

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

**PATENT OWNER’S REPLY TO PETITIONER’S OPPOSITION TO
PATENT OWNER’S REVISED CONTINGENT MOTION TO AMEND**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE SUBSTITUTE CLAIMS ARE NOT OBVIOUS IN VIEW OF PETITIONER’S ASSERTED PRIOR ART	1
A.	Combinations with Rass: Rass is directed to method and apparatus for switching a hearing aid on and off.	1
1.	Ground 1: Hain and Rass do not render claims 14-16 and 18 obvious.	2
2.	Ground 2: Steinbrecher and Rass do not render claims 23-24 obvious.	5
3.	Ground 3-4: Shaffer in view of Hain, Sorensen, Steinbrecher, and/or Rass does not render claims 14-21 and 23-26 obvious and Shaffer, Hain, and Rass do not render claim 22 obvious.	5
B.	Combinations with Aumer: Aumer is directed to methods and apparatus for “improving signal quality in wearable biometric monitoring devices.”	6
1.	Ground 1: Hain and Aumer do not render claims 14-16 and 18 obvious.	6
2.	Ground 2: Steinbrecher and Aumer do not render claims 23-24 obvious.	8
3.	Ground 3: Shaffer in view of Hain, Sorensen, Steinbrecher, and/or Aumer does not render claims 14-21 and 23-26 obvious.	8
C.	Combinations with Rass and Aumer	8
1.	Ground 1: Shaffer, Hain, Aumer, and Rass do not render claim 22 obvious.	8
III.	THE SUBSTITUTE CLAIMS ARE ENABLED	9
IV.	THE SUBSTITUTE CLAIMS RESPOND TO PATENTABILITY GROUNDS INVOLVED IN THIS TRIAL	11
V.	THE SUBSTITUTE CLAIMS ARE NOT INDEFINITE	11
VI.	THE SUBSTITUTE CLAIMS DO NOT BROADEN CLAIM SCOPE	12
VII.	CONCLUSION	12

TABLE OF AUTHORITIES

Cases	Page(s)
<i>ABS Glob., Inc. v. Cytonome/ST, LLC</i> , 84 F.4th 1034 (Fed. Cir. 2023)	12
<i>Amgen Inc. v. Sanofi</i> , 598 U.S. 594 (2023).....	9
<i>In re Clay</i> , 966 F.2d 656 (Fed. Cir. 1992)	2, 4, 7
<i>In re Ethicon, Inc.</i> , 844 F.3d 1344 (Fed. Cir. 2017)	2
<i>Fresenius Med. Care Holdings, Inc. v. Baxter Intern., Inc.</i> , No. C 03-1431.....	3
<i>Genentech, Inc. v. Novo Nordisk A/S</i> , 108 F.3d 1361 (Fed. Cir. 1997)	9
<i>Procter & Gamble Co. v. Team Techs., Inc.</i> , No. 12-CV-552, 2014 WL 12656554 (S.D. Ohio July 3, 2014)	3
<i>Unwired Planet, LLC v. Google Inc.</i> , 841 F.3d 995 (Fed. Cir. 2016)	2
<i>In re Wands</i> , 858 F.2d 731 (Fed. Cir. 1988)	10

TABLE OF EXHIBITS

Exhibit	Description	Previously Submitted
2001	Declaration of Dr. Darrin Young, Ph.D.	X
2002	CV of Dr. Darrin Young, Ph.D.	X
2005	Second Declaration of Dr. Darrin Young, Ph.D.	X
2006	Third Declaration of Dr. Darrin Young, Ph.D.	

I. INTRODUCTION

Bragi GmbH (“Patent Owner” or “PO”) submits this Reply to Petitioner’s Opposition (“Opp.”) to PO’s Revised Contingent Motion to Amend U.S. Patent No. 10,117,014 (“the ’014 Patent”). Petitioner’s arguments opposing the patentability of PO’s Substitute Claims fail for several reasons explained below.

