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Paper No. 7
Filed: September 5, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

OTICON MEDICAL AB; OTICON MEDICAL LLC;
WILLIAM DEMANT HOLDING A/S,
Petitioner,

v.

COCHLEAR BONE ANCHORED SOLUTIONS AB,
Patent Owner.

Case IPR2017-01019
Patent 7,043,040 B2

Before JAMES B. ARPIN, BARBARA A. PARVIS,
and AMANDA F. WIEKER, *Administrative Patent Judges*.

WIEKER, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Oticon Medical AB, Oticon Medical LLC, and William Demant Holding A/S ("Petitioner") filed a Petition requesting an *inter partes* review of claims 1, 11, and 12 ("the challenged claims") of U.S. Patent No. 7,043,040 B2 (Ex. 1101, "the '040 patent"). Paper 1 ("Pet"). Cochlear Bone Anchored Solutions AB ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp.").

We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless the information presented in the Petition shows that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *See also* 37 C.F.R § 42.4(a) ("The Board institutes the trial on behalf of the Director."). Taking into account the arguments presented in the Preliminary Response, we conclude that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in challenging claims 1, 11, and 12 of the '040 patent. Accordingly, we institute an *inter partes* review as to these claims.

B. Related Proceeding

The parties represent that the '040 patent is at issue in district court litigation, *Cochlear Ltd. et al. v. Oticon Medical AB et al.*, No. 1:16-cv-01700 (D. Colo.), and in an arbitration proceeding under the Arbitration Rules of the Arbitration Institute of the Stockholm Chamber of Commerce (SCC Arbitration No V2016/181). Pet. 5–6; Paper 4, 2.

Petitioner represents that, concurrent with filing this Petition, Petitioner filed a second petition requesting an *inter partes* review of claims 1–10 and 13 of the '040 patent (captioned IPR2017-01018). Pet. 6.

C. The '040 Patent

The '040 patent, entitled "Hearing Aid Apparatus," issued on May 9, 2006. Ex. 1101, (45), (54). The '040 patent explains that prior art bone anchored hearing aids were useful in treating certain types of hearing loss. *Id.* at 1:45–50, 1:62–67. The '040 patent describes operation of these devices as follows:

> In such a bone anchored hearing aid the sound information is mechanically transmitted by means of a vibrator via the skull bone to the inner ear of a patient. The hearing aid device is connected to an implanted titanium screw installed in the bone behind the poor, external ear[, i.e., the external portion of the deaf-side ear,] and the sound is transmitted via the skull bone to the cochlea (inner ear) of this poor ear.

Id. at 1:45–58. According to the '040 patent, however, these devices were not used for patients with unilateral hearing loss, i.e., profound hearing loss in only one ear. *Id.* at 1:8–11, 2:1–5. Consequently, the '040 patent seeks to provide a hearing aid for rehabilitation of unilateral hearing loss based on this bone conducting principle. *Id.* at 2:5–12.

Figure 1 of the '040 patent is reproduced below.

