/IndefinitenessMemo.pdf>. The rest of the claim language provides no guidance regarding the meaning of this term, as no other claim language is directed to or suggest how the wireless earpiece is worn. In addition, neither the specification nor prosecution history provide any guidance, as the term “in-ear” does not appear in either. Ex-1017-Kaiei-Decl., ¶13.

Although the term “in-ear wireless earpiece” at best conveys that the wireless earpiece is “in” the “ear,” it does not convey what portion of the ear is relevant (*e.g.*, “in” the ear means within the periphery of the ear as a whole or within the ear canal only), how much of the wireless earpiece should be in the ear (*e.g.*, in the ear in its entirety, at least a portion in the ear, or predominantly in the ear), or if there are other characteristics or features relevant to whether a wireless earpiece is “in-ear.” The testimony of PO’s expert supports that the meaning of “in-ear” wireless earpiece is unclear. Initially, PO’s expert testified that Brown’s hearing aid 10 is not an “in-ear” wireless earpiece. Ex-2001-Young-Decl., ¶¶61–62; *see also* MTA at 7–8.

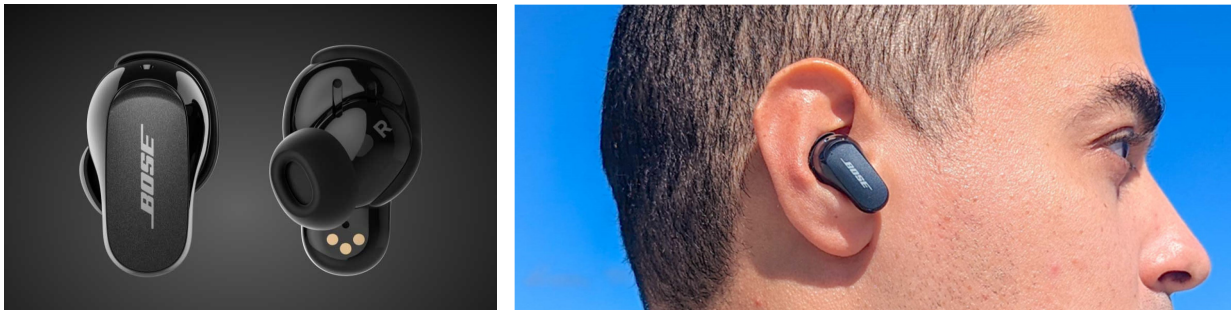


Ex-1007-Brown, Fig. 1 (annotated)

However, PO's expert acknowledges that a portion of Brown's hearing aid is inside the ear. Ex-2001-Young-Decl., ¶62 (acknowledging that only a "portion of Brown's

hearing aid [] sits *outside* the ear,” namely the parts “*except* for the earmould (13) and part of the sound tube (11)” (emphasis in original); *see also* MTA at 8; *cf.* Paper 8 (“DI”) at 41 (Board finding “earmould 13, illustrated in Brown’s Figure 1, is configured to fit into the user’s ear, and is a constituent part of hearing aid 10.”). As such, PO and PO’s expert appear to interpret “in-ear” as requiring the earpiece to be wholly contained within the ear canal. *See* Ex-1019-Young-Tr., 25:25–26:3 (“in-ear wireless earpiece, it means it is a -- it is a wireless earpiece that is inserted in the ear, in the ear canal.”), 77:12–13 (“it’s earpieces that, you know, I said kind of fit into the ear canal of a user”). Ex-1017-Kaiei-Decl., ¶¶14–15.

However, when shown pictures of a popular earbud and how it is worn (*see* Ex-1020), PO’s expert was unable to articulate whether the earbud is “in-ear,” despite agreeing that a portion of the earbud “goes inside the ear” and that “part of that device [] is outside the ear.” Ex-1019-Young-Tr., 28:11–12, 30:9–15, 30:19–31:1, 31:9–15, 31:20–32:3, 33:9–16, 47:17–48:2, 49:3–50:3.



