

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01204 (U.S. Patent No. 10,117,014)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

K/S HIMPP
Petitioner

v.

BRAGI GmbH
Patent Owner

Case IPR2023-01204
U.S. Patent No. 10,117,014

**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	10
A.	Ground 1: Hain anticipates substitute claims 14–16 and 18	10
B.	Ground 2: Steinbrecher in view of Marks renders substitute claims 23 and 24 obvious	14
C.	Grounds 3 and 4: Shaffer in view of Hain and/or Sorensen renders substitute claims 14–16, 18, 21, and 22 obvious, and Shaffer in view of Hain, Sorensen, and/or Marks renders substitute claims 17, 19, and 20 obvious.....	18
D.	Grounds 5 and 6: Shaffer in view of Steinbrecher, Sorensen, and/or Marks renders substitute claims 23–26 obvious	23
V.	CONCLUSION.....	24

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. 10,117,014 ("the '014 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 '014 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 17, 19, 20, 23–26 improperly "introduce new matter." 35 U.S.C. §§ 316(d)(3) ("An amendment . . . may not . . . introduce new matter."); *see also* 37 C.F.R. § 42.121(a)(2)(ii). "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 “the smart case compris[es/ing] a rechargeable battery configured to receive charge inductively,” recited directly or indirectly by substitute claims 17, 19, 20, and 23–26. Ex-1018-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 specification of U.S. Patent Application No. 15/245,031 (the “’031 Application”)¹ and its expert’s chart containing excerpts of the ’031 Application specification are insufficient to support the proposed

¹ The ’014 patent is a continuation of the ’031 Application, now U.S. Patent No. 9,843,853 (“the ’853 patent”). For purposes of its MTA, PO identified “portions of the ’031 Application as providing support for the proposed amendments.” MTA at 4. The specification of the ’031 Application may be found in Exhibit 1008 at 1–16.

amendment. *See* MTA at 5 (citing Ex-1008-USP853FH, 3:27–29; 5:3–15; 6:6–20; 7:5–13; 9:14–20; 9:26–10:2); Ex-2001-Young-Decl. at 27–30. 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. Notably, neither PO nor its expert explains why or how the '031 Application specification supports this proposed claim limitation. Ex-1018-Kaiei-Decl., ¶10. Prof. Kiaei, on the other hand, explains that a POSITA reading these cited portions of the '031 Application 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 '031 Application specification (Ex-1008-USP853FH) 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

² All emphasis added unless otherwise noted.

This passage is about the interaction between the smart case and the earpieces, including “wirelessly” or “inductively” charging the earpieces. *See also* Ex-1008-USP853FH, 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 (“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-1018-Kaiei-Decl., ¶11.

By contrast, the '031 Application specification makes clear that charging the battery of the smart case is through a “hardware interface” or “connector.” *See* Ex-1008-USP853FH, 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 '031 Application specification would not have conveyed to a POSITA that the inventors were in possession of such a feature. Ex-1018-Kaiei-Decl., ¶12.

Accordingly, PO has failed to show written description support for “the smart case compris[es/ing] a rechargeable battery configured to receive charge inductively.” *See* Ex-1025 (IPR2023-01150, Paper 24, Board's Preliminary Guidance) at 6 (Regarding the '031 Application specification, Board finding that “[o]n this record, we agree with Petitioner's position that Patent Owner's Motion does not appear to sufficiently set forth written description support for proposed substitute claims 31–42 because Patent Owner's citations do not reasonably convey that the inventors had possession of the claimed smart case comprising ‘a rechargeable battery configured to receive charge inductively’ recited in proposed substitute claims 31 and 42.”). Ex-1018-Kaiei-Decl., ¶13.