Fig. 1

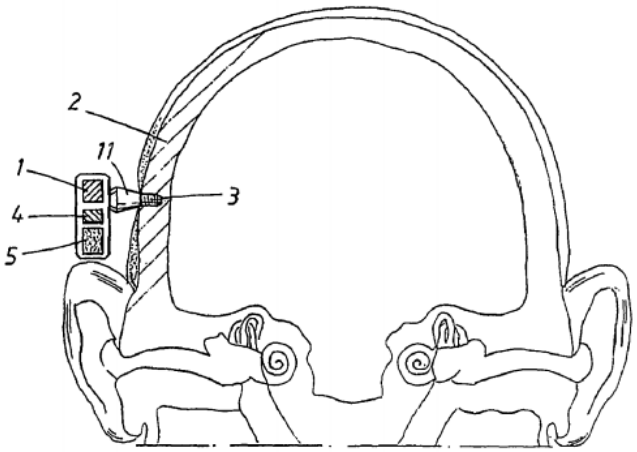


Figure 1 depicts a patient's skull with an attached hearing aid. *Id.* at 2:33, 2:44–50. Skin penetrating spacer 11 is anchored to skull bone 2 by fixture 3. *Id.* at 2:50–53. A housing at the opposite end of spacer 11 includes vibrator 1, microphone 5, and electronic circuitry 4. *Id.* at 2:50–55. Because high frequencies are attenuated during conduction across the skull, the frequency characteristics of the hearing aid are adapted such that "the amplification is higher in the treble . . . than in the bass." *Id.* at 2:56–62.

The '040 patent also discloses alternative embodiments that avoid skin penetration, as shown in Figures 2 and 3, reproduced below. *Id.* at 2:34–39.

Fig. 2

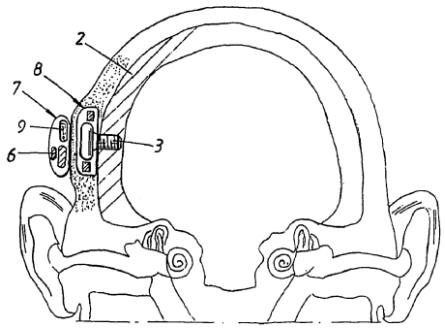
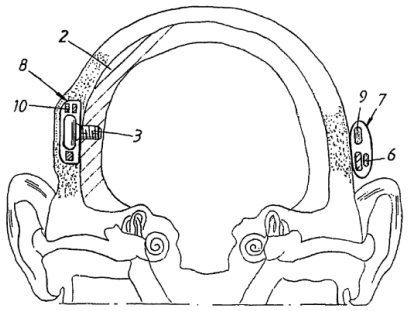


Fig. 3



Figures 2 and 3 depict schematic views of a patient's skull in which a hearing aid is partially implanted. *Id.* at 2:34–39, 3:9–11. As shown in Figure 2, implantable part 8 includes a vibrator, while external part 7 includes microphone 6 and battery 9. *Id.* at 3:9–12. "[P]ower is transmitted to the implanted part 8 of the hearing aid by means of induction." *Id.* at 3:12–14. In the alternate embodiment shown in Figure 3, implantable part 8 also includes rechargeable battery 10, which is charged by induction from an external power supply. *Id.* at 3:15–18.

D. Illustrative Claim

Challenged claim 1 is independent, and is reproduced below:

> 1. A bone-conducting bone-anchored hearing aid apparatus for sound transmission from one side of a patient's head to the patient's cochlea on another side of the patient's head for rehabilitation of unilateral hearing loss, the hearing aid apparatus comprising:
>
> a vibratory generating part arranged to generate vibrations that are mechanically transmitted through the skull bone from a deaf side to the inner ear on the other side of the patient; and
>
> an implantable part operative to mechanically anchor the vibratory generating part, the implantable part being osseointegrated in the patient's skull bone behind an external ear at the deaf side of a patient.

Ex. 1101, 3:29–41.

E. Applied References

Petitioner relies upon the following references, and the Declaration of Dr. Gerald R. Popelka ("Popelka Declaration," Ex. 1102). Pet. 8–9.

Reference	Source	Relevant Date	Exhibit No.
Leysieffer	CA 2301437 A1	Published Oct. 8, 2000	Ex. 1109
Hough	J.V.D. Hough et al., *Long-Term Results for the Xomed Audiant Bone Conductor*, 28 Otolaryngologic Clinics of North America 43 (1995).		Ex. 1112

F. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1, 11, and 12 of the '040 patent based on the following grounds. Pet. 9–10.

Reference(s)	Basis	Claim(s) Challenged
Hough	§ 102(b)	1 and 11
Hough and Leysieffer	§ 103(a)	12

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Although Petitioner proposes several phrases for construction, based on the record before us, we need not provide express constructions for any

claim terms to resolve the issues in dispute. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

B. Principles of Law

A claim is unpatentable under 35 U.S.C. § 102(b) if a prior art reference discloses each and every element of the claimed invention, either explicitly or inherently. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047 (Fed. Cir.1995). To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991).

A claim is unpatentable under 35 U.S.C. § 103(a) if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.[1] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed.

[1] The Preliminary Response does not identify any secondary considerations.

Cir. 2016). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

C. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17.

Petitioner relies on Dr. Popelka's testimony and contends that a person of ordinary skill in the art would have, either, "at least a Master's degree in audiology or the equivalent thereof and at least 2 years of clinical experience fitting such devices for patients," or "at least a Bachelor's degree in electrical or computer engineering or the equivalent thereof and at least 2 years designing such devices for use by patients." Pet. 22–23 (citing Ex. 1102 ¶ 32). Patent Owner does not provide an assessment of the relevant skill level. Prelim. Resp. 8.

Based on our review of the '040 patent, the types of problems and solutions described in the '040 patent and cited prior art, and the testimony of Dr. Popelka, we apply Petitioner's assessment for purposes of this Decision. Further, the applied prior art reflects the appropriate level of skill at the time of the claimed invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

D. Alleged Anticipation by Hough

Petitioner contends that challenged claims 1 and 11 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Hough. Pet. 28–36. Patent Owner disputes Petitioner's contentions. Prelim. Resp. 16–22. For reasons

that follow, we determine Petitioner has demonstrated a reasonable likelihood of prevailing as to the challenged claims.

1. Overview of Hough (Ex. 1112)

Hough is an article entitled "Long-Term Results for the Xomed Audiant Bone Conductor," which discusses clinical use of the Xomed Audient Bone Conductor hearing aid (the "ABC" device). Ex. 1112, 43. According to Hough, the ABC device "utilizes transcutaneous inductive electromagnetic energy from an external processor," which contains a microphone, an amplifier, and an electromagnetic coil, "to cause vibrations of an implanted osseointegrated rate earth magnet screwed into the temporal bone. This vibration, in turn, produces hearing by bone conduction," by providing "vibratory energy directly to the cochlea." *Id.* at 43–44, 48 (explaining that the magnets produce "bone vibrations from the inductive coils and electromagnetic fields"). Hough explains that the ABC device is approved for use in patients with unilateral or bilateral conductive hearing loss. *Id.*; *but cf. id.* at 45 (noting "equivocal" and "inconsistent" results for unilateral hearing loss).

2. Analysis of Applied Art

a. Independent Claim 1

(1) preamble: "A bone-conducting bone-anchored hearing aid apparatus for sound transmission from one side of a patient's head to the patient's cochlea on another side of the patient's head for rehabilitation of unilateral hearing loss"

Petitioner contends that Hough discloses the preamble of claim 1, even if the language "for rehabilitation of unilateral hearing loss" is

considered to be limiting. Pet. 30. Petitioner contends that the ABC device is implanted on a patient's deaf side and transmits vibrations across the head to the non-deaf side, for treating unilateral sensorineural deafness. *See, e.g.*, *id.* at 32–33 (citing Ex. 1112, 44–45; Ex. 1102 ¶¶ 73–74, 91–94).

On this record, we are persuaded by Petitioner. Hough explains that the ABC device is "approved for use in patients" with "unilateral . . . conductive hearing loss." Ex. 1112, 44. In use, "sound energy [is] transmitted by bone conduction across the head from a microphone on the deaf side (across the skull to the normal ear)." *Id.* at 45.

> *(2) "a vibratory generating part arranged to generate vibrations that are mechanically transmitted through the skull bone from a deaf side to the inner ear on the other side of the patient"*

Petitioner contends that Hough discloses this limitation, even if the "mechanically transmitted . . ." language is considered to be more than an intended use. Pet. 30. Petitioner contends that the implanted magnet of the ABC device is a vibratory generating part that generates vibrations that are transmitted from the deaf side to the inner ear of the other side of the patient. *Id.* at 31, 33 (citing Ex. 1112, 43–44; Ex. 1102 ¶¶ 73–75, 90–95, 99–102).

On this record, we are persuaded by Petitioner. Hough explains that an external electromagnetic coil creates "alternating electromagnetic fields [that] cause the magnet implanted in the temporal bone to vibrate, producing vibratory energy directly to the cochlea." Ex. 1112, 44; *see also id.* at 45 (discussing conduction of sound energy "across the head from . . . the deaf side"), 48.

(3) "an implantable part operative to mechanically anchor the vibratory generating part, the implantable part being osseointegrated in the patient's skull bone behind an external ear at the deaf side of a patient"

Petitioner contends that Hough discloses this limitation, even if the "being osseointegrated . . ." language is considered to be more than an intended use. Pet. 30. Petitioner contends that the orthopedic screw of the ABC device is an implantable part that is mechanically anchored to the implanted magnet. *Id.* at 30, 34 (citing Ex. 1112, 43–45; Ex. 1102 ¶¶ 73–74, 90–91, 93–94). Petitioner contends that the orthopedic screw is osseointegrated in the patient's skull behind the ear on the deaf side of the patient. *Id.*

Patent Owner argues that the identified orthopedic screw does not anchor the external coil of the ABC device, which Patent Owner argues is part of the claimed vibratory generating part. Prelim. Resp. 17–18. According to Patent Owner, because the external electromagnetic coil causes the implanted magnet to vibrate, the external coil is part of the "vibratory generating part," and, therefore, it also must be anchored to the implantable part (i.e., the screw). *Id.* at 18–19 (arguing that the magnet "on its own does not vibrate" without the external coil) (citing Ex. 2002 ¶¶ 11, 13).[2]

[2] With its Preliminary Response, Patent Owner submitted a Declaration of Jay Rubenstein (Exhibit 2002) that included pages 1–6. Later that same day, Patent Owner submitted a Corrected Exhibit 2002, to which Exhibit A was attached. However, the Corrected Exhibit 2002 omitted page 5 from the Declaration. Patent Owner is directed to file a true and accurate version of Exhibit 2002, including pages 1–6 and Exhibit A, in their entirety, within ten days of this Decision. Upon such filing, we will expunge the two versions of Exhibit 2002 currently in the record.

On this record, we are persuaded by Petitioner. *See* Pet. 31, 33. As Hough explains, it is the implanted magnet that is "arranged to generate vibrations that are transmitted mechanically through the skull bone," as claimed. *See* Ex. 1112, 44 ("[A]lternating electromagnetic fields cause the magnet implanted in the temporal bone to vibrate, producing vibratory energy directly to the cochlea."), 48 ("[T]he magnets do produce . . . bone vibrations."). That the magnet does not *begin* to vibrate on its own, as Patent Owner argues, is not dispositive because the claim does not require that the vibratory generating part independently initiate vibrations, and the claim does not preclude vibrations from being initiated by another element, e.g., an external electromagnetic coil. *See* Prelim. Resp. 19. Thus, on this record, we agree with Petitioner that the implanted magnet disclosed by Hough satisfies the recited vibratory generating part. *Compare* Ex. 1102 ¶ 93 (identifying "a vibratory generating part (implanted magnet)"), *with* Ex. 2002 ¶ 12; *see also* 37 C.F.R. § 42.108(c).

Accordingly, on this record, we also are persuaded that the identified vibratory generating part is mechanically anchored by an implantable part, as claimed. Hough explains that the implanted magnet is "attached to an orthopedic screw . . . [and] implanted by a very precise double-tapping orthopedic procedure . . . . The double tapping and the application of the screw in the temporal bone results in an extraordinarily secure osseointegrated union with the bone of the skull." Ex. 1112, 44 (stating that the processor is placed "behind the ear"). Hough discloses that, for unilateral hearing loss, the device is located on the deaf side. *Id.* at 45.

(4) Summary

Based on the record before us, we determine that Petitioner has established a reasonable likelihood of prevailing on its contention that Hough anticipates independent claim 1.

b. Dependent Claim 11

(1) "wherein the implantable part and the vibratory generating part comprise an internal part"

Petitioner contends that Hough discloses this limitation, even if its claim construction of "internal part" is not adopted. Pet. 34. Petitioner contends that the implantable part and vibratory generating part are osseointegrated into the skull, and the ABC device includes an internal part and external part. *Id.* at 30–31, 34.

Patent Owner argues that because the electromagnetic coil is external and the screw is internal, the vibratory generating part and implantable part together do not comprise an "internal part." Prelim. Resp. 20.

On this record, we are persuaded by Petitioner. As discussed above, Hough explains that the orthopedic screw and internal magnet are "implanted in the skull," i.e., they comprise "an internal part." Ex. 1112, 44. On this record, we are persuaded by Petitioner that the internal magnet is the vibratory generating part, without the external coil, for reasons discussed above. *See supra* Section II.D.2.a.3.

(2) "the hearing aid apparatus further comprising: an external part comprising a microphone and a battery"

Petitioner contends that Hough discloses this limitation, even if its claim construction of "external part" is not adopted. Pet. 34. Petitioner contends that the ABC device includes an external part having a

microphone, amplifier, and external coil. *Id.* at 31, 34 (citing Ex. 1112, 44; Ex. 1102 ¶¶ 73–74, 91, 93, 99–101). Petitioner further contends that it would have "been apparent" to a person of ordinary skill in the art that the ABC device "necessarily included a battery to power various components therein, including the microphone, amplifier and the external coil." Pet. 31–32, 34–35 (citing Ex. 1102 ¶¶ 75, 99–102; Ex. 1111, 316; Ex. 1112, 43–44).

On this record, we are persuaded by Petitioner. Hough specifies that the ABC device "has an external processor containing a microphone, an amplifier, and an electromagnetic coil." Ex. 1112, 44. Further, on this record, Petitioner has shown reasonably that a battery would have been present inherently in the external part to power its components, including the microphone, amplifier, and electromagnetic coil. *See* Pet. 31–32, 34–35. For example, Dr. Popelka testifies that, "[a]lthough a battery is not explicitly mentioned, it was well known in the art that the external part of ABC device as described in Hough (Ex. 1112) necessarily included a battery to power the electronic components." Ex. 1102 ¶¶ 75, 100. Dr. Popelka bases his opinion on a prior art publication cited by the Hough reference, which explicitly discusses the presence of a battery. *Id.* ¶ 75 (citing Ex. 1111, 316); Ex. 1111, 316 ("The external processor was first packaged in a small wearable case, powered by a 9-volt battery."), Fig. 1 (identifying a "battery power supply"). On this record, we credit Dr. Popelka's unrebutted testimony.

(3) "wherein power to the internal part is transmitted from the external part by induction"

Petitioner contends that because the external inductive coil creates alternating electromagnetic fields, which cause the implanted magnet to

vibrate, power is transmitted from the external part to an internal part by induction. Pet. 28–29, 35 (citing Ex. 1112, 44; Ex. 1102 ¶¶ 73, 91, 93–94, 100).

Patent Owner argues that Hough "simply discloses the use of magnetic forces to cause the internal magnet to vibrate," but does not disclose "implanted structure (such as an internal coil) . . . that is capable of converting variations in magnetic field into current. The internal components in Hough do not generate or use an electric current." Prelim. Resp. 22 (citing Ex. 2002 ¶¶ 15–16). Thus, according to Patent Owner, "the transmission of magnetic forces in the way described in Hough is not the same as transmitting power by induction." *Id.*

On this record, we are persuaded by Petitioner. Hough discloses that the ABC device "utilizes transcutaneous *inductive electromagnetic energy* from an external processor to cause vibrations of an implanted osseointegrated rare earth magnet." Ex. 1112, 43 (emphasis added). Thus, on this record, we are persuaded that transmitting inductive electromagnetic energy from the external part to the internal part, which induces vibration of the implanted magnet, constitutes transmission of power as claimed.

We are persuaded by Petitioner even upon considering Patent Owner's argument, which argument is not commensurate with the language of claim 11. Patent Owner's argument imports limitations regarding "implanted structure (such as an internal coil)" and "electric current," which are not supported by the language of claim 11 or by the '040 patent Specification. Prelim. Resp. 22. Claim 11 broadly requires that *power* is transmitted from the external part to the internal part via induction; it does not require structure such as an "internal coil," and it does not require the

conversion of magnetic fields into electric current, the generation of electric current, or the use of electric current, as Patent Owner argues. *See* Ex. 1101, 4:26–32. Indeed, Hough's structure appears similar to that disclosed in Figure 2 of the '040 patent, in which "power is transmitted to the implanted part 8 of the hearing aid by means of induction." *Id.* at 3:11–14. In this embodiment, the '040 patent does not describe any "implanted structure (such as an internal coil) . . . that is capable of converting variations in magnetic field into current," or generating or using electric current in any manner. *See id.*; *cf.* Prelim. Resp. 22. Rather, the implanted part is disclosed as including only a vibrator. *Compare* Ex. 1101, 3:9–11 (explaining that the internal part includes a vibrator), *with* Ex. 1112, 44 (explaining that the internal part includes a vibrator, i.e., the implanted magnet).

Accordingly, on this record, we are persuaded by Petitioner.

(4) Summary

Based on the record before us, we determine that Petitioner has established a reasonable likelihood of prevailing on its contention that Hough anticipates dependent claim 11.

E. Alleged Obviousness over the Combined Teachings of Hough and Leysieffer

Petitioner contends that challenged claim 12 is unpatentable under 35 U.S.C. § 103(a) as rendered obvious over the combined teachings of Hough and Leysieffer. Pet. 36–40. Patent Owner disputes Petitioner's contentions. Prelim. Resp. 23–24. For reasons that follow, we determine

Petitioner has demonstrated a reasonable likelihood of prevailing as to the challenged claims.

1. Overview of Leysieffer (Ex. 1109)

Leysieffer is a Canadian Patent Publication titled "Implantable System for Rehabilitation of a Hearing Disorder." Ex. 1109, (54). Leysieffer discloses a partially implantable hearing aid system, including wireless telemetry means that transmit data from an external unit to an implantable component to permit an operating program or parameter to be modified or replaced while the component is implanted. Ex. 1109, (57), 9:27–30, Figs. 1, 3 (telemetry system 125). Leysieffer's device also includes battery 60 within implant housing 56, wherein the battery may be rechargeable by induction. *Id.* at 10:20–22, 13:10–11, 14:10–11, 14:29–15:2, Fig. 3.

2. Analysis of Applied Art

a. Dependent Claim 12

(1) "the internal part comprises a rechargeable battery arranged to be charged by induction from an external power supply"

Petitioner contends that Leysieffer discloses an implantable hearing aid that includes rechargeable battery 60, charged from an external unit by induction. Pet. 37, 40 (citing Ex. 1109, 4:26–28, 8:8–11, 13:10–11, 14:29–15:2; Ex. 1102 ¶¶ 78, 108).

Petitioner contends that it would have been obvious to modify the ABC device disclosed by Hough, "so that the implanted part includes a rechargeable battery as taught by Leysieffer" because this modification would have involved "nothing more than combining known prior art

elements in known ways, with no change in their respective functions, to yield predictable results." *Id.* at 38 (citing Ex. 1102 ¶¶ 109–113). Petitioner contends further that a person of ordinary skill in the art would have "recognized that using [a] rechargeable battery, and charging such a battery via induction from an external unit, extends service life and avoids replacement of a standard (non-chargeable battery)." *Id.* at 38–39 (citing Ex. 1109, 8:8–11; Ex. 1102 ¶¶ 78, 108–109); *see also id.* at 39 (explaining that the modification also "would have satisfied a demand for improving known medical devices to attain predictable, beneficial results," including smaller size and improved aesthetics).

Patent Owner argues that a person of ordinary skill in the art would not have modified the teachings of Hough in view of those of Leysieffer for two reasons. First, Patent Owner argues that, because Hough does not transmit power via induction, "an internal rechargeable battery would be useless because the device would be incapable of recharging the battery." Prelim. Resp. 24. Second, Patent Owner argues that the references present "distinctly different technologies." *Id.*

On this record, we are persuaded by Petitioner. Leysieffer specifically discloses a hearing aid system with "a rechargeable electrochemical cell which can be recharged from the outside, for example, by means of inductive coupling." Ex. 1109, 10:20–22; *see also id.* at 14:29–15:2. On the current record, we are persuaded that Petitioner presents articulated reasoning with rational underpinning to support its conclusion that a person of ordinary skill in the art would have modified Hough's ABC device to include a rechargeable battery as taught by Leysieffer. For example, Petitioner has shown reasonably that such a modification would extend

service life by avoiding the replacement of conventional batteries and would improve the size and aesthetics of the system. *See* Ex. 1109, 8:8–11; Ex. 1102 ¶¶ 109–110, 112.

We are persuaded by Petitioner even upon considering Patent Owner's arguments. First, as discussed above in Section II.D.2.b.3, we are persuaded that Hough transmits power by induction. Further, in the combination proposed, the ABC device is modified to include a rechargeable battery that is charged by induction, as taught by Leysieffer, such that even if Hough did not disclose induction, this feature is added by the combination with Leysieffer. Pet. 37–40. Second, on this record, we are not persuaded that Hough and Leysieffer are non-analogous art because both publications at least are directed to the same field of endeavor, e.g., devices for the rehabilitation of hearing loss. *Compare* Ex. 1109, 6:8–10, 6:29–7:1, *with* Ex. 1112, 44.

b. Summary

On this record, we determine that Petitioner has presented sufficient evidence to establish a reasonable likelihood it would prevail in showing that claim 12 is rendered obvious over the combined teachings of Hough and Leysieffer.

III. CONCLUSION

For the foregoing reasons, we determine Petitioner has demonstrated a reasonable likelihood it would prevail in establishing the unpatentability of challenged claims 1, 11, and 12 of the '040 patent.

At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term.

IV. ORDER

For the reasons given, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1, 11, and 12 of the '040 patent on the following asserted grounds:

1. Claims 1 and 11 under 35 U.S.C. § 102(b) as anticipated by Hough; and
2. Claim 12 under 35 U.S.C. § 103(a) as unpatentable over Hough and Leysieffer;

FURTHER ORDERED that the trial is limited to the grounds identified above, and no other grounds are authorized;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, the trial commencing on the entry date of this Decision;

FURTHER ORDERED that, within ten days of this Decision, Patent Owner must file a true and accurate version of Exhibit 2002, including pages 1–6 and Exhibit A, in their entirety, as filed separately on June 21, 2017, within ten days of this Decision (*see supra* pg. 11, n.2); and

FURTHER ORDERED that Patent Owner's Objections to Evidence (Paper 5) are expunged. [3]

[3] 37 C.F.R. § 42.64(b)(1) states that "[a]ny objection to evidence submitted during a preliminary proceeding must be filed *within ten business days of the institution of trial*." Accordingly, Patent Owner's objections filed prior to institution are premature. To the extent Patent Owner desires to preserve its objections, they must be re-filed in accordance with our Rules.

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