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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER B.J. VAN GERWEN

Appeal 2017-008602¹
Application 12/957,085
Technology Center 3700

Before JAMES P. CALVE, WILLIAM A. CAPP, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

FINAMORE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant² appeals from the Examiner’s decision to reject claims 1, 4, 5, 9–15, 17, 20, 22, 23, and 25–41. An oral hearing was held on April 25, 2019.

We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM IN PART.

¹ We reference herein the Specification filed November 30, 2010 (“Spec.”), Final Office Action mailed July 15, 2015 (“Final Act.”), Appeal Brief filed March 2, 2016 (“Appeal Br.”), Examiner’s Answer mailed August 29, 2016 (“Ans.”), and Reply Brief filed March 17, 2017 (“Reply Br.”).

² “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Cochlear Limited. Appeal Br. 2.

SUBJECT MATTER ON APPEAL

The invention “relates generally to hearing prostheses, and more particularly, to hearing prostheses having a flexible elongate energy transfer mechanism.” Spec. ¶ 1. Claims 1, 13, and 31, reproduced below, are the independent claims on appeal, and are illustrative of the claimed subject matter.

1. A hearing prosthesis for delivering sound vibrations to a component of a recipient’s ear, the hearing prosthesis comprising:

an implantable actuator configured to generate the sound vibrations; and

a longitudinally-rigid and laterally-flexible elongate flexible conductor adapted to be connected to the actuator and adapted to be coupled to the ear component, wherein the conductor is adapted to transport the sound vibrations from the actuator to an interior component of the ear.

13. A method comprising:

implanting a flexible conductor in a recipient, wherein the flexible conductor is longitudinally rigid and laterally flexible;

coupling a first end of the flexible conductor to a component of an ear of the recipient; and

coupling a second end of the flexible conductor to an actuator configured to generate sound vibrations representative of an acoustic signal, such that the flexible conductor is configured to transport energy from an energy source to the ear component.

31. A hearing prosthesis for delivering sound vibrations to a component of a recipient’s ear, the hearing prosthesis comprising:

an implantable actuator configured to generate the sound vibrations; and

elongate flexible conductor body adapted to be vibrationally connected to the actuator and adapted to be vibrationally coupled to the ear component and thus vibrationally

couple the actuator to the ear component, and also thus vibrationally conduct mechanical vibrations from the actuator to the ear component.

Appeal Br., Claims App.

REJECTIONS³

The Examiner rejects the claims on appeal as follows:

claim 35 under 35 U.S.C. § 112, second paragraph, as indefinite;

claims 31–38 and 41 stand under 35 U.S.C. § 102(b) as anticipated by Ball⁴;

claims 1, 39, and 40 under 35 U.S.C. § 103(a) as unpatentable over Ball, as evidenced by Saadat⁵;

claim 22 under 35 U.S.C. § 103(a) as unpatentable over Ball, as evidenced by Saadat, and Schaefer⁶;

³ The Examiner has withdrawn the rejection of claim 27 under 35 U.S.C. § 112, first paragraph, and the rejection of claims 1, 4, 5, 9–15, 17, 20, 22, 23, and 25–30 under 35 U.S.C. § 112, second paragraph. Ans. 2. In withdrawing the rejection under 35 U.S.C. § 112, second paragraph, the Examiner lists claim 35, but explains the withdrawn rejection is based on the recitation of “longitudinally-rigid and laterally-flexible.” *Id.* Claim 35 does not include such a recitation. Moreover, the Examiner’s rejection of claim 35 under 35 U.S.C. § 112, second paragraph, is based on different claim language. Final Act. 4; Ans. 2–3. Accordingly, we understand the Examiner has not withdrawn the rejection of claim 35 under 35 U.S.C. § 112, second paragraph, and we consider the Examiner’s reference to claim 35 in withdrawing the rejection to be a harmless oversight.

⁴ US 6,139,488, issued Oct. 31, 2000.

⁵ US 6,051,008, issued Apr. 18, 2000.

⁶ US 4,729,366, issued Mar. 8, 1988.

claims 1, 4, 5, 9–11, 13–15, 17, 20, 23, and 25–30 under 35 U.S.C. § 103(a) as unpatentable over Gilman⁷ and Hortmann⁸; and claim 12 under 35 U.S.C. § 103(a) as unpatentable over Gilman, Hortmann, and Leysieffer⁹.

ANALYSIS

Prima Facie Case

For each ground of rejection, Appellant argues the Examiner fails to make a prima facie case. *See, e.g.*, Appeal Br. 6–11 (listing the issues on appeal and identifying every issue as whether a prima facie case has been established). Appellant, however, imposes a heightened requirement for a prima facie case, and we disagree with Appellant that each of the Examiner’s rejections fails to set forth a prima facie case.

“The prima facie case is merely a procedural device that enables an appropriate shift of the burden of production.” *In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (citations omitted) (quoting *Hyatt v. Dudas*, 492 F.3d 1365, 1369 (Fed. Cir. 2007)). An examiner establishes a prima facie case when a “rejection satisfies 35 U.S.C. § 132, in ‘notify[ing] the applicant ... [by] stating the reasons for [its] rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.’” *Id.* (alterations in original) (quoting § 132). Section 132 does not require a prima facie case to include an express claim construction or to

⁷ US 5,176,620, issued Jan. 5, 1993.

⁸ US 5,411,467, issued May 2, 1995.

⁹ US 2001/0031996 A1, published Oct. 18, 2001.

explicitly preempt every possible response to a rejection; rather, all that is required of the Office is to set forth the statutory basis of the rejection in a sufficiently articulate and informative manner. *Id.* at 1363; *see also Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (“Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection.”).

The Examiner’s rejections clearly convey the reasons for rejecting the claims under 35 U.S.C. §§ 112, second paragraph, 102(b) and 103(a). Appellant’s understanding of the rejections is manifested in its numerous arguments against the substance of the rejections, which we address below. Accordingly, each of the Examiner’s rejections satisfies the notice requirement of § 132 and sets forth a prima facie case, thereby shifting the burden of production to Appellant to show otherwise.

Official Notice

Throughout its briefs, Appellant contends that the Examiner is taking Official Notice, and that the Examiner fails to meet the requirements for taking Official Notice. Appeal Br. 85–87, 90–92; Reply Br. 134–137, 140–141. The Examiner’s rejections, however, do not rely on Official Notice. Consequently, any alleged deficiency in taking Official Notice is not persuasive of error.

Broadest Reasonable Interpretation

Appellant contends the Examiner’s rejections do not set forth the broadest reasonable interpretation of the claim language pursuant to proper procedure. Appeal Br. 26–34, 38–39, 45, 48–49, 57–58, 63–64, 77, 79–80,

83, 92, 101–102, 110, 112–113, 116–118, 132, 140; Reply Br. 18–20, 27–28, 38, 44–45, 49, 61–62, 70, 90, 92–93, 98, 113–114, 125–127, 141–142, 144–145, 149–150, 152–155, 174–175, 180–182. As set forth above, however, the Examiner does not have to expressly construe the claim language to make a prima facie case. *In re Jung*, 637 F.3d at 1363 (“There has never been a requirement for an examiner to make an on-the-record claim construction of every term in every rejected claim . . . in order to make out a prima facie rejection. This court declines to create such a burdensome and unnecessary requirement.”). Thus, the absence of an express claim construction, without more, is not persuasive of error. To the extent an explicit construction is necessary to resolve an issue on appeal, we address this below with respect to the specific rejections.

Request to Consider “Rewritten” Claims

Throughout its briefs, Appellant asks the Office to construe and examine claims that Appellant has rewritten pursuant to its understanding of how the Examiner is construing them. Appeal Br. 34–35 (“Appellant asks the USPTO to explain how it would have construed claim 35 if Appellant had written Appellant also asks the USPTO to state, with a yes or no answer, that the above is anticipated by Ball.”), 39, 45–46, 49–50, 58, 64; Reply Br. 28, 38–39, 45–46, 49–50, 62–63, 71, 182–183. As these claims are not part of pending application, they are not before us on appeal.

Indefiniteness

Claim 35 depends from independent claim 31 and recites “the hearing prosthesis is configured such that the conducted mechanical vibrations from

the actuator to the ear component are conducted from the actuator to the ear component with the conductor body static relative to a mastoid bone of the recipient.” Appeal Br., Claims App. The Examiner determines claim 35 is indefinite because it is unclear how the conductor can be static while conducting vibrations. Final Act. 4; Ans. 2–3. According to the Examiner, “[t]he definition of static is ‘characterized by a fixed or stationary condition’ or ‘lacking movement[.]’” Ans. 2. The Examiner further explains “[e]ven if vibrations transmitted through a conductor are not obviously visible to the naked eye, the conductor is still transferring mechanical movement and is not static.” *Id.* at 3.

At the outset, Appellant argues the Examiner conflates enablement with indefiniteness. Appeal Br. 18; Reply Br. 14. Per Appellant, “[i]ndefiniteness is not established simply because an Examiner cannot figure out how an invention works.” Appeal Br. 18; Reply Br. 14. Appellant’s argument is not convincing. A claim is indefinite when it contains words or phrases whose meaning is unclear to a person of ordinary skill in the art. *Ex parte McAward*, 2017 WL 3669566 at *5 (PTAB Aug. 25, 2017) (citations omitted). The Examiner determines the language of claim 35, which, notably, describes how the device works, is unclear. That this uncertainty may also raise a question of enablement does not show a deficiency in the Examiner’s indefiniteness rejection.

Additionally, Appellant contends the rejection is conclusory because its sole basis is the unsupported assertion that something cannot vibrate and be static relative to something else. Appeal Br. 18–19; Reply Br. 14–15. Appellant also asserts the Examiner has not addressed the requirements for indefiniteness set forth in MPEP 2173.01, namely evaluating the claim

language in light of: (A) the Specification; (B) the teachings of the prior art; and (C) the interpretation by one of ordinary skill in the art at the time of the invention. Appeal Br. 19–21; Reply Br. 15. Appellant further argues claim 35 is not indefinite because a structure can be static despite conducting vibrations, such as a railroad track being static to the ground even though a person can hear the train from miles away due to the vibrations conducted by the rail. Appeal Br. 22–25; Reply Br. 16–17. According to Appellant: “To assert that the definition of ‘static’ excludes a compilation of matter that is vibrating would basically render meaningless that term as the term is used in the technology. Indeed, the molecules of any substance at a temperature above absolute zero are moving.” Appeal Br. 23.

Appellant ostensibly acknowledges conducting vibrations is movement, but maintains the Examiner’s interpretation of “static” to require the absence of this type of movement is unreasonably broad. The question of indefiniteness, therefore, turns on the construction of “static.”

When construing claims,

the PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.

In re Morris, 127 F.3d 1048, 1054 (Fed. Cir. 1997). If the specification does not assign or suggest a particular definition to a claim term, it is appropriate to consult a general dictionary definition of the word for guidance in determining the ordinary and customary meaning of the claim term as viewed by a person of ordinary skill in the art. *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010).

It is the use of the words in the context of the written description and as customarily used by those of skill in the relevant art that accurately reflects both the ‘ordinary’ and ‘customary’ meaning of the terms in the claims.” *Ferguson Beauregard/Logic Controls, Div. of Dover Res., Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1338 (Fed. Cir. 2003). Consequently, construing claim terms without considering the context in which those terms appear is not reasonable. *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). Therefore, in construing the term “static,” we are mindful that the overall context of the invention is transmitting acoustic energy through a medium.

Appellant’s Specification is devoid of the term “static,” and provides no guidance as to its intended meaning. In the absence of insight from the Specification, we turn to the dictionary definition of “static,” which is “not active or moving; stationary.” *Static*, Collins English Dictionary – Complete and Unabridged (12th ed. 2014).

Appellant maintains a person of ordinary skill in the art would understand the movement associated with conducting vibrations is not indicative of whether the conductor is static or not, but Appellant does not provide any support for this alleged understanding in the art. Furthermore, this is not a case where a broad interpretation of a term ignores an otherwise different description of the term in the specification, as there is no recitation of “static” in the Specification. *Cf. In re Smith*, 871 F.3d 1375, 1383 (Fed. Cir. 2017) (“[G]iving the term ‘body’ such a strained breadth in the face of the otherwise different description in the specification was unreasonable.”).

In view of the foregoing, the broadest reasonable interpretation of “static” is lacking movement. In view of this interpretation, it is unclear how a conductor body conducting mechanical vibrations, i.e., moving, is static, as claim 35 recites. We, therefore, sustain the indefiniteness rejection of claim 35.

Anticipation by Ball

Independent claim 31

Appellant challenges the Examiner’s finding that Ball’s compliant connecting member 225B discloses a “elongate flexible conductor body adapted to be vibrationally connected to the actuator and adapted to be vibrationally coupled to the ear component, and also thus vibrationally conduct mechanical vibrations from the actuator to the ear component,” as recited in independent claim 31. Appeal Br. 64–65; Reply Br. 72–78; Final Act. 5 (citing Ball 2:54–55, 4:49–51, 6:59–7:24, Figs. 4–5); Ans. 6 (citing Ball 2:27–30, 3:24–38, 51–55, 4:48–51, 6:38–40). According to Appellant, Ball’s connecting member moves back and forth to impart vibrations to the oval window of the cochlea, thereby imparting force, not conducting vibrations. Reply Br. 72–78.

Regardless of whether Ball’s connecting member moves back and forth, Ball nonetheless discloses that compliant connecting member 225B, which replaces wire 25B, communicates mechanical vibrations from output transducer 24 to stapes 34, which in turn transmits these vibrations to oval window 36 of the inner ear. *Id.* at 3:29–34, 6:60–62. Given that Ball’s compliant connecting member 225B communicates vibrations from the output transducer to the stapes, Appellant does not apprise of us error in the

Examiner's finding that Ball's compliant connecting member 225B discloses the elongated flexible conductor body recited in independent claim 31. We, therefore, sustain the rejection of independent claim 31.

Claims 32 and 33

Claims 32 and 33 depend from independent claim 31. Appeal Br., Claims App. Appellant does not make arguments for claims 32 and 33 apart from independent claim 31. Accordingly, we sustain the rejection of claims 32 and 33 for the same reasons as independent claim 31.

Claims 34 and 41

Claim 34 depends from independent claim 31, and recites "the hearing prosthesis is configured such that the conducted mechanical vibrations from the actuator to the ear component are conducted from the actuator to the ear component *without the vibrations passing through a looped portion.*" Appeal Br., Claims App. (emphasis added). The Examiner finds Ball's embodiment using compliant connecting member 600 or 700 anticipates claim 34. Final Act. 5; Ans. 5. As shown in Figures 7 and 8, each of compliant connecting members 600 and 700 includes a looped portion, namely spring 630 and 740, respectively. The Examiner finds the spring is used to compensate for relatively slow physical movements, such as position shifting and pressure changes, and is not part of the conducting pathway such that the conducted vibrations do not pass through a looped portion. Final Act. 5 (citing Ball 4:1-32); Ans. 5-6 (citing Ball 4:2-18, 6:22-41).

Appellant argues there is no disclosure that Ball's springs are vibrationally isolated. Appeal Br. 61; Reply Br. 65-69. Appellant's argument is persuasive.

Ball does not describe any conductive pathway for the compliant connecting member 600 or 700. Ball does disclose the compliant connecting member combines the physical properties of a damper and a spring to compensate for relatively slow physical movements, i.e., have relatively high dampening at low frequencies, while transmitting audible vibrations, i.e., have relatively low dampening at audio frequencies, thereby maintaining acceptable sound reproduction. Ball 6:32–41. This disclosure, however, is not limited to compliant connecting members 600 or 700, but instead applies to the compliant connecting member generally. The Examiner acknowledges the compliant connecting member of each of the embodiments shown in Figures 4 and 5 uses the spring to conduct vibrations while dampening. Ans. 5 (“Figs. 4 and 5 illustrate the elastic component as part of the conducting pathway.”). For these reasons, the Examiner has not shown persuasively that Ball discloses a hearing prosthesis that is configured to conduct mechanical vibrations from the actuator to the ear component without the vibrations passing through a looped a portion, as claim 34 requires. We, therefore, do not sustain the rejection of claim 34.

Claim 41 depends from independent claim 31, and includes a similar limitation to claim 34, namely “the hearing prosthesis is configured such that the conducted mechanical vibrations from the actuator to the ear component are conducted from the actuator to the ear component *without the vibrations passing through a spring portion.*” Appeal Br., Claims App. (emphasis added). The Examiner’s rejection of claim 41 suffers from the same deficiency as the rejection of claim 34. Final Act. 5; Ans. 5–6. Accordingly, we similarly do not sustain the rejection of claim 41.

Claim 35

In view of our determination that claim 35 is indefinite, we cannot sustain the prior art rejection of this claim because to do so would require speculation as to the scope of the claim. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962) (holding that the Examiner and the Board were wrong in relying on what, at best, were speculative assumptions as to the meaning of the claims and in basing a prior-art rejection thereon). Our decision in this regard is *pro forma* and based solely on the indefiniteness of the claim, and does not reflect on the adequacy of the prior art evidence applied in support of the rejection.

Claim 36

Claim 36 depends from independent claim 31, and recites “the hearing prosthesis is configured such that the conducted mechanical vibrations from the actuator to the ear component are conducted from the actuator to the ear component *with the conductor body fixed to a mastoid bone of the recipient.*” Appeal Br., Claims App. (emphasis added). The Examiner finds Ball’s compliant connecting member 225B is attached to the mastoid bone via housing 10 and therefore conducts vibrations from the output transducer to the ear component with the compliant connecting member fixed to the mastoid bone. Final Act. 5 (citing Ball, Fig. 4). The Examiner further finds Ball’s compliant connecting member 225 is fixed to output transducer 24 within housing 10 which is implanted or embedded within mastoid bone 14. Ans. 4 (citing Ball 5:14–15, 8:13).

In contrast, Appellant argues the Examiner has not shown Ball discloses a conductor body fixed to the mastoid bone, as claim 36 requires. Appeal Br. 40–42; Reply Br. 31–37, 40–41. In particular, Appellant

contends compliant connecting member 225B, on which the Examiner relies for disclosing the recited conductor body, is not fixed to the mastoid bone, but instead moves back and forth to evoke a hearing precept. Appeal Br. 40, 42; Reply Br. 40. This argument, however, is misaligned with the Examiner's rejection. The rejection is not based on compliant connecting member 225B not moving. Rather, the Examiner finds Ball discloses a conductor body fixed to a mastoid bone because Ball's compliant connecting member 225B is attached to actuator 24 within housing 10, which is imbedded into a mastoid bone. Ans. 4.

Appellant further contends the Examiner has not established housing 10 is fixed to the mastoid bone. Appeal Br. 41; Reply Br. 32–37. We disagree. The cited portions of Ball disclose implanting and imbedding an implantable hearing device into a mastoid bone, i.e., fixing an implantable hearing device to a mastoid bone. Ball 5:14–15, 8:13. Ball further discloses implantable hearing device 10 includes output transducer 24 to which compliant connecting member 225B is attached. *Id.* at 2:60–62, 6:59–7:1, Fig. 4. Given that Ball's compliant connecting member 225B is attached to output transducer 24 which is part of implantable hearing device 10 fixed to the mastoid bone, Appellant does not apprise us of error in the Examiner's finding that Ball discloses a conductor body fixed to a mastoid bone, as recited in claim 36. We, therefore, sustain the rejection of claim 36.

Claim 37

Claim 37 depends from independent claim 31, and recites “the flexible body is configured to have an impedance mismatch with surrounding tissues when implanted in the recipient.” Appeal Br.,

Claims App. The Examiner relies on Ball’s teaching of coating the compliant connecting member with silicone for disclosing the recited impedance mismatch. Final Act. 6 (citing Ball 7:29–35). According to the Examiner, “Appellant discloses silicone is an appropriate material for decoupling the flexible connector from surrounding tissues and for providing an impedance mismatch with surrounding tissues.” Ans. 4 (citing Spec. ¶ 48).

Appellant argues the Examiner proffers no evidence or technical reasoning to support the finding that Ball’s silicone coating discloses the recited impedance mismatch. Appeal Br. 42–44, 46–48; Reply Br. 41–44, 46–48. In particular, Appellant contends the Examiner impermissibly conflates Appellant’s description of a configuration that uses silicone with evidence that the prior art structure discloses the claimed subject matter.

“A patent applicant is free to recite features of an apparatus either structurally or functionally. Yet, choosing to define an element functionally, *i.e.*, by what it does, carries with it a risk.” *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997) (internal citation omitted). Namely,

where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

Id. (quoting *In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971)).

Claim 37 defines the flexible conductor body in terms of its function, *i.e.*, “hav[ing] an impedance mismatch with surrounding tissues when implanted in the recipient.” Appeal Br., Claims App. Appellant’s

Specification explains sufficient impedance mismatch between the flexible conductor and surrounding tissue facilitates the efficient transfer of sound vibrations from the actuator to an ear component. Spec. ¶ 25. The Specification further explains that the flexible conductor may include a sheath to provide an impedance mismatch. *Id.* ¶ 48 (“Each sheath 206 may alter the acoustic impedance of the flexible conductor 131 in the regions where the sheath is located. Thus, different shapes and materials for the sheaths may be used to provide the flexible conductor 131 with different acoustic impedances along its length.”). According to the Specification, sheath 206 may be a coating or sleeve placed around flexible conductor core 202 of the flexible conductor and may be made of silicone. *Id.*

Like Appellant’s flexible conductor, Ball’s compliant connecting member conducts sound vibrations from an actuator to a component of the ear. *Id.* at 3:29–34, 6:60–62. Ball discloses “[a]lthough the characteristics of a compliant connecting member may vary widely while still providing acceptable performance, certain materials and parameters are preferable in the design of an implantable hearing aid according to the present invention.” *Id.* at 7:25–29. Specifically, Ball discloses the compliant connecting member has a silicone coating. *Id.* at 7:32–35.

In view of the similarities in function and structure between Appellant’s flexible body and Ball’s compliant connecting member, the Examiner has reason to believe the recited function may be an inherent characteristic of Ball’s compliant connecting member and has the authority to require Appellant to show otherwise. Appellant makes no such showing.

In view of the foregoing, Appellant does not apprise us of error in the Examiner’s rejection of claim 37. Consequently, we sustain the rejection.

Claim 38

Claim 38 depends from independent claim 31, and recites that the hearing prosthesis further comprises “a sheath disposed over the flexible body, the sheath adapted to acoustically decouple the conductor body, when implanted in the recipient, from tissue interior to the recipient and proximal to the conductor body.” Appeal Br., Claims App. The Examiner relies on Ball’s teaching of coating the compliant connecting member with silicone for disclosing the recited sheath. Final Act. 6 (citing Ball 7:29–35).

Appellant argues the broadest reasonable interpretation of “sheath” does not encompass Ball’s coating. Appeal Br. 51–52. Appellant’s argument is unpersuasive because Appellant’s Specification describes “sheath” as a “coating or sleeve.” Ans. 4; Spec. ¶ 48.

Appellant also argues Ball’s silicone coating does not expressly or inherently disclose the “acoustically decouple” limitation. Appeal Br. 52–53; Reply Br. 50–56. Appellant does not apprise us of error in the Examiner’s finding that Ball’s silicone coating discloses this functional limitation.

As set forth above with respect to claim 37, Appellant’s flexible conductor and Ball’s compliant connecting member conduct sound vibrations from an actuator to an ear component. Spec. ¶ 25; Ball 3:29–34, 6:60–62. Appellant’s Specification explains that the flexible conductor may include a silicone coating to decouple the flexible connector from the surrounding tissues. Spec. ¶ 48 (“Sheath 206A and sheath 206B may be, for example, a coating or sleeve placed around flexible conductor core 202 and may be formed of any appropriate material (e.g., silicone) serving to decouple the flexible connector from the surrounding tissues.”). Similarly,

Ball's compliant connecting member includes a silicone coating. Ball 7:32–35. Consequently, the Examiner has reason to believe the recited function of acoustically decoupling the conductor body may be an inherent characteristic of Ball's silicone coating, and Appellant does not show otherwise.

For these reasons, Appellant does not apprise us of error in the Examiner's rejection of claim 38. We sustain the rejection.

Obviousness Based on Ball, as Evidenced by Saadat

Independent claim 1

The Examiner finds that Ball's output transducer 24 discloses an implantable actuator configured to generate sound vibrations, and that Ball's compliant connecting member 225 or 325 discloses an elongate flexible conductor adapted to be connected to the actuator and to transport sound vibrations from the actuator to the ear component. Final Act. 11 (citing Ball 2:54–55, 4:49–51, 6:59–7:24, Figs. 4–5). The Examiner further finds that Ball's conductor is made of stainless steel wire, and that Saadat teaches stainless steel wire is resilient in nature and holds a particular shape when not subjected to a holding force. *Id.* (citing Saadat 15:8–18). The Examiner determines it would have been obvious that “the stainless steel conductor of Ball is also longitudinally-rigid since stainless steel wire is resilient in nature and thus will maintain a longitudinal shape in the absence of an external bending force, as evidenced by Saadat.” *Id.* The Examiner also determines “a conductor/wire of a resilient or bendable nature which maintains a determined shape in the absence of an external holding force is considered to

be longitudinally rigid and laterally flexible[.]” Ans. 11 (quoting Final Act. 4).

At the outset, we are unpersuaded of error by Appellant’s contention that the Examiner has not considered the “laterally-flexible” limitation of independent claim 1. Appeal Br. 124–126; Reply Br. 163–167. The Examiner relies on Ball’s compliant connecting member 225 or 325 for disclosing the recited elongate flexible conductor. Final Act. 11. In the Answer, the Examiner explains that Ball’s compliant connecting member is laterally flexible because “this is the only direction in which an elongate wire conductor could flex.” Ans. 11.

Appellant also argues the Examiner has not shown Saadat evidences that a stainless steel wire is longitudinally rigid as independent claim 1 requires. Appeal Br. 127–128, 132–133; Reply Br. 167–168, 175–176. In particular, Appellant alleges the Examiner does not explain how a stainless steel wire that is resilient in nature and holds a particular shape when not subject to a holding force is longitudinally rigid. Appeal Br. 127; Reply Br. 167–168. Appellant further alleges that “resilient” is not concomitant with rigidity, and that Saadat essentially discloses the opposite of a longitudinally rigid wire. Appeal Br. 133; Reply Br. 175–176. Appellant’s allegations, however, are not commensurate with the scope of independent claim 1.

Independent claim 1 recites a “longitudinally-rigid and laterally-flexible elongate flexible conductor.” Appeal Br., Claims App. The claim requires a conductor that is both rigid and flexible, namely rigid in the longitudinal direction and flexible in the lateral direction. Independent claim 1 does not preclude any resiliency, but instead requires

flexibility in the lateral direction. The Examiner explains that Saadat's resilient stainless steel wire is longitudinally rigid and laterally flexible because "it can be bent and it will also hold a longitudinal shape." Ans. 11. Appellant does not apprise us of error in this finding that stainless steel wire is longitudinally rigid and laterally flexible.

Appellant further asserts the Examiner has not shown Saadat evidences that the stainless steel wire of Ball is longitudinally rigid. Appeal Br. 128–130; Reply Br. 168–173. In particular, Appellant contends Saadat and Ball both disclosing stainless steel wires does not mean Ball's wire is longitudinally rigid like Saadat's wire. Appeal Br. 129; Reply Br. 168–171. According to Appellant, "there are scores of types of stainless steel." Appeal Br. 129; Reply Br. 170. Appellant also argues that Ball's wire is looped, whereas Saadat's wire is folded. Appeal Br. 129–130 (citing Ball, Figs. 4–5; Saadat, Fig. 20B); Reply Br. 171–173.

Appellant ostensibly maintains that the Examiner must show the prior art teachings would have resulted in the claimed invention. There is no such requirement for obviousness. "Obviousness does not require absolute predictability of success." *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988). Rather, "all that is required is a reasonable expectation of success" that the prior art teachings would have resulted in the claimed invention. *Id.* at 904 (citations omitted). The Examiner reasons that Ball's wire is longitudinally rigid because it is made from stainless steel, like Saadat's wire, which is longitudinally rigid. Final Act. 11; Ans. 11. Appellant argues Ball's wire may not be longitudinally rigid, but makes no showing that it is not. In view of the foregoing, the Examiner has demonstrated a reasonable

expectation of success that teachings of Ball and Saadat would have resulted in the claimed invention, including the longitudinally-rigid conductor.

Additionally, Appellant argues the Examiner has not shown Ball discloses a conductor “adapted to transport the sound vibrations from the actuator to an interior component of the ear,” as recited in independent claim 1. Appeal Br. 131, 134–137; Reply Br. 173–174, 176–177.

According to Appellant, Ball’s compliant connecting member 225B is a spring, which is a notoriously well-known vibration isolator device.

Appeal Br. 134 (citing the *Mechanical Engineering Reference Manual for the PE Exam*¹⁰).

Ball, however, does not describe compliant connecting member 225B as a spring. Rather, Ball discloses compliant connecting member 225B includes spring 228B. Ball 6:62–7:1. Ball further discloses the compliant connecting member combines the physical properties of a damper and a spring to compensate for relatively slow physical movements and maintain acceptable sound reproduction. *Id.* at 6:32–41. Although the compliant connecting member dampens low frequencies, it also transmits audio frequencies from output transducer 24 to the stapes of the ear. *Id.* at 3:29–34, 6:32–41, 60–62. Accordingly, Appellant does not apprise of us error in the Examiner’s finding that Ball’s compliant connecting member 225B is adapted to transport sound vibrations from the actuator to an interior component of the ear.

We are similarly unpersuaded of error by Appellant’s assertion that, in view of Ball’s disclosure of a spring, which is a vibration isolator device, to

¹⁰ Michael R. Lindeburg, PE, *Mechanical Engineering Reference Manual for the PE Exam* 58-12–15 (10th ed. 1997).

connect the actuator to the ear component, Ball teaches away from the claimed invention. Appeal Br. 137–138; Reply Br. 177–179. As set forth above, Ball discloses compliant connecting member 225B communicates vibrations from output transducer 24 to stapes 34. Ball 3:29–34, 6:60–62.

In view of the foregoing, Appellant does not apprise us of error in the Examiner’s rejection of independent claim 1. We, therefore, sustain the rejection.

Claim 39

Claim 39 depends from claim 9, which in turn depends from independent claim 1. Appeal Br., Claims App. Claim 9 recites “wherein the flexible conductor comprises a wire,” and claim 39 recites “the wire is adapted to transport the sound vibrations from the actuator to the ear component.” *Id.* The Examiner relies on Ball’s compliant connecting member for disclosing these limitations. Final Act. 42 (citing Ball 4:49–51, 7:5–8).

Appellant argues the broadest reasonable interpretation of “the wire is adapted to transport the sound vibrations from the actuator to the ear component” recited in claim 39 does not encompass Ball’s compliant connecting member 225 for four reasons. Appeal Br. 140. Per Appellant:

First, the words of the claim are different than the words of Ball. Second, Appellant’s specification discloses a structure that is different than the structure of Ball at issue. Third, the prosecution history clearly evidences that the structure of Ball is different than the structure of claim 1. Fourth, extrinsic evidence, such as dictionary definitions, differentiate claim 1 from the teachings of Ball.

Id. Appellant’s reasons are not convincing of error.

There is no *ipsisimis verbis* test for determining whether a reference discloses a claim element, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). Ball discloses compliant connecting member 225B is fabricated from wire. Ball 7:2–5. Ball also discloses compliant connecting member 225B communicates vibrations from output transducer 24 to stapes 34. *Id.* at 3:29–34, 6:60–62. Ball, therefore, discloses a wire adapted to transport sound vibrations from an actuator to an ear component, as claim 39 requires. Being unapprised of error in the Examiner’s rejection of claim 39, we sustain the rejection.

Claim 40

Claim 40 depends from claim 10, which depends from claim 9, which in turn depends from independent claim 1. Appeal Br., Claims App. Claim 10 recites that the flexible conductor comprises a wire, and that the hearing prosthesis further includes “a sheath disposed over the wire, the sheath adapted to acoustically decouple the wire, when implanted in the recipient, from tissue interior to the recipient and proximal to the flexible conductor.” *Id.* Claim 40 recites “the wire is adapted to transport the sound vibrations from the actuator to the interior component of the ear.” *Id.*

The Examiner relies on Ball for disclosing the limitations of claims 10 and 40. Final Act. 12. In particular, the Examiner finds Ball’s compliant connecting member discloses the recited wire. *Id.* (citing Ball 4:49–51, 7:5–8). The Examiner further finds Ball’s silicone coating discloses the recited sheath. *Id.* (citing Ball 7:29–35).

Appellant argues the broadest reasonable interpretation of “sheath” does not encompass Ball’s coating. Appeal Br. 145–146; Reply Br. 184–185. Appellant’s argument is unpersuasive for the same

reason it is unpersuasive with respect to claim 38, namely Appellant's Specification describes "sheath" as a "coating or sleeve." Ans. 4; Spec. ¶ 48.

Appellant also argues Ball's disclosure of a silicone coating is not an express or inherent disclosure of a sheath that is adapted to acoustically decouple the wire, as recited in claim 10 from which claim 40 depends. Appeal Br. 146–147; Reply Br. 183–186. According to Appellant, the Examiner impermissibly conflates Appellant's description of a configuration that uses silicone with evidence that the prior art structure discloses the claimed subject matter. Reply Br. 183–184. This argument does not apprise us of error in the Examiner's finding that Ball's silicone coating discloses this functional limitation for the reasons set forth above with respect to claim 38.

Additionally, Appellant adopts its argument for the similar limitation of claim 39, and asserts the broadest reasonable interpretation of "the wire is adapted to transport the sound vibrations from the actuator to the interior component of the ear" recited in claim 40 does not encompass Ball's compliant connecting member 225. Appeal Br. 147–149; Reply Br. 186. This argument is unpersuasive of error of the reasons set forth above with respect to claim 39.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's rejection of claim 40. We, therefore, sustain the rejection.

Obviousness Based on Ball, as Evidenced by Saadat, and Schaefer

Claim 22 depends from independent claim 1, and recites "the flexible conductor is a wire having a diameter of 100 microns." Appeal Br.,

Claims App. The Examiner finds Ball discloses a flexible conductor but is silent as to its diameter. Final Act. 12. The Examiner also finds Schaefer teaches a hearing prosthesis having a wire conductor with a diameter of 127 microns. *Id.* (citing Schaefer 5:1–4). The Examiner determines it would have been obvious to use a wire of a similar diameter to Schaefer’s wire for Ball’s flexible conductor because “hearing aid conductors of this size are known to work within the confines of the middle ear and are capable of transmitting vibrations to middle ear components.” *Id.* The Examiner further determines:

Schaefer does not disclose the exact diameter of 100 microns recited in claim 22, however a diameter of 127 microns is on the same order of magnitude as 100 microns and nothing in [Appellant’s] [S]pecification indicates the claimed diameter of 100 microns is critical or solves a stated purpose or problem that would not equally be solved by a 127 micron diameter wire. Paragraph [0042] of [Appellant’s] [S]pecification recites the conductor may have any diameter depending on the recipient and the desired amount of impedance mismatch.

Id.

Appellant asserts there is no support for the Examiner’s determination that hearing aid conductors having the diameter size recited in claim 22 are known to work within the confines of the middle ear. Appeal Br. 107; Reply Br. 134–135. Appellant points out that Schaefer’s wire is at least 25% thicker than the recited wire. Appeal Br. 107; Reply Br. 134. Appellant’s assertion, however, misconstrues the Examiner’s rejection. The Examiner determines that hearing aid conductors having Schaefer’s diameter size of 127 microns, not the diameter size recited in claim 22, are known to work within the confines of the middle ear. Final Act. 12; Ans. 14. Indeed, Schaefer teaches an implantable hearing device implanted in the mastoid

bone and communicating with the middle ear space. Schaefer 4:57–62, Fig. 1. More specifically, Schaefer’s connecting member 208B, which has a diameter of 127 microns, communicates vibrations from an output transducer to the oval window or round window of the cochlea. *Id.* at 5:3–4, 5:66–6:2.

Appellant also contends the Examiner uses Appellant’s disclosure in developing the rejection, which is impermissible hindsight reasoning. Appeal Br. 107; Reply Br. 135. Appellant’s contention does not apprise us of error.

The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . [I]n such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range.

In re Woodruff, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (citations omitted).

The Examiner determines the only difference between the subject matter of claim 22 and the prior art is the size of the diameter of the flexible conductor. Final Act. 12. The Examiner permissibly references Appellant’s Specification to show lack of criticality of the recited diameter size.

Ans. 14.

Appellant additionally argues that it is entirely unclear whether Schaefer’s wire can be used as Ball’s flexible conductor because Schaefer’s wire is used in a different arrangement than that of Ball. Appeal Br. 107; Reply Br. 136–137. This argument, however, is premised on the physical combination of Schaefer’s wire into Ball’s hearing device and, therefore, is not responsive to the Examiner’s rejection which explains why the claimed subject matter would have been obvious in view of the teachings of Ball and

Schaefer. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.”); *see also In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the *teachings* of references does not involve an ability to combine their specific structures.”).

In view of the foregoing, Appellant does not apprise us of error in the Examiner’s rejection of claim 22. We sustain the rejection.

Obviousness Based on Gilman and Hortmann

Independent claim 1

The Examiner finds that Gilman’s electro-mechanical means 120 discloses an implantable actuator configured to generate sound vibrations, and that Gilman’s liquid transmission means 140 discloses an elongate flexible conductor adapted to be connected to the actuator and to transport sound vibrations from the actuator to the ear component. Final Act. 6 (citing Gilman 3:38–52). The Examiner acknowledges Gilman is silent as to the conductor being longitudinally rigid. *Id.* The Examiner further finds Hortmann’s tube 43 discloses a longitudinally-rigid conductor because tube 43 “extend[s] from an actuator to an ear component [and] is surrounded by or has embedded therein a wire 45 to allow for stable shaping of the curvature of the tube (such that the tube will maintain the shape provided by a surgeon).” *Id.* (citing Hortmann 4:42–47, Figs. 2–3). The Examiner determines

[i]t would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a wire similar to that shown by Hortmann into the conductor tube taught by Gilman in order to maintain the conductor in a desired shape and configuration after implantation.

Id. at 6–7.

Appellant argues Gilman does not disclose a flexible conductor, as independent claim 1 requires. Appeal Br. 73–77; Reply Br. 83–89. We disagree. As the Examiner explains, Gilman’s liquid transmission means 140 is flexible because liquid filled tube 142 is made from silicone elastomer. Ans. 7 (citing Gilman 5:21–23). As evidenced by the term “elastomer,” a person of ordinary skill in the art would have understood an elastomer has elastic properties. *See In re Jacoby*, 309 F.2d 513, 516 (CCPA 1962) (explaining that persons skilled in the art “must be presumed to know something” about the art “apart from what the references disclose”). Given that one of ordinary skill would have understood a silicone elastomer to be elastic, Appellant does not apprise us of error in the Examiner’s finding that Gilman’s liquid transmission means 140 discloses a flexible conductor.

Appellant also contends the Examiner has not shown Hortmann teaches a longitudinally-rigid and laterally-flexible conductor, as independent claim 1 requires. Appeal Br. 77–82; Reply Br. 90–97. Appellant’s criticism of Hortmann, however, does not apprise us of error in the Examiner’s rejection, which is based on the combination Gilman and Hortmann. *See In re Keller*, 642 F.2d at 426 (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”).

Contrary to Appellant's contention, the Examiner is not relying on Hortmann for teaching a conductor that is longitudinally rigid and laterally flexible. Rather, the Examiner determines it would have been obvious to incorporate Hortmann's wire into Gilman's silicone elastomer tube to thereby yield a longitudinally-rigid and laterally-flexible conductor. Ans. 7. According to the Examiner "incorporation of a wire, even a coiled wire, into a silicone elastomer tube, as in the combination of Gilman in view of Hortmann, will create a tube which is laterally flexible (since it can be bent) and longitudinally rigid (since it will hold a longitudinal shape)." *Id.*

Appellant further argues Gilman does not disclose a conductor adapted to transport sound vibrations from the actuator to an interior component of the ear, as independent claim 1 requires. Appeal Br. 83–85; Reply Br. 98–103. In particular, Appellant contends "there is absolutely no technical line of reasoning presented in the rejection of claim 1 to support any assertion that the transport of fluid in Gilman corresponds to the conduction of vibrations as claimed." Appeal Br. 83.

The Examiner, however, is not relying on the transport of fluid in Gilman to disclose the conduction of vibrations. Rather, the Examiner finds the fluid in Gilman's liquid transmission means 140 enables the liquid transmission means to conduct vibrations. Ans. 7 (citing Gilman 3:38–52, 6:27–29). Indeed, Gilman discloses liquid transmission means 140 imparts acoustical energy, i.e., sound vibrations, from electro-mechanical means 120 to cochlea 46. Gilman 6:27–29. Hence, Appellant does not apprise of us error in the Examiner's finding that Gilman's liquid transmission means is a conductor adapted to transport sound vibrations from the actuator to an interior component of the ear.

Additionally, Appellant maintains the Examiner's rationale for combining the teachings of Gilman and Hortmann is illusory, and proffers several arguments as to why the Examiner's reasoning is deficient. Appeal Br. 86–88; Reply Br. 104–109. We address each argument in turn, and for the reasons below, Appellant does not apprise us of error in the Examiner's rationale.

Appellant contends there is no rationale for incorporating Hortmann's wire into Gilman's tube. Appeal Br. 88; Reply Br. 108. We disagree. The Examiner explains a person of ordinary skill in the art would have made the proposed combination "to maintain the conductor in a desired shape and configuration after implantation." Final Act. 7.

Appellant also argues there is no evidence a person of ordinary skill in the art would have recognized Gilman has a need for maintaining the conductor in a desired shape and configuration after implantation. Appeal Br. 86, 88; Reply Br. 104–106, 108–109. A reason for combining the teachings of prior art references, however, need not come from the references themselves.

The suggestion to combine may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved. When determining the patentability of a claimed invention which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.

WMS Gaming Inc. v. Int'l Game Tech., 184 F.3d 1339, 1355 (Fed. Cir. 1999) (citations and internal quotations omitted). Moreover, "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way,

using the technique is obvious unless its actual application is beyond his or her skill.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

Hortmann’s wire improves the function of a fluid-filled tube for conducting sound vibrations in a hearing device by enabling stable shaping of the tube. Hortmann 4:42–44. The Examiner reasons a person of ordinary skill in the art would have recognized that adding Hortmann’s wire to Gilman’s liquid filled tube 142 would provide a similar improvement to Gilman’s liquid transmission means, thereby rendering the proposed combination obvious. Ans. 8.

Appellant further alleges there is no evidence that adding Hortmann’s wire to Gilman’s tube would maintain the modified tube in a desired shape and configuration after implantation. Appeal Br. 87; Reply Br. 107. This argument is unpersuasive at least because bodily incorporation is not the standard for obviousness. *E.g., In re Keller*, 642 F.2d at 425. Furthermore, Hortmann teaches tube 43 for conducting sound vibrations in the ear is made of silicone, and that wrapping wire 45 around tube 43 makes it possible to achieve stable shaping of the tube. Hortmann 3:31–35, 4:29–33, 42–44, Fig. 2. Similar to Hortmann’s tube 43, Gilman’s liquid filled tube 142 for conducting sound vibrations in the ear is made from silicone elastomer. Gilman 5:21–23, 6:27–29. In view of these teachings, a person of ordinary skill in the art would have recognized that adding Hortmann’s wire to Gilman’s tube would similarly allow for stable shaping of Gilman’s tube.

Appellant argues the Examiner has not identified a wire that could be incorporated into Gilman. Appeal Br. 87; Reply Br. 106. According to Appellant: “[T]he [E]xaminer does not say that the wire of Hortmann would have been placed into the tube of Gilman. Instead, the [E]xaminer states that

it would be obvious to incorporate ‘a wire *similar to* that shown by Hortmann into the conductor tube.’” Appeal Br. 87 (quoting Final Act. 7). Appellant’s argument is not persuasive of error. The Examiner explicitly explains that Hortmann’s wire 45 provides for stable shaping, and, therefore, is relying on Hortmann’s wire 45 for the proposed combination. Final Act. 6–7. Moreover, a wire similar to Hortmann’s wire 45 includes at least Hortmann’s wire 45.

For these reasons, Appellant does not apprise us of error in the Examiner’s rejection of independent claim 1. We, therefore, sustain the rejection.

Claims 4, 9, and 23

Claims 4, 9, and 23 depend from independent claim 1. Appeal Br., Claims App. Appellant does not make arguments for claims 4, 9, and 23 apart from independent claim 1. Accordingly, we sustain the rejection of claims 4, 9, and 23 for the same reasons as independent claim 1.

Claim 5

Claim 5 depends from independent claim 1, and recites “the flexible conductor is configured to have an impedance mismatch with surrounding tissues when implanted in the recipient.” Appeal Br., Claims App. The Examiner finds that Gilman discloses the fluid within tube 142 of liquid transmission means 140 is selected to minimize impedance mismatch with the perilymph fluid, and that tube 142 is made of silicone, which according to Appellant’s Specification, generates an impedance mismatch with surrounding tissue. Final Act. 7 (citing Gilman 4:4–34, Spec. ¶ 48). Alternatively, the Examiner finds Gilman discloses the bore of tube 142 may

be half the size of the bore of the cochlea which causes an impedance mismatch. *Id.* (citing Gilman 4:35–63).

In contrast, Appellant argues the Examiner has not shown that Gilman discloses a conductor adapted to have the recited impedance mismatch. Appeal Br. 89–98; Reply Br. 110–122. We disagree.

Gilman discloses that impedance mismatch causes losses due to reflection of sound. Gilman 4:35–39. Gilman further discloses liquid filled tube 142 mitigates these losses by varying the size of the bore at the operative intersection of the end of the tube with the cochlea. *Id.* at 4:53–56. According to Gilman, the loss is only 36% if the bore of the tube is half the size of the bore of the cochlea at the operative intersection. *Id.* at 4:57–58. In view of Gilman’s disclosure that losses are the result of impedance mismatch, a 36% loss at the operative intersection of the end of the tube with the cochlea indicates there is an impedance mismatch between the tube and the cochlea. Gilman’s liquid transmission means 140, including liquid filled tube 142, therefore, discