

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

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

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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
2007	Third Declaration of Dr. Darrin Young, Ph.D.	

I. INTRODUCTION

Bragi GmbH (“Patent Owner” or “PO”) submits this Reply to Petitioner’s Opposition to Patent Owner’s Revised Contingent Motion to Amend (“Reply”) U.S. Patent No. 9,843,853 (“the ’853 Patent”). Petitioner’s arguments opposing the patentability of the Substitute Claims fail.

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

PO’s Substitute Claims 22-42 are not rendered obvious by Petitioner’s asserted prior art. None of the prior art references asserted in the Petition Grounds—Brown, Hain, Steinbrecher, Sorensen, or Shaffer—discloses a wireless earpiece(s) “configured to read user biometrics.” These references do not mention biometrics or suggest including biometrics with their teachings, let alone the solution provided by the Substitute Claims. To overcome the failure of these references to disclose biometrics, Petitioner has identified and added a new reference, Aumer, to the Petition Grounds. *See* Petitioner’s Opposition (Pet. Opp.). But Petitioner fails to offer a sufficient reason a POSITA would have combined Aumer with the Petition references. Instead, as explained below, Petitioner’s alleged motivation to combine Aumer with the Petition references rests on conclusory statements, mischaracterization of the references’ disclosures, and hindsight bias.

A. Aumer is directed to methods and an apparatus for “improving signal quality in wearable biometric monitoring devices.”

The Aumer reference is U.S. Patent Pub. No. US 2016/0094899, titled

“Methods and Apparatus for Improving Signal Quality in Wearable Biometric Monitoring Devices.” *See* Ex. 1022. The purported invention of Aumer relates generally to monitoring devices and methods for measuring physiological information. Ex. 1022 at [0002]; Ex. 2007 (Dr. Young Third Decl.) ¶¶ 51-52.

B. Ground 1: Brown and Aumer do not render claims 31 and 35 obvious.

Petitioner’s Opposition states that Brown in combination with Aumer renders obvious Substitute Claims 31 and 35. Pet. Opp at 5-6. According to Petitioner, “[a] POSITA would have found it obvious to include in a hearing aid, as taught by Brown, one or more sensors, a processor, and a communication component to read (*e.g.*, detect and/or measure) user biometrics (*e.g.*, body temperature, blood gas levels, and/or cardiopulmonary functioning), as taught by Aumer.” Pet. Opp. at 6. Petitioner provides five reasons to combine Brown and Aumer, all are insufficient.

First, Aumer is not analogous art to the ’853 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); *In re GPAC Inc.*, 57 F.3d 1573, 1577 (Fed. Cir. 1995) (analogous art inquiry is a “threshold issue”). “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), the field of endeavor cannot be defined “too broadly” such that it would be beyond what a POSITA would reasonably be expected to look for to find a solution to 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) (petitioner failed to establish same field of endeavor was “multi-parameter medical machines” where patent defined field of endeavor as hemodialysis and prior art was cardiopulmonary bypass materials); *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 Aumer and Brown are from the same field of endeavor as both references are “directed to a similar wearable electronic device.” Petitioner’s characterization is wrong. First, Petitioner gets the law wrong. The field of endeavor is relevant to determining whether prior art is analogous to the claimed invention, not other references. *See Sanofi-Aventis Deutschland GmbH v. Mylan Pharm. Inc.*, 66 F.4th 1373, 1377 (Fed. Cir. 2023).

Petitioner’s stated field of endeavor is also far too broad. “Similar wearable

electronic device” is essentially a boundless term. It could include a smart watch, a music player worn on an arm band, a virtual reality headset, or any device that could be tethered to the body in some way. *See* Ex. 2007 ¶ 65. Like “multi-parameter medical machines,” in *Fresenius*, Petitioner sweeps too broadly.

A proper comparison shows that Aumer is not in the same field of invention as the '853 Patent. The '853 Patent “relates to wireless electronics and battery systems. More specifically, but not exclusively, the present invention relates to wireless earpieces that manage and extend battery life.” Ex. 1001. Aumer, on the other hand, defines its “field of the invention” as “monitoring devices and methods for measuring physiological information.” This is not the same field as the '853 Patent. Ex. 2007 ¶¶ 63-64.

Aumer is also not “reasonably pertinent to the particular problem with which the inventor is involved.” As its title states, Aumer is concerned with “improving signal quality in wearable biometric devices.” Whereas the '853 Patent is concerned with “managing and extending battery life.” *See* Ex. 1001 at 1:14-1:17.