II. THE SUBSTITUTE CLAIMS ARE NOT OBVIOUS IN VIEW OF PETITIONER’S ASSERTED PRIOR ART

PO’s Substitute Claims 14-26 are not rendered obvious by Petitioner’s asserted prior art. None of the prior art references asserted in the Petition Grounds disclose wireless earpieces “configured to read user biometrics.” These references do not mention biometrics or suggest including biometrics with their teachings, let alone the invention claimed in the Substitute Claims. To overcome these references’ failure to disclose biometrics, Petitioner has identified and added new references, Rass and Aumer, to the Petition Grounds. Opp. at 3, 10. However, Petitioner fails to offer a sufficient reason why a POSITA would have combined these new references with the Petition references. Instead, Petitioner’s alleged motivation to combine rests on conclusory statements, mischaracterization of the references’ disclosures, and hindsight bias.

A. Combinations with Rass: Rass is directed to method and apparatus for switching a hearing aid on and off.

The Rass reference is U.S. Patent No. 7,522,739, titled “Hearing Aid with a Switching Device for Switching On and Off and Corresponding Method,” and it

relates to turning an earpiece on or off using a sensor. Ex. 1033 (2:64-2:65).

1. Ground 1: Hain and Rass do not render claims 14-16 and 18 obvious.

Petitioner argues that Hain in combination with Rass renders Substitute Claims 14-16 and 18 obvious. Petitioner Opp at 4. Petitioner contends “a POSITA would have been motivated to include in a hearing aid, as taught by Hain, a temperature sensor to detect user temperature automatically to switch on and off the hearing aid, as taught by Rass.” *Id.* Petitioner’s motivation to combine is insufficient.

First, Rass is not analogous art to the ’014 Patent. The analogous art test is a “threshold” question in an obviousness analysis. *See, e.g., In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). “Generally, a skilled artisan would only have been motivated to combine analogous art.” *In re Ethicon, Inc.*, 844 F.3d 1344, 1349 (Fed. Cir. 2017). Under the relevant test, “[p]rior art is analogous where either (1) ‘the art is from the same field of endeavor, regardless of the problem addressed’ or (2) even if the reference is not within the same field of endeavor, ‘the reference still is reasonably pertinent to the particular problem with which the inventor is involved.’” *Id.*

While the field of endeavor is “not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field,” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016), it cannot be defined “too broadly” such that it would be beyond what a POSITA would reasonably be expected to look for to solve the problem facing the inventor. *See*,

e.g., *Fresenius Med. Care Holdings, Inc. v. Baxter Intern., Inc.*, No. C 03-1431 SBA, 2006 WL 1343648, at *22 (N.D. Cal. May 16, 2006); *Procter & Gamble Co. v. Team Techs., Inc.*, No. 12-CV-552, 2014 WL 12656554, at *25 (S.D. Ohio July 3, 2014).

Here, Petitioner asserts that Rass and the '014 Patent are from the same fields of endeavor as both references are directed to wireless electronics, namely earpieces. Opp. at 5. Petitioner's stated field of endeavor is oversimplified. The '014 Patent's stated field of invention relates to "wireless electronics and *battery systems* [and] more specifically . . . wireless earpieces managing and extending battery life," to include techniques for charging the earpieces using a smart case. Ex. 1001 (1:21-1:24) (emphasis added). Whereas Rass's field of invention is "a hearing aid unit [and corresponding method] with a switching device for switching the hearing aid on and off." Ex. 1035 (1:14-1:17). Further, Rass only focuses on turning the device on and off, *id.* (1:17), while the '014 Patent focuses on preserving battery life through varying power modes and actively charging the earpieces, using a smart case. *E.g.*, Ex. 1001 (10:33-10:36).

Rass is also not reasonably pertinent to the problem with which the inventor of the '014 Patent is involved. As its title discloses, Rass is concerned with switching a hearing aid on and off, Ex. 1033 (1:15-1:17), whereas the '014 Patent is concerned with managing and extending battery life of wireless electronics through the variation of power modes and methods of charging. Ex. 1001 (1:24-1:41).

Comparing Hain with Rass yields the same result. Hain is directed to a hearing aid system having the ability to detect magnetic fields for alternating between various (i.e., more than two) power modes. Ex. 1004. Rass seeks to implement a switch to turn on or off the hearing aid by detecting various “signals,” one of which is related to the temperature of the hearing aid shell. Rass discloses an in-ear hearing aid that includes a temperature sensor. “When wor[n], 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.” Ex. 1033 at 2:64-2:67. This temperature sensor is not detecting the body temperature of the wearer, which is understood by a POSITA to be a biometric signal. Rather, the temperature sensor is detecting an increase in heat, which could be the result of power dissipation of the hearing aid device itself. *See* Ex. 2006 ¶¶ 64-67.