Ex-1020

As such, it is unclear why PO's expert could definitively state that Brown's hearing aid, having only a portion inside the ear, is not "in-ear," but could not state whether this earbud, also having only a portion inside the ear, is "in-ear" or not.³ In fact, PO's expert argued that he would have to review additional technical documents to conclude whether the earbud is an in-ear wireless earpiece, but failed to identify what specific documents or information would be needed. *See id.*, 49:3–50:3. That PO's expert needs unspecified technical documents or information about a wireless earpiece to determine whether it is "in-ear" further demonstrates that this term is indefinite. Ex-1017-Kaiei-Decl., ¶16

When this level of uncertainty exists, an indefiniteness rejection is warranted.

³ PO's expert argues that "Brown discloses a hearing aid that is worn *on* the ear, not a hearing aid configured to fit inside of a user's ears," suggesting he interprets "in-ear" to mean "***not on*** the ear." Ex-2001-Young-Decl., ¶62 (emphasis in original); *see also* Ex-1019-Young-Tr., 77:16–78:5 (PO's expert testifying that an earpiece with "a portion [] wrapped around over the top of the ear" is not an in-ear wireless earpiece), MTA at 7 ("Brown discloses a hearing aid that is worn *on* the ear"). However, PO's expert could not answer whether an earbud, not worn on top of the ear, is "in-ear" or not. Ex-1019-Young-Tr., 31:13–32:3, 33:9–16, 49:3–50:3.

IV. THE PRIOR ART ANTICIPATES OR RENDERS OBVIOUS THE SUBSTITUTE CLAIMS

Regardless of the lack of written description and indefiniteness discussion in Sections II and III above, the prior art anticipates or renders obvious PO's proposed substitute claims 22–42. Ex-1017-Kaiei-Decl., ¶17.

A. Ground 1: Brown in view of Marks renders substitute claims 31 and 35 obvious

Brown alone or in combination with Marks⁴ renders obvious each of PO's proposed amendments in substitute claims 31 and 35—namely, (1) an “in-ear” wireless earpiece, (2) “wherein the powering circuitry is housed within the in-ear wireless earpiece,” and (3) “a smart case comprising a rechargeable battery configured to receive charge inductively and to charge the in-ear wireless earpiece.” Ex-1017-Kaiei-Decl., ¶20.

1. In-ear wireless earpiece

As discussed above in Section III, the metes and bounds of an “in-ear” wireless earpiece are unclear. To the extent “in-ear” wireless earpieces include earpieces having a portion of the earpiece that fits into a user's ear, then, as the Board

⁴ U.S. Patent Application Publication No. 2015/0200554 to Marks et al. (“Marks”) (Exhibit 1018) published July 16, 2015 and is prior art to the '853 patent under § 102(a)(1).

explained in its Institution Decision, Brown discloses such an earpiece. DI at 41 (“[W]e note earmould 13, illustrated in Brown’s Figure 1, is configured to fit into the user’s ear, and is a constituent part of hearing aid 10 Thus, it appears that Brown’s earmould 13, a part of hearing aid 10, fits into a user’s ear.”). To the extent “in-ear” wireless earpieces require the earpiece to wholly fit into the user’s ear or to not be “on” the ear, it would have been obvious to have such an earpiece, as taught by Brown itself and the other prior art references. For example, Brown discloses not only “on the ear” earpieces, but also those worn “*in the ear*.” Ex-1007-Brown, 1:9–11 (Brown’s invention “relates to miniature hearing aids such as worn *in the ear*, on the ear, or otherwise supported at ear level.”). Hain, Steinbrecher, Sorensen, and Shaffer all disclose earpieces that fit into the user’s ear. *See, e.g.*, Ex-1004-Hain, ¶1 (“hearing aid that can be worn on or **in the ear of a user**”); Ex-1006-Steinbrecher, ¶24 (“an **in-the-ear** device”); Ex-1005-Sorensen, 1:23–26 (“**in-the-ear** (ITE) type hearing instruments, such as **completely-in-the-ear-canal** (CIC) type hearing instruments, where **all the normal functionality of the hearing instrument is contained in a device located in the ear canal of a user**”); Ex-1003-Shaffer, Figure 3 (depicting earbuds 34 and 35), Figure 10 (depicting earbuds 1010 and 1012), ¶32 (“The term “earbud” refers to a device designed to **fit within the ear of a human**...”). Ex-1017-Kaiei-Decl., ¶21. It would have been obvious to have a wireless earpiece that wholly fits into the ear or not be on the ear because such an

implementation is commonly known way to wear an earpiece that is one of a finite number of ways, would have been well within the knowledge and skillset of a POSITA, and would have been effected using known and routine electronic device design and manufacturing techniques.