III. THE SUBSTITUTE CLAIMS ARE INDEFINITE

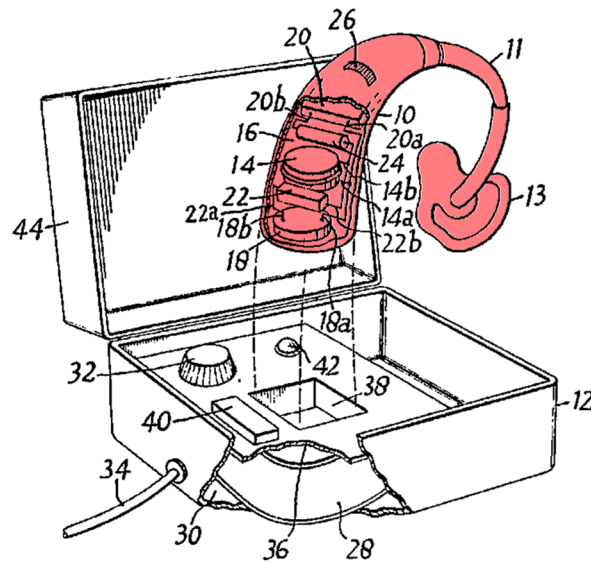
The Board should also deny PO's MTA because PO's proposed claim amendment “in-ear,” recited directly or indirectly by all substitute claims, renders the claims indefinite. The scope of the substitute claims is uncertain because the metes and bounds of an “in-ear” wireless earpiece are unclear in view of the specification, the prosecution history, and the rest of the substitute claims. Ex-1018-

Kaiei-Decl., ¶14. *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-1018-Kaiei-Decl., ¶14.

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.” Ex-1018-Kaiei-Decl., ¶15.

The testimony of PO's expert supports that the meaning of “in-ear” wireless earpiece is unclear. In his declaration in support of PO's MTA in IPR2023-01150

(related IPR proceeding challenging the '853 patent), PO's expert testified that hearing aid 10 in GB Patent Application No. 1254017 ("Brown") (Exhibit 1007) is not an "in-ear" wireless earpiece.³ Ex-1024-IPR2023-01150-Young-Decl., ¶¶61–62.

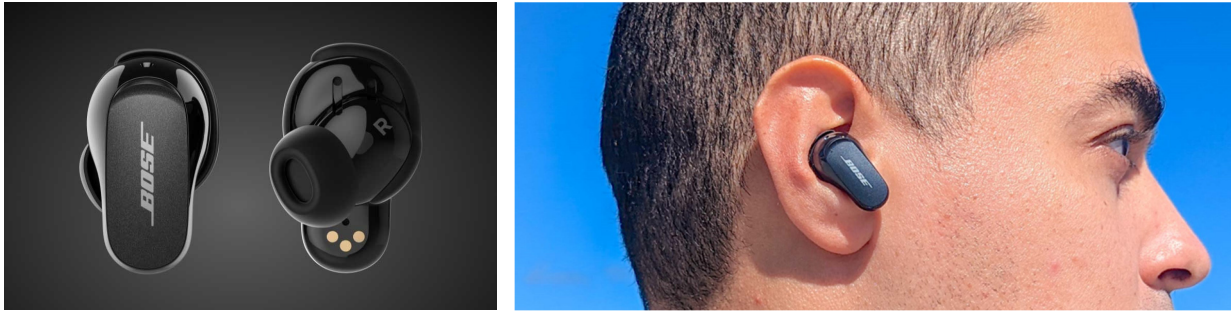


Ex-1007-Brown, Fig. 1 (annotated)

³ Brown is not part of the grounds raised by Petitioner in the present IPR2023-01204. However, the discussion of "in-ear" and PO's expert's characterization of Brown's hearing aid in IPR2023-01150 are relevant here because the '014 patent is a continuation of and shares the same specification as the '853 patent and because PO proposed the same amendment—changing the claim term "wireless earpieces" to "in-ear wireless earpieces"—in IPR2023-01150. *See, e.g.*, Ex-1023 (IPR2023-01150, Paper 12, PO's MTA) at Appendix A. Ex-1018-Kaiei-Decl., ¶16.