Comparing Brown with Aumer yields the same result. Brown is directed to hearing aids, specifically “provid[ing] a reliable switch of suitably small dimensions for switching the [hearing] aid on and off.” Ex. 1007 at 1:9-1:16. This is not the same field of endeavor as Aumer. Ex. 2007 ¶¶ 63-64. The fact Aumer is not analogous art to the '853 Patent (or Brown) by itself defeats Petitioner’s alleged

motivation to combine and with it Ground 1.

Second, implementing a hearing aid as taught by Brown to include a biometric sensor would not have been a “predictable result” because Aumer is not the same field of endeavor as Brown (or the ’853 Patent), a POSITA would not have been motivated to combine these references. *See In re Clay*, 966 F.2d at 658 (“[T]he Court should consider only “analogous” prior art references, and need not consider references which are so remote as to be “nonanalogous.”); Ex. 2007 ¶ 66.

Third, any supposed “increased consumer interests in personal health and advances in miniaturizing sensors,” *see* Pet. Opp. at 8, that may have existed as of Aumer’s filing is irrelevant. A POSITA concerned with the problems described in Brown would not have been motivated to add the ability to read user biometric signals to the hearing aid Brown discloses. This would not have helped develop a more reliable switch for turning Brown’s hearing aid on or off. Ex. 2007 ¶ 67.

Fourth, Petitioner alleges “it was well known prior to the ’853 Patent’s priority date that a sensor in a wireless earpiece could allow the earpiece to automatically switch on or off depending on user biometrics.” Petitioner does not establish this was well-known. Petitioner points to a single patent (Ex. 1028 – Rass) that discloses the ability to power up or down a hearing aid based on temperature of the hearing aid or shell, registered by a temperature sensor. Ex. 2007 ¶¶ 68-69.

This reference is telling. Petitioner does not assert Rass in its updated

obviousness grounds. Instead, Petitioner cites Rass as an example of shifting power modes in a hearing aid and attempts to use Rass to bridge the gap between Aumer's and Brown's fields of invention. This underscores that a POSITA would not have been motivated to combine Brown and Aumer. *See id.*

Fifth, a POSITA would not have had a reasonable expectation of success in combining Brown and Aumer because, as explained, there was no motivation to combine these references. Ex. 2007 ¶ 70. For these reasons, Brown in view of Aumer does not render obvious Substitute Claims 31 and 35. Ex. 2007 ¶ 71.

C. Ground 2: Hain and Aumer do not render claims 22-24 and 26 obvious.

Petitioner's Opposition states that Hain in combination with Aumer renders obvious Substitute Claims 22-24 and 26. Petitioner's Opp. at 9. A POSITA would not have been motivated to combine Hain and Aumer for the same reasons a POSITA would not have combined Brown and Aumer. Ex. 2007 ¶¶ 72-78. Hain is directed to a hearing aid system that uses magnetic field sensors to adjust power modes. Ex. 1004 at 1. The field as defined by Petitioner "similar wearable electronic device" is too broad. *See* II.B; Ex. 2007 ¶ 73. Therefore, Hain in view of Aumer does not render obvious the Substitute Claims. Ex. 2007 ¶ 78.

D. Ground 3: Steinbrecher and Aumer do not render claims 31 and 42 obvious.

Petitioner's Opposition states that Steinbrecher in combination with Aumer renders obvious Substitute Claims 31 and 42. Pet. Opp at 12. A POSITA would not

have combined Steinbrecher and Aumer for the same reasons why a POSITA would not have combined Brown or Hain and Aumer. Ex. 2007 ¶¶ 79-85. Steinbrecher is directed to a “relates to a procedure and a device for the contactless loading of an accumulator battery in a hearing aid.” Ex. 1006 at 1:1-1:3. The field as defined by Petitioner “similar wearable electronic device,” Pet. Opp. at 13, is too broad, *see* II.B; Ex. 2007 ¶ 80. For the reasons described above, Steinbrecher in combination with Aumer does not render Substitute Claims 31 and 42 obvious. *Id.*

E. Grounds 4-7: Shaffer in view of Hain, Sorensen, and/or Aumer does not render claims 22-30 obvious and Shaffer in view of Steinbrecher, Sorensen, and/or Aumer do not render claims 31-42 obvious.

None of Petitioner’s Grounds 4-7 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 Brown, Hain, or Steinbrecher with Aumer. Ex. 2007 ¶¶ 86-92. Shaffer is directed “to a mobile device case that serves as an electrical charger and storage dock for rechargeable wireless audio earbuds.” Ex. 1003 at [0002]. The field as defined by Petitioner “similar wearable electronic device,” Pet. Opp. at 13, is too broad and incorrect, *see* II.B; Ex. 2007 ¶ 87. For the reasons described above, Shaffer in combination with Hain, Sorenson, and/or Aumer does not render Substitute Claims 22-30 obvious, and Shaffer in combination with Steinbrecher, Sorenson, and/or Aumer does not render Substitute Claims 31-42 obvious.

III. THE SUBSTITUTE CLAIMS ARE ENABLED

Petitioner argues that the Substitute Claims are not enabled because the ‘853 Patent specification fails to provide sufficient detail for a POSITA to make and use “wireless earpieces [] configured to read user biometrics.” Pet. Opp. at 19. Petitioner asserts that the term “biometrics” encompasses an entire class which are not all disclosed in the ‘853 Patent’s specification. *Id.* 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 patent specification has a broad disclosure, it is not required that every embodiment be exemplified; “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 ‘853 Patent discloses the reading of user biometrics and provides several examples of specific biometrics to be used for this process. Ex. 1001 at [4:20-22], [5:16-17], [9:62-64]. The specification enables a POSITA to make and use “wireless earpieces” “configured to read user biometrics.” Ex. 2007 ¶¶ 57-61.

Petitioner’s sole basis for the supposed lack of enablement is that the specification discloses limited examples of user biometrics that can be read according to the Substitute Claims. Petitioner notes that the ‘853 specification does

not disclose the “full class” of “biometrics,” for example, DNA sequencing, retinal scans, vein patterns, and facial features. Petitioner contends that a POSITA could not implement a wireless earpiece that reads these biometrics without undue experimentation. Pet. Opp. at 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). The “key word is ‘undue,’ not experimentation.” *Id.* Here, a POSITA could easily make and use, without undue experimentation, the full scope of the claimed invention: wireless earpieces that fit within a portion of the ear canal and are configured to read user biometrics and can adjust power modes based on the presence or absence of a magnetic field.

An analysis of the *Wands* factors confirms a POSITA can make or use the claimed invention without undue experimentation. *In re Wands*, 858 F.2d at 737.

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

2. The nature of the invention. 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. Ex. 2007 ¶ 60.

3. The presence or absence of working examples. The specification provides a working example of the invention being used to read biometrics to alter the power mode. *See* Ex. 2007 at VII.B.

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

5. The relative skill of those in the art. A POSITA would understand how to implement the techniques disclosed in the specification within a wireless earpiece system. Ex. 2007 ¶ 60.

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

7. The quantity of experimentation necessary. Little experimentation would be needed to make or use the claimed earpiece system because the biometrics that can be read by an earpiece worn in the ear (e.g., heartbeat and temperature) were known to a POSITA and the specification further describes how embodiments would use the biometric readings to alter the power mode of the earpieces. Ex. 2007 ¶ 60.

8. The amount of direction or guidance presented. The specification provides detailed guidance for how to implement the claims in an embodiment of the invention. *See* Ex. 2007 at VII.B. Given the claimed structure is limited to wireless earpieces and the purpose of the invention is providing for power mode adjustments, the specification provides sufficient guidance for using the invention. *Id.* ¶ 60.

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

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

V. THE SUBSTITUTE CLAIMS ARE NOT INDEFINITE

Petitioner argues that Substitute Claims 22-42 are indefinite because the claim term "the ear canal opening" lacks antecedent basis. Pet. Opp at 24. Petitioner claims that it is unclear which "ear canal opening" the Substitute Claims are referring to, but the disputed claim term does not require an antecedent basis. *See* MPEP § 2173.05(e) ("the failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite"). A POSITA would be able to reasonably ascertain that the scope of the claim term "the ear canal opening" is the ear canal opening of the user. *Id.*; Ex. 2007 ¶ 95.

Petitioner argues that Substitute Claim 32 is rendered indefinite because the

term “the smart case” lacks antecedent basis. Pet. Opp at 24. But claim terms are not required to have explicit antecedent basis, and the antecedent basis may be implicit. *See* MPEP § 2173.05(e). The claim term “the smart case” contains implicit antecedent basis. Ex. 2007 ¶ 96. Therefore, the claim term “the smart case” does not render Substitute Claim 32 indefinite.

Petitioner argues that Substitute Claim 42 is rendered indefinite because the claim term “the wireless earpiece” lacks antecedent basis. Pet. Opp at 24. But the claim term “the wireless earpiece” does have antecedent basis. Ex. 2007 ¶ 97. In the line immediately preceding the claim term “the wireless earpiece,” the claim term “the first wireless earpiece” is disclosed. *Id.* A POSITA would understand that “the wireless earpiece” refers to “the first wireless earpiece.” *Id.*

VI. THE SUBSTITUTE CLAIMS DO NOT BROADEN THE CLAIM SCOPE

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

VII. CONCLUSION

PO requests the Board grant the revised motion to amend as to the corresponding Substitute Claims for each of original claims 1-21.

Date: October 30, 2024

Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S CORRECTED 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:

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CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S CORRECTED 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).