2. Powering circuit housed within the in-ear wireless earpiece

PO admits that Brown discloses powering circuitry housed within the hearing aid 10 (*i.e.*, a “wireless earpiece”). *See* MTA at 7 (“the powering circuitry is housed in a portion of the hearing aid”). As discussed above in Section IV.A.1, Brown discloses or renders obvious an “in-ear” wireless earpiece. Moreover, nothing in substitute claims 31 and 35 requires that the powering circuitry be housed in a specific portion of the earpiece, let alone the portion that is within the ear. Substitute claims 31 and 35 merely require that the powering circuitry be housed within the in-ear wireless earpieces, without specifying a particular location within the earpiece. Thus, Brown discloses or at least renders obvious “wherein the powering circuitry is housed within the in-ear wireless earpiece.” Ex-1017-Kaiei-Decl., ¶22.

3. Smart case comprising a rechargeable battery configured to receive charge inductively and to charge the in-ear wireless earpiece

A POSITA would have found it obvious, in view of the teachings of Marks, to include in a case, as taught by Brown, a rechargeable battery configured to receive

charge inductively and to charge the wireless earpiece, before the priority date of the '853 patent. Ex-1017-Kaiei-Decl., ¶23.

For example, Marks discloses a portable case 100 for a wearable electronic and/or computing device 110. Ex-1018-Marks, ¶18, Figure 1. Examples of device 110 include “hearing aids.” *See id.*, ¶19. Marks explains that “an auxiliary battery 131 embedded within the portable case” charges a main battery 120 of the device 110. *Id.*, ¶18. The auxiliary battery 131 is inductively charged using a plurality of wireless components 174 (*id.*, ¶38) so that “no cable is needed.” *Id.*, ¶30. *Id.*, ¶38. Ex-1017-Kaiei-Decl., ¶19.

(a) **Motivation to combine Brown and Marks**

A POSITA would have been motivated to combine Brown's teachings, *e.g.*, Brown's case 12, and Marks's teachings to have a case that includes a rechargeable battery configured to receive charge inductively and to charge hearing aid 10. Ex-1017-Kaiei-Decl., ¶24.

First, Brown and Marks are from the same field of endeavor. *See, e.g., Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 1574–75 (Fed. Cir. 1983); M.P.E.P. §2141. Both references are directed to a case that charges an electronic device when stored therein. Brown discloses case 12 for charging hearing aid 10. Ex-1007-Brown, 1:88–2:66, Figure 1. Similarly, as discussed above, Marks discloses portable case 100 for charging device 110 (*e.g.*, “hearing aids”). Ex-1018-

Marks, ¶¶18–19, Figure 1. A POSITA would have therefore considered the teachings of Brown and Marks and would have readily been motivated to combine their teachings. Ex-1017-Kaiei-Decl., ¶25.

Second, implementing a case, as taught by Brown, to include a rechargeable battery configured to receive charge inductively and to charge a hearing aid, as taught by Marks, would have yielded expected, predictable results. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); M.P.E.P. §2143(I)(A). Brown discloses case 12 with circuitry to charge hearing aid 10. Ex-1007-Brown, 1:88–2:66, Figure 1. Marks discloses portable 100 with auxiliary battery 131 that can be charged inductively via wireless components 174 and that charges device 110. Ex-1018-Marks, ¶¶18, 30, 38, Figure 1. A POSITA would have combined the elements taught by Brown and Marks—namely, case 12 as taught by Brown, and portable case 100 with auxiliary battery 131 and wireless components 174 as taught by Marks—using known and routine electronic device design and manufacturing techniques to modify Brown's case 12 to include a rechargeable battery configured to receive charge inductively and to charge hearing aid 10. This modification would have been readily predictable and recognized by a POSITA and would have been well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶26.

Third, Marks expressly discloses the benefit of wirelessly charging a battery of a case—"no cable is needed to enable the charging." Ex-1018-Marks, ¶30.

Accordingly, implementing Brown's case 12 to include a rechargeable battery configured to receive charge inductively as taught by Marks would free Brown's case 12 of cable 34, thereby making case 12 portable like Mark's portable case 100 and to make the charging process more convenient and simplified. Ex-1017-Kaiei-Decl., ¶27.

Fourth, a POSITA would have had a reasonable expectation of success in applying Marks's teachings to Brown's case 12. As explained above, Marks's implementation of a portable case that includes a rechargeable battery that can be charged inductively and that charges a device such as a hearing aid is directly applicable to Brown's case 12 and well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶28.

* * *

For the above reasons, Brown in view of Marks renders obvious substitute claims 31 and 35. Ex-1017-Kaiei-Decl., ¶29.

B. Ground 2: Hain anticipates substitute claims 22–24 and 26

Claim 22 substitutes claim 1 and includes PO's proposed "in-ear" and "wherein the powering circuitry is housed within the in-ear wireless earpieces" amendments. PO does not dispute that Hain discloses these amendments. Rather, PO's sole response simply repeats an argument that was raised in its preliminary response and at least initially rejected in the Institution Decision. PO continues to

conflate limitations [1A] and [1B]. Its section addressing this ground starts by arguing that Hain does not disclose limitation [1B] (MTA at 9) but concludes by alleging that Hain does not disclose limitation [1A]. MTA at 12 (“Hain does not disclose ‘powering circuitry of the wireless earpieces utilizing a high power mode in response to detecting a magnetic field is not applied to **one** of the wireless earpieces,’” which corresponds to limitation [1A]);⁵ *see also id.*, Section VII.B (“Ground 2 – Hain”) at 9–12, DI at 49 (“Based upon this incongruent argument, it appears that Patent Owner has conflated and mistakenly argued limitation [1A] . . . instead of limitation [1B] . . .”). Ex-1017-Kaiei-Decl., ¶¶30–31.

PO also continues to contend, without citing to any case law, that “one or more” wireless earpieces should be interpreted as a “singular” wireless earpiece. *See* MTA at 11; *see also* DI at 50, n. 22 (“Patent Owner does not cite to any controlling case law in support of their contention that ‘one or more’ should be interpreted as ‘only one.’”). In its Institution Decision, the Board declined such an interpretation

⁵ PO appears to misstate the claim language as both limitation [1A] and claim 22 recite “**one or more** of the [in-ear] wireless earpieces,” not “**one** of the wireless earpieces” as stated in its MTA.

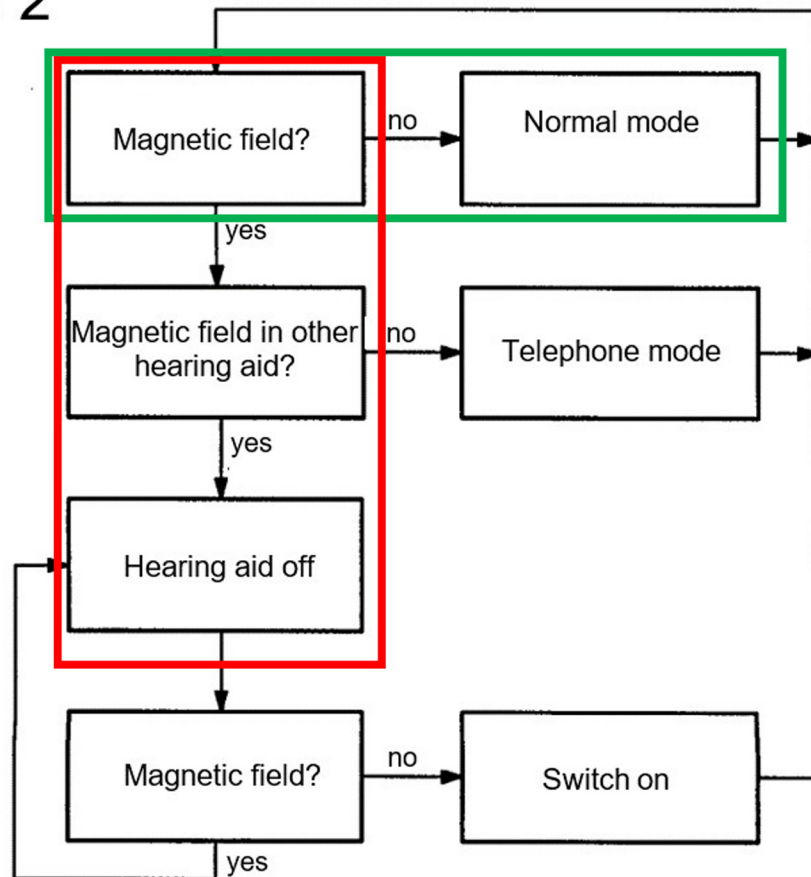
and concluded that “‘one or more wireless earpieces’ reads on plural (non-singular) wireless earpieces.” DI at 50. Ex-1017-Kaiei-Decl., ¶32.

The Board further correctly noted that “Petitioner’s annotation of [Hain’s] Figure 2 in **red** indicates the logic flow when a magnetic field is applied to both earpieces, resulting in a low-power mode, and the annotation in **green** indicates the earpiece is in a high-power or normal mode when a magnetic field is not applied to the earpieces.” *Id.* at 52.⁶ Ex-1017-Kaiei-Decl., ¶33; *see also* Ex-1019-Young-Tr., 80:16–21 (“[W]hen you’re entering the hearing off mode, and I did not dispute the petitioner’s position, the hearing off mode is the low power mode. So in order to get into the low power mode, it requires both hearing aid devices detecting magnetic field.”), 68:18–24 (“If both hearing aids do not detect a magnetic field, . . . they both are in the normal mode, correct? A I think that’s correct.”), 84:4–12 (“The hearing off mode is a low power mode and the other two modes are different from the hearing off mode. The other two modes are used for the hearing device to serve as a hearing

⁶ PO incorrectly states that “Petitioners appear to map the ‘high power mode’ of the claims to Hain’s ‘telephone mode.’” MTA at 10. Petitioner did not rely on Hain’s telephone mode in the Petition and nor does Petitioner in this opposition. *See* Ex-1017-Kaiei-Decl., ¶33, n. 1.

aid, right, under usage. So they -- to me, they -- they dissipate power and they are high power mode.”).

FIG 2



Accordingly, Hain discloses both “powering circuitry of the in-ear wireless earpieces utilizing a high power mode in response to detecting a magnetic field is not applied to one or more of the in-ear wireless earpieces” (green box above) and “altering the power sent to the circuitry of the in-ear wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of

the in-ear wireless earpieces” (red box above), as recited by substitute claim 22. Ex-1017-Kaiei-Decl., ¶34.

PO does not argue any deficiency in Hain with respect to substitute claims 23, 24, and 26. Therefore, Hain anticipates substitute claims 22–24 and 26. Ex-1017-Kaiei-Decl., ¶35.

C. Ground 3: Steinbrecher in view of Marks renders substitute claims 31 and 42 obvious

Regarding substitute claims 31 and 42, PO does not dispute that Steinbrecher discloses the proposed “in-ear” and “wherein the powering circuitry is housed within the in-ear wireless earpiece” amendments. Instead, PO argues that Steinbrecher does not disclose a “smart case comprising a rechargeable battery configured to receive charge inductively and to charge the in-ear wireless earpiece.” MTA at 12–13. However, before the priority date of the ’853 patent, a POSITA would have found it obvious, in view of Marks’s teachings (*see* Section IV.A.3), to include in a smart case, as taught by Steinbrecher (*e.g.*, charging shell 1) to include a rechargeable battery configured to receive charge inductively and to charge the wireless earpiece. Ex-1017-Kaiei-Decl., ¶36.

(a) Motivation to combine Steinbrecher and Marks

A POSITA would have been motivated to combine Steinbrecher’s teachings, *e.g.*, Steinbrecher’s charging shell 1, and Marks’s teachings to have a smart case that

includes a rechargeable battery configured to receive charge inductively and to charge hearing aid H. Ex-1017-Kaiei-Decl., ¶37.

First, Steinbrecher and Marks are from the same field of endeavor. *See, e.g., Medtronic*, 721 F.2d 1574–75; M.P.E.P. §2141. Both references are directed to a case that charges an electronic device when stored therein. Steinbrecher discloses charging shell 1 for charging hearing aid H. Ex-1006-Steinbrecher, ¶¶24–25, Figures 1–2. Similarly, Marks discloses portable case 100 for charging device 110 (*e.g.*, “hearing aids”). Ex-1018-Marks, ¶¶18–19, Figure 1. A POSITA would have therefore considered the teachings of Steinbrecher and Marks and would have readily been motivated to combine their teachings. Ex-1017-Kaiei-Decl., ¶38.

Second, implementing a smart case, as taught by Steinbrecher, to include a rechargeable battery configured to receive charge inductively and to charge hearing aid, as taught by Marks, would have yielded expected, predictable results. *KSR*, 550 U.S. 416; M.P.E.P. §2143(I)(A). Steinbrecher discloses charging shell 1 to charge hearing aid H. Ex-1006-Steinbrecher, ¶¶34–25, Figures 1–2. Marks discloses portable 100 with battery 131 that can be charged inductively via wireless components 174 and that charges device 110. Ex-1018-Marks, ¶¶18, 30, 38, Figure 1. A POSITA would have combined the elements taught by Steinbrecher and Marks—namely, charging shell 1 as taught by Steinbrecher, and portable case 100 with battery 131 and wireless components 174 as taught by Marks—using known

and routine electronic device design and manufacturing techniques to modify Steinbrecher's charging shell 1 to include a rechargeable battery configured to receive charge inductively and to charge hearing aid H. This modification would have been readily predictable and recognized by a POSITA and would have been well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶39.

Third, Marks expressly discloses the benefit of wirelessly charging a battery of a case—"no cable is needed to enable the charging." Ex-1018-Marks, ¶30. Accordingly, implementing Steinbrecher's charging shell 1 to include a rechargeable battery configured to receive charge inductively as taught by Marks would free Steinbrecher's charging shell 1 of the cable with mains plug 3, thereby making charging shell 1 portable like Mark's portable case 100 and to make the charging process more convenient and simplified. Ex-1017-Kaiei-Decl., ¶40.

Fourth, a POSITA would have had a reasonable expectation of success in applying Marks's teachings to Steinbrecher's charging shell 1. As explained above, Marks's implementation of a portable case that includes a rechargeable battery that can be charged inductively and that charges a device such as a hearing aid is directly applicable to Steinbrecher's charging shell 1 and well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶41.

For the above reasons, Steinbrecher in view of Marks renders obvious substitute claims 31 and 42. Ex-1017-Kaiei-Decl., ¶42.

D. Grounds 4 and 5: Shaffer in view of Hain and/or Sorensen renders substitute claims 22–30 obvious

PO does not point to any deficiency in Shaffer or Sorensen as to substitute claims 22–30. Instead, PO notes that Grounds 4 and 5 include Hain and, like for Ground 2, argues that “Hain does not disclose ‘powering circuitry of the wireless earpieces utilizing a high power mode in response to detecting a magnetic field is not applied to one of the wireless earpieces.’” MTA at 14. As discussed above in Section IV.B, Hain discloses both “powering circuitry of the in-ear wireless earpieces utilizing a high power mode in response to detecting a magnetic field is not applied to one or more of the in-ear wireless earpieces” and “altering the power sent to the circuitry of the in-ear wireless earpieces to a low power mode in response to detecting a magnetic field is applied to one or more of the in-ear wireless earpieces,” as recited by substitute claim 22. Accordingly, Shaffer in view of Hain and/or Sorensen renders substitute claims 22–30 obvious. Ex-1017-Kaiei-Decl., ¶43.