Second, implementing a magnetic-field hearing aid system as taught by Hain to include a temperature sensor would not have been a “predictable result” because, as discussed above, Rass is not in the same field of endeavor as Hain. *See In re Clay*, 966 F.2d at 658. A POSITA would not have been motivated to incorporate a temperature sensor in Hain because of the interference signal imposed on the temperature sensor and sensor electronics due to the magnetic field emitted by the telephone when it is being held next to the user’s ear during conversation. *See* Ex. 2006 ¶ 68. The interference signal can produce a wrong temperature reading, thus,

causing the hearing aid to shut down. *See id.*

Third, a POSITA would not have had a reasonable expectation of success in combining Hain and Rass because there was no motivation to combine these references besides Petitioner's hindsight.

2. Ground 2: Steinbrecher and Rass do not render claims 23-24 obvious.

Petitioner's Opposition states that Steinbrecher, in combination with Rass, renders obvious Substitute Claims 23-24. Opp. at 4. A POSITA would not have combined Steinbrecher with Rass for the same reasons why a POSITA would not have combined Hain with Rass. Additionally, a POSITA would not have been motivated to combine Steinbrecher with Rass because they are not directed to solving the same problems or the same technological fields. Steinbrecher relates to a "procedure and a device for the contactless loading of an accumulator battery in a hearing aid . . . located in a charging shell." Ex. 1011 (9:3-5). Steinbrecher is not concerned with monitoring biometrics, and besides hindsight, a POSITA would not have combined Steinbrecher's charging with biometric readings. Ex. 2006 ¶¶ 70-71.

3. Ground 3-4: Shaffer in view of Hain, Sorensen, Steinbrecher, and/or Rass does not render claims 14-21 and 23-26 obvious and Shaffer, Hain, and Rass do not render claim 22 obvious.

None of Petitioner's Grounds 3-4 render the Substitute Claims obvious because a POSITA would not have been motivated to combine Rass with Shaffer for the same reasons a POSITA would not have combined Hain or Steinbrecher with

Rass. Shaffer is directed “to a mobile device case that serves as an electrical charger and storage dock for rechargeable wireless audio earbuds.” Ex. 1003 [0002]. Shaffer’s focus is the charging case, not turning the earpieces on/off, like Rass. Ex. 2006 ¶¶ 72-75.

B. Combinations with Aumer: Aumer is directed to methods and apparatus for “improving signal quality in wearable biometric monitoring devices.”

The Aumer reference is U.S. Patent Pub. No. U.S. 2016/0094899, titled “Methods and Apparatus for Improving Signal Quality in Wearable Biometric Monitoring Devices.” Ex. 1027. The purported invention of Aumer relates to monitoring and measuring physiological information. *Id.* at [0002].

1. Ground 1: Hain and Aumer do not render claims 14-16 and 18 obvious.

Petitioner argues that Hain combined with Aumer renders Substitute Claims 14-16 and 18 obvious. Opp. at 13. *First*, Aumer is not analogous to the ’014 Patent. Here, Petitioner asserts that Aumer and the ’014 Patent are from the same field of endeavor as both references are directed to wireless electronics. Petitioner’s stated field of endeavor is wrong. The ’014 Patent’s stated field of invention relates to “wireless electronics and battery systems [and] more specifically . . . wireless earpieces managing and extending battery life.” Ex. 1001 (1:21-1:24). Aumer, on the other hand, defines its field of invention as “monitoring devices and methods for measuring physiological information.” Ex. 1027 [0002]. Ex. 2006 ¶¶ 77-79.

Aumer is also not reasonably pertinent to the problem with which the inventor is involved. As the title discloses, Aumer is concerned with improving signal quality, Ex. 1029, whereas the '014 Patent is concerned with managing and extending battery life of wireless electronics. Ex. 1001 (1:24-1:41). Comparing Hain with Aumer yields the same result. Ex. 2006 ¶¶ 77-79.

Second, implementing a magnetic field hearing aid system as taught by Hain to include a biometric monitoring would not have been a “predictable result” because Aumer is not in the same field of endeavor as Hain. *See In re Clay*, 966 F.2d at 658. Hain is concerned with adjusting power modes based a magnetic field. Aumer is concerned with detecting biometric signals. Ex. 2006 ¶ 80.