However, PO's expert acknowledged that a portion of Brown's hearing aid is inside the ear. Ex-1024-IPR2023-01150-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); cf. Ex-1022-IPR2023-01150-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-1020-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-1018-Kaiei-Decl., ¶16.

However, when shown pictures of a popular earbud and how it is worn (see Ex-1021), 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-1020-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-1018-Kaiei-Decl., ¶17.



Ex-1021

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.⁴ 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

⁴ PO's expert argued 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-1024-IPR2023-01150-Young-Decl., ¶62 (emphasis in original); *see also* Ex-1020-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). However, PO's expert could not answer whether an earbud, not worn on top of the ear, is "in-ear" or not. Ex-1020-Young-Tr., 31:13–32:3, 33:9–16, 49:3–50:3.

to identify what specific documents or information would be needed. *See* Ex-1020-Young-Tr., 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-1018-Kaiei-Decl., ¶17.

When this level of uncertainty exists, an indefiniteness rejection is warranted. *See* Ex-1025-Preliminary-Guidance at 7–8 (In response to Petitioner's contention that “the term ‘in-ear’ is indefinite because the metes and bounds of the term are unclear,” the Board finding that “it appears that Petitioner has established that proposed substitute claims 22–42 [reciting ‘in-ear’] appear to be indefinite”).

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 14–26. Ex-1018-Kaiei-Decl., ¶18.

A. Ground 1: Hain anticipates substitute claims 14–16 and 18

Claim 14 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 argues that:

Hain does not disclose “powering circuitry of the in-ear wireless earpieces utilizing a low power mode in response to detecting a magnetic field is applied to one or more of the in-ear wireless earpieces” and “altering the power sent to the circuitry of the in-ear wireless earpiece to a high power mode in response to detecting a magnetic field is not applied to one or more of the in-ear wireless earpieces.”

MTA at 10. In particular, based on its false premise that “Petitioners appear to map the ‘high power mode’ of the claims to Hain’s ‘telephone mode,’” PO argues that “Hain teaches that when **a single hearing aid** detects a magnetic field (and importantly, the other hearing aid does not detect a magnetic field), the hearing aid detecting the magnetic field operates in high power mode” whereas the ’014 patent requires that “the wireless earpiece will utilize a high power mode in response to detecting the absence of a magnetic field, and a low power mode in response to detecting the presence of a magnetic field in **one ear piece**.” MTA at 7–8. PO’s argument fails for the following reasons. Ex-1018-Kaiei-Decl., ¶22.

First, nowhere did Petitioner rely on Hain’s telephone mode in the Petition. Nor does Petitioner rely on Hain’s telephone mode in this opposition. Rather,

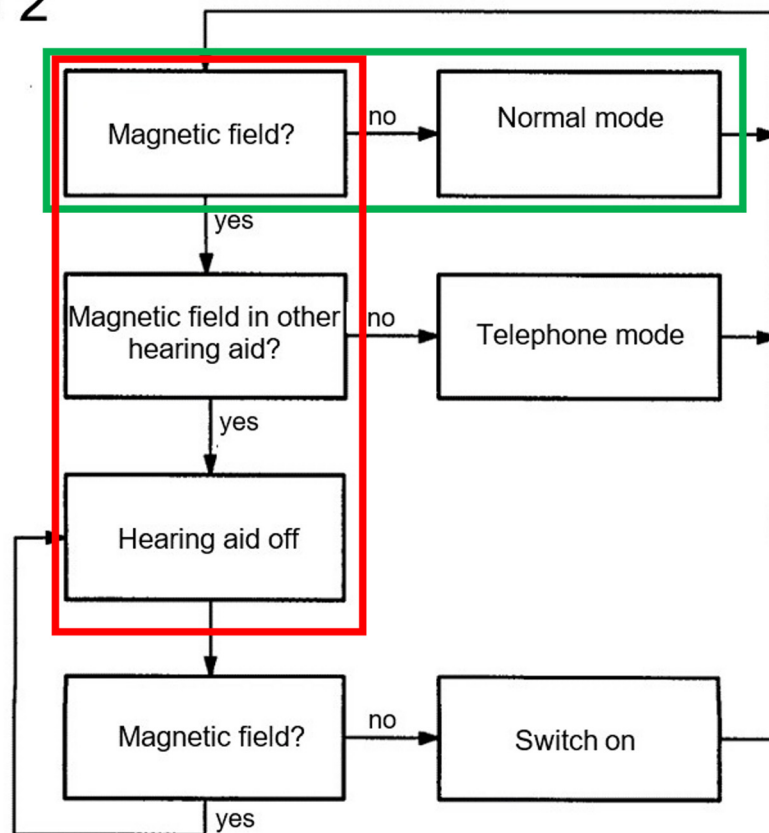
Petitioner mapped the claimed “high power mode” to Hain’s “normal mode.” *See* Petition at 22–25. Ex-1018-Kaiei-Decl., ¶23.

Second, PO seems to contend that “one or more” should be interpreted as only one. But, in its Institution Decision, the Board made clear that “one or more” is written in the alternative. Paper 8 (“DI”) at 38–39. Namely, the Board found that the claim limitation that requires *one or more of the wireless earpieces* to enter the high power mode when detecting no magnetic field “may be met by a system in which either one earpiece goes into high power mode when a magnetic field is not detected, *or* a system in which more than one earpiece goes into high power mode when a magnetic field is not detected.” *Id.* at 39 (emphasis in original). Similarly, following the Board’s logic, the claim limitation that requires *one or more of the wireless earpieces* to enter the low power mode when detecting a magnetic field may be met by a system in which either one earpiece goes into low power mode when a magnetic field is detected, *or* a system in which more than one earpiece goes into low power mode when a magnetic field is detected. Ex-1018-Kaiei-Decl., ¶24.

Third, the Board 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.” DI at 39–40. Ex-1018-Kaiei-Decl., ¶25; *see also* Ex-1020-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 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 earpiece utilizing a low power mode in response to detecting a magnetic field is applied to one or more of the in-ear wireless earpiece[s]” (**red** box above) and “altering the power sent to the circuitry of the in-ear wireless earpiece to 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), as recited by substitute claim 14. Ex-1018-Kaiei-Decl., ¶26.

PO does not argue any deficiency in Hain with respect to substitute claims 15, 16, and 18. Therefore, Hain anticipates substitute claims 14–16 and 18. Ex-1018-Kaiei-Decl., ¶27.

B. Ground 2: Steinbrecher in view of Marks renders substitute claims 23 and 24 obvious

Regarding substitute claims 23 and 24, PO does not dispute that Steinbrecher discloses the proposed “in-ear” amendment. Instead, PO argues that Steinbrecher does not disclose that “the smart case comprises a rechargeable battery configured to receive charge inductively and to charge the left and right in-ear wireless earpieces.” MTA at 11–12. However, before the priority date of the '014 patent, a POSITA would have found it obvious, in view of Marks's teachings, 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-1018-Kaiei-Decl., ¶29.

For example, Marks discloses a portable case 100 for a wearable electronic and/or computing device 110. Ex-1019-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. Ex-1018-Kaiei-Decl., ¶¶19–20.

(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. *See* Ex-1025-Preliminary-Guidance at 14 (“Petitioner's Opposition appears to show that a person of ordinary skill in the art would have had reason to combine Steinbrecher and Marks.”). Ex-1018-Kaiei-Decl., ¶30.

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-1019-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-1018-Kaiei-Decl., ¶31.

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-1019-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-1018-Kaiei-Decl., ¶32.

Third, Marks expressly discloses the benefit of wirelessly charging a battery of a case—“no cable is needed to enable the charging.” Ex-1019-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 making the charging process more convenient and simplified. Ex-1018-Kaiei-Decl., ¶33.

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-1018-Kaiei-Decl., ¶34.

For the above reasons, Steinbrecher in view of Marks renders obvious substitute claims 23 and 24. See Ex-1025-Preliminary-Guidance at 13–14 (Board preliminarily opining “that Petitioner has established a reasonable likelihood that the combined teachings of Steinbrecher and Marks would have rendered proposed substitute claims 31 and 42 obvious” where Patent Owner argued 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” as recited by substitute claims 31 and 42.). Ex-1018-Kaiei-Decl., ¶35.

C. Grounds 3 and 4: Shaffer in view of Hain and/or Sorensen renders substitute claims 14–16, 18, 21, and 22 obvious, and Shaffer in view of Hain, Sorensen, and/or Marks renders substitute claims 17, 19, and 20 obvious

1. Substitute claims 14–16, 18, 21, and 22

PO does not point to any deficiency in Shaffer or Sorensen as to substitute claims 14–16, 18, 21, and 22. Instead, PO notes that Grounds 3 and 4 include Hain and, like for Ground 1, argues that “Hain does not disclose ‘powering circuitry of the in-ear wireless earpieces utilizing a low power mode in response to detecting a magnetic field is applied to one or more of the in-ear wireless earpieces,’ and ‘altering the power sent to the circuitry of the in-ear wireless earpiece to a high power mode in response to detecting a magnetic field is not applied to one or more of the in-ear wireless earpieces.’” MTA at 13. As discussed above in Section IV.A, Hain discloses both “powering circuitry of the in-ear wireless earpiece utilizing a low power mode in response to detecting a magnetic field is applied to one or more of the in-ear wireless earpiece[s]” and “altering the power sent to the circuitry of the in-ear wireless earpiece to a high power mode in response to detecting a magnetic field is not applied to one or more of the in-ear wireless earpieces,” as recited by

substitute claim 14. Accordingly, Shaffer in view of Hain and/or Sorensen renders substitute claims 14–16, 18, 21, and 22 obvious. Ex-1018-Kaiei-Decl., ¶37.

2. Substitute claims 17, 19, and 20

Substitute claims 17, 19, and 20 recite “the smart case compris[es/ing] a rechargeable battery configured to receive charge inductively and to charge the in-ear wireless earpieces.” Shaffer, alone or in combination with Marks, renders this limitation obvious for the following reasons. Ex-1018-Kaiei-Decl., ¶38.

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 “the smart case compris[es/ing] a rechargeable battery configured . . . to charge the in-ear wireless earpiece.” Ex-1018-Kaiei-Decl., ¶39.

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 '031 Application specification disclosure of charging the battery 404 of the smart case 402 using a hardware interface or connector provides written description support for “the smart case compris[es/ing] a rechargeable battery configured . . . to

charge the in-ear wireless earpiece” (*see* discussion at Section II), then Shaffer, like the '031 Application specification, discloses “the smart case compris[es/ing] a rechargeable battery configured to receive charge inductively.” Ex-1018-Kaiei-Decl., ¶40.

Third, notwithstanding the preceding second point, before the priority date of the '014 patent, a POSITA would have found it obvious in view of Marks's teachings (*see* Section IV.B) 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-1018-Kaiei-Decl., ¶41.

(a) **Motivation to combine Shaffer and Marks⁵**

A POSITA would have been motivated to combine Shaffer's teachings, *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. *See* Ex-1025-Preliminary-Guidance at 16 (“Petitioner's Opposition appears to show that a person of ordinary

⁵ Petition arguments that a POSITA would have been motivated to combine Shaffer with Hain and/or Sorensen with a reasonable expectation of success apply equally here. Ex-1018-Kaiei-Decl., n. 1.

skill in the art would have had reason to combine Shaffer, Steinbrecher, Sørensen, and/or Marks.”). Ex-1018-Kaiei-Decl., ¶42.

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-1019-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-1018-Kaiei-Decl., ¶43.

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-1019-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-1018-Kaiei-Decl., ¶44.

Third, Marks expressly discloses the benefit of wirelessly charging a battery of a case—"no cable is needed to enable the charging." Ex-1019-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-1018-Kaiei-Decl., ¶45.

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-1018-Kaiei-Decl., ¶46.

For the above reasons, Shaffer in view of Hain, Sorensen, and/or Marks renders obvious substitute claims 17, 19, and 20. Ex-1018-Kaiei-Decl., ¶47.

D. Grounds 5 and 6: Shaffer in view of Steinbrecher, Sorensen, and/or Marks renders substitute claims 23–26 obvious

PO does not dispute that the combination of Shaffer with Steinbrecher and/or Sorensen discloses the proposed “in-ear” amendments in substitute claims 23–26. Instead, PO argues that “none of these references disclose a smart case comprising ‘a rechargeable battery configured to receive charge inductively and to charge the left and right in-ear wireless earpieces’ as required by proposed substitute claim 23.” MTA at 13. However, Shaffer, alone or in combination with Marks, renders this limitation obvious for the following reasons. Ex-1018-Kaiei-Decl., ¶49.

First, for at least the same reasons discussed above in Section IV.C.2, Shaffer discloses “the smart case comprises a rechargeable battery configured . . . to charge the left and right in-ear wireless earpieces,” as recited by substitute claim 23. Ex-1018-Kaiei-Decl., ¶50.

Second, as discussed above in Section IV.C.2, to the extent the '031 Application specification disclosure provides written description support for “the smart case comprises a rechargeable battery configured to receive charge inductively” (see discussion at Section II), then Shaffer, like the '031 Application specification, discloses “the smart case comprises a rechargeable battery configured to receive charge inductively.” Ex-1018-Kaiei-Decl., ¶51.

Third, notwithstanding the preceding second point, the combination of Shaffer, Steinbrecher, and/or Sorensen with Marks renders obvious “the smart case comprises a rechargeable battery configured to receive charge inductively.” As discussed above in Section IV.C.2, a POSITA would have been motivated to combine Shaffer’s and Marks’s teachings and would have had a reasonable expectation of success in applying Marks’s teachings to Shaffer’s case 11.⁶ *See* Ex-1025-Preliminary-Guidance at 16 (“Petitioner’s Opposition appears to show that a person of ordinary skill in the art would have had reason to combine Shaffer, Steinbrecher, Sørensen, and/or Marks.”). Ex-1018-Kaiei-Decl., ¶52.

For the above reasons, Shaffer in view of Steinbrecher, Sorensen, and/or Marks renders obvious substitute claims 23–26. Ex-1018-Kaiei-Decl., ¶53.

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

⁶ 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-1018-Kaiei-Decl., n. 2.

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01204 (U.S. Patent No. 10,117,014)

introduce new matter into seven of PO's thirteen 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
IPR2023-01204 (U.S. Patent No. 10,117,014)

Updated Table of Exhibits for IPR2023-01204

Exhibit	Description
1001	U.S. Patent No. 10,117,014 (“’014 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	File History for U.S. Patent No. 10,117,014 (“’014 FH”)
1018	Second Declaration of Sayfe Kiaei, Ph.D.
1019	U.S. Patent Application Publication No. 2015/0200554 (“Marks”)

Petitioner's Opposition to Patent Owner's Motion to Amend
IPR2023-01204 (U.S. Patent No. 10,117,014)

Exhibit	Description
1020	Transcript of Deposition of Darrin Young (7/15/2024)
1021	Exhibit 4 to Deposition of Darrin Young
1022	IPR2023-01150, Paper 8, Institution Decision
1023	IPR2023-01150, Paper 12, Patent Owner's Motion to Amend
1024	IPR2023-01150, Exhibit 2001-Young Declaration
1025	IPR2023-01150, Paper 24, Preliminary Guidance

CERTIFICATE OF SERVICE

I hereby certify that on September 10, 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 1018–1025

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