E. Grounds 6 and 7: Shaffer in view of Steinbrecher, Sorensen, and/or Marks renders substitute claims 31–42 obvious

PO does not dispute that the combination of Shaffer with Steinbrecher and/or Sorensen discloses the proposed “in-ear” and “wherein the powering circuitry is housed within the in-ear wireless earpiece” amendments in substitute claims 31–42. But PO argues that “none of these references disclose a ‘smart case comprising a

rechargeable battery configured to receive charge inductively and to charge the in-ear wireless earpiece.” MTA at 15. Ex-1017-Kaiei-Decl., ¶¶44–45.

First, Shaffer's storage case 11 (*i.e.*, “a smart case”) contains “an internal rechargeable battery 109.” Ex-1003-Shaffer, ¶56, Figure 4. Shaffer discloses that battery 109 “can supply charge to case 11 electrical earbud contacts 29 and 31 in order to charge rechargeable batteries 39 and 27” of earbuds 34 and 35, respectively. *Id.*, ¶57; *see also id.*, ¶42, Figure 3D. Therefore, Shaffer discloses “a smart case comprising a rechargeable battery configured . . . to charge the in-ear wireless earpiece.” Ex-1017-Kaiei-Decl., ¶46.

Second, Shaffer discloses that the rechargeable battery 109 can be charged when electrical components within the case 11 transfer charge from “a power source via plug 19” via PCB 1004 to battery 109. *See* Ex-1003-Shaffer, ¶57. To the extent the '853 patent's original specification disclosure of charging the battery 404 of the smart case 402 using a hardware interface or connector provides written description support for “a smart case comprising a rechargeable battery configured to receive charge inductively” (*see* discussion at Section II), then Shaffer, like the original specification, discloses “a smart case comprising a rechargeable battery configured to receive charge inductively.” Ex-1017-Kaiei-Decl., ¶47.

Third, notwithstanding the preceding second point, before the priority date of the '853 patent, a POSITA would have found it obvious in view of Marks's teachings

(see Section IV.A.3) to configure a smart case as taught by Shaffer, *e.g.*, case 11 such that its rechargeable battery, *e.g.*, battery 109, receives charge inductively. Ex-1017-Kaiei-Decl., ¶48.

(a) **Motivation to combine Shaffer and Marks⁷**

A POSITA would have been motivated to combine Shaffer's teaching, *e.g.*, Shaffer's case 11, and Marks's teachings such that a rechargeable battery in a smart case is configured to receive charge inductively. Ex-1017-Kaiei-Decl., ¶49.

First, Shaffer and Marks are from the same field of endeavor. *See, e.g.*, *Medtronic*, 721 F.2d 1574–75; M.P.E.P. §2141. Both references are directed to a case that charges an electronic device when stored therein. Shaffer discloses case 11 for charging earbuds 34 and 35. *See, e.g.*, Ex-1003-Shaffer, ¶¶39–47, Figures 2A–3D. Similarly, Marks discloses portable case 100 for charging device 110 (*e.g.*, “hearing aids”). Ex-1018-Marks, ¶¶18–19, Figure 1. A POSITA would have therefore considered the teachings of Shaffer and Marks and would have readily been motivated to combine their teachings. Ex-1017-Kaiei-Decl., ¶50.

⁷ Petition arguments that a POSITA would have been motivated to combine Shaffer with Steinbrecher and/or Sorensen with a reasonable expectation of success apply equally here. Ex-1017-Kaiei-Decl., n. 2.

Second, implementing a smart case as taught by Shaffer such that its rechargeable battery is configured to receive charge inductively as taught by Marks would have yielded expected, predictable results. *KSR*, 550 U.S. 416; M.P.E.P. §2143(I)(A). Shaffer discloses case 11 containing rechargeable battery 109. Ex-1003-Shaffer, ¶56, Figure 4. Marks discloses portable 100 with battery 131 that can be charged inductively via wireless components 174. Ex-1018-Marks, ¶¶18, 30, 38, Figure 1. A POSITA would have combined the elements taught by Shaffer and Marks—namely, case 11 with rechargeable battery 109 as taught by Shaffer, and portable case 100 with battery 131 and wireless components 174 as taught by Marks—using known and routine electronic device design and manufacturing techniques to modify Shaffer's case 11 such that its rechargeable battery 109 is configured to receive charge inductively. This modification would have been readily predictable and recognized by a POSITA and would have been well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶51.

Third, Marks expressly discloses the benefit of wirelessly charging a battery of a case—“no cable is needed to enable the charging.” Ex-1018-Marks, ¶30. Accordingly, implementing Shaffer's case 11 such that its rechargeable battery 109 is configured to receive charge inductively as taught by Marks would allow charging the rechargeable battery 109 without the hassle of having to connect charging cable 1000 to inlet jack 36 and to generally make the charging process more convenient

and simplified. *See* Ex-1003-Shaffer, ¶¶47, 49, Figures 5A and 5B. Ex-1017-Kaiei-Decl., ¶52.

Fourth, a POSITA would have had a reasonable expectation of success in applying Marks's teachings to Shaffer's case 11. As explained above, Marks's implementation of a portable case that includes a rechargeable battery that can be charged inductively is directly applicable to Shaffer's case 11 that contains rechargeable battery 109 and well within the knowledge and skillset of a POSITA. Ex-1017-Kaiei-Decl., ¶53.

For the above reasons, Shaffer in view of Shaffer, Sorensen, and/or Marks renders obvious substitute claims 31–42. Ex-1017-Kaiei-Decl., ¶54.

V. CONCLUSION

PO's MTA does not present a patentable claim. In addition to not overcoming the prior art, the proposed amendments render all claims indefinite and improperly introduce new matter into twelve of PO's twenty-one claims. As such, PO's MTA should be denied.

Respectfully submitted,

/Haixia Lin/

Haixia Lin

Registration No. 61,318

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01150 (U.S. Patent No. 9,843,853)

Updated Table of Exhibits for IPR2023-01150

Exhibit	Description
1001	U.S. Patent No. 9,843,853 ("853 patent")
1002	Declaration of Sayfe Kiaei, Ph.D.
1003	U.S. Patent Application Publication No. 2015/0245126 ("Shaffer")
1004	Certified English translation of DE Patent Application No. 102007039455 ("Hain")
1005	U.S. Patent No. 8,265,315 ("Sorensen")
1006	Certified English translation of EP Patent Application No. 1727395 ("Steinbrecher")
1007	GB Patent Application No. 1254017 ("Brown")
1008	File History for U.S. Patent No. 9,843,853 ("853 FH")
1009	DE Patent Application No. 102007039455 (original German version of Hain)
1010	Affidavit of James Doing (Certificate of Translation for Hain)
1011	EP Patent Application No. 1727395 (original German version of Steinbrecher)
1012	Affidavit of James Doing (Certificate of Translation for Steinbrecher)
1013	U.S. Patent Application Publication No. 2013/0007484
1014	Colburn, "The Resilience of the Reed Relay," IEEE Spectrum (August 28, 2015) [https://spectrum.ieee.org/the-resilience-of-the-reed-relay]
1015	U.S. Patent No. 2,264,746
1016	Hamlin Application Note AN104: Reed Switch and Reed Sensor Activation (2008) [https://www.sparkfun.com/datasheets/Components/Buttons/AN104.pdf]
1017	Second Declaration of Sayfe Kiaei, Ph.D.
1018	U.S. Patent Application Publication No. 2015/0200554 ("Marks")
1019	Transcript of Deposition of Darrin Young (7/15/2024)

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01150 (U.S. Patent No. 9,843,853)

Exhibit	Description
1020	Exhibit 4 to Deposition of Darrin Young

CERTIFICATE OF SERVICE

I hereby certify that on July 19, 2024, I caused a true and correct copy of the foregoing materials:

- Petitioner's Opposition to Patent Owner's Motion to Amend
- Updated Table of Exhibits
- Exhibits 1017–1020

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

rkamprath@mckoolsmith.com

shejny@mckoolsmith.com

bjarrett@mckoolsmith.com

Bragi_IPR@mckoolsmith.com

Respectfully Submitted

/Trishan Eram/

Trishan Eram

Registration No. 74,075