Third, “increased consumer interest in personal health and advances in miniaturizing sensors,” *see* Opp. at 17, is irrelevant. A POSITA concerned with the problems described in Hain would not have been motivated to add biometric monitoring to the magnetic-field hearing aid system of Hain. This would not have helped with improving the magnetic field to adjust power modes disclosed by Hain. Ex. 2006 ¶ 81.

Fourth, Petitioner alleges that “it was known in the art prior to the priority date of the '014 Patent that a sensor in a wireless earpiece could allow the wireless earpiece to automatically switch its power mode . . . depending on biometrics.” Opp. at 18. However, Petitioner cites one reference (Rass) that mentions using the

temperature of the hearing aid or shell to turn a hearing aid on or off, not the direct body temperature of the user. Ex. 1033 (2:64-2:65). Further, a POSITA would not consider the temperature of a hearing aid or hearing aid shell to be a biometric reading. *See* Ex. 2006 ¶ 82.

2. Ground 2: Steinbrecher and Aumer do not render claims 23-24 obvious.

Petitioner's Opposition states that Steinbrecher in combination with Aumer renders Substitute Claims 23-24 obvious. Petitioner Opp at 13. A POSITA would not have combined these references for the same reasons in Section II.A.2.

3. Ground 3: Shaffer in view of Hain, Sorensen, Steinbrecher, and/or Aumer does not render claims 14-21 and 23-26 obvious.

Petitioner's Grounds 3 does not render the Substitute Claims obvious because a POSITA would not have been motivated to combine Aumer with Shaffer for the same reasons a POSITA would not have combined Hain or Steinbrecher with Aumer. Shaffer is directed "to a mobile device case that serves as an electrical charger and storage dock for rechargeable wireless audio earbuds." Ex. 1003 [0002]. The focus on Shaffer is on the charging case, not the wireless earbuds themselves.

C. Combinations with Rass and Aumer

1. Ground 1: Shaffer, Hain, Aumer, and Rass do not render claim 22 obvious.

Like II.A.3 and II.B.3, a POSITA would not have been motivated to combine Aumer and Rass with Shaffer for the same reasons a POSITA would not have

combined Hain or Steinbrecher with Aumer and Rass. Ex. 2006 ¶ 92

III. THE SUBSTITUTE CLAIMS ARE ENABLED

Petitioner argues that the Substitute Claims are not enabled because the '014 Patent specification fails to provide sufficient detail for a POSITA to make and use “wireless earpieces configured to read user biometrics” because “biometrics” encompasses an entire class not fully disclosed in the specification. Opp. at 19-20.

To meet the § 112 enablement requirement, “the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.” *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997). When a specification has a broad disclosure, “it may suffice to give an example (or a few examples) if the specification also discloses some general quality . . . running through the class that gives it a ‘peculiar fitness for the particular purpose.’” *Amgen Inc. v. Sanofi*, 598 U.S. 594, 611 (2023).

Here, the '014 Patent discloses the reading of user biometrics and provides several examples of specific biometrics to be used for the process. Ex. 1001 (3:19, 10:10-14). Thus, the specification enables a POSITA to make and use “wireless earpieces” “configured to . . . read user biometrics.” Ex. 1001 (3:18-19).

Petitioner contends the specification should disclose the “entire class of user biometrics,” such as “DNA sequencing, retinal scans, vein patterns, or facial features.” Opp. at 20-21. Petitioner’s argument overreaches. That some

experimentation is necessary does not mean that a claim is not enabled. *In re Wands*, 858 F.2d 731, 736–37 (Fed. Cir. 1988). *Id.*

1. The breath of the claims. The Substitute Claims require a wireless earpiece configured to fit within the ear canal and to read user biometrics. Thus, a POSITA would know that only a limited set of biometrics would be suitable for an earpiece worn within the ear and for performing associated functions, which would include controlling various power modes, and would not logically include things like endoscopic pill, bone implants, etc. Ex. 1001 (2:1-2:2, 3:23-3:26). Ex. 2006 ¶ 62.

2. The nature of the claims. Petitioner’s claim that the ability to read user biometrics is the only point of novelty is incorrect. The invention is all the claimed elements in their entirety; biometrics is one aspect. *Id.* ¶ 62.

3. The presence or absence of working examples. The specification provides working examples of the invention. *E.g.*, Ex. 1001 (5:17-22).

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 or in any other embodiment listed in the specification. *Id.* ¶ 62.

5. The skill of those in the art. A POSITA would know how to implement the disclosed techniques in the wireless earpiece system. A POSITA would know that none of Petitioner’s examples would be feasible in a wireless earpiece system.

6. The predictability or unpredictability of the art; 7. quantity of experimentation necessary; 8. and amount of direction or guidance presented.

A POSITA would have known how to implement a sensor for reading various user biometrics. Little experimentation would be needed to make or use the claimed system, and the specification provides adequate guidance for how to implement biometric readings in a wireless earpiece system. *Id.* ¶ 62.

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

Substitute Claims 14-26 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." Revised Motion to Amend (Paper 26, Appx. A).

V. THE SUBSTITUTE CLAIMS ARE NOT INDEFINITE

Petitioner argues that Substitute Claims 14-26 are indefinite because the claim term "the ear canal opening" lacks antecedent basis. Opp. at 24. Petitioner claims that it is unclear which "ear canal opening" this refers to, but the disputed claim term does not require antecedent basis. *See* MPEP § 2173.05(e). A POSITA can ascertain that "the ear canal opening" is the ear canal opening of the user. *Id.*

Petitioner argues that Substitute Claim 17 is rendered indefinite because it recites "the wireless earpieces" (plural) while depending from Substitute Claim 14, which recites "a wireless earpiece" (singular). Opp. at 24. But claims with the term "comprising," using "a" before a noun naming object requires the phrase to be

construed as “one or more.” *ABS Glob., Inc. v. Cytonome/ST, LLC*, 84 F.4th 1034, 1040-41 (Fed. Cir. 2023). “The wireless earpieces” of Substitute Claim 17 have antecedent basis in the “[one or more] wireless earpiece” of Substitute Claim 14.

Petitioner argues that Substitute Claims 19 and 20 are not indefinite. The specification states that “[i]n one embodiment, the wireless earpieces include a set of left and right earpieces configured to fit into a user’s ears.” Ex. 1001 (3:8-10). When read in light of the specification, a POSITA would know that “in-ear wireless earpieces” refers to earpieces that the user can put in their own ears.

Petitioner argues that Substitute Claim 22 is indefinite because it recites “a power saver mode” and “alter[ing] the power mode” while depending on Substitute Claim 14, which recites “a low power mode” and “a high power mode.” But the immediately preceding line provides the antecedent basis, specifically referring to “the low power mode [i.e., the power saver mode].”

VI. THE SUBSTITUTE CLAIMS DO NOT BROADEN 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. PO’s Substitute Claims comply with both requirements.

VII. CONCLUSION

For these reasons, PO requests the Board grant the Revised Motion to Amend as to the corresponding Substitute Claims (i.e., 14-26) for each original claim 1-13.

Date: December 27, 2024

Respectfully submitted,

/s/ Richard A. Kamprath

Richard A. Kamprath (lead counsel)

Reg. No. 65,320

rkamprath@mckoolsmith.com

Scott Hejny

Reg. No. 45,882

shejny@mckoolsmith.com

Bradley Jarrett (*pro hac vice*)

bjarrett@mckoolsmith.com

McKool Smith, P.C.

300 Crescent Court, Suite 1500

Dallas, TX 75201

Telephone: (214) 978-4210

Facsimile: (214) 978-4044

Counsel for Patent Owner,

Bragi GmbH

CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S
REPLY TO PETITIONER'S OPPOSITION TO PATENT OWNER'S
REVISED CONTINGENT MOTION TO AMEND** has been served on Petitioner
via email on the following counsel of record for Petitioner:

Haixia Lin

haixia.lin@wilmerhale.com

Brian Lambson

Brian.lambson@wilmerhale.com

Trishan Efram

Trishan.esram@wilmerhale.com

Dated: December 27, 2024

By: /s/ Richard A. Kamprath

Richard A. Kamprath

Reg. No. 65,320

CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S REPLY TO PETITIONER'S OPPOSITION TO PATENT OWNER'S REVISED CONTINGENT MOTION TO AMEND** complies with the page limits of § 42.24(a) because it does not contain more than 12 pages. This paper also complies with the typeface requirements of 37 C.F.R.42.6(a)(2)(ii) and the type style requirements of 37 C.F.R.42.6(a)(2)(iii) and (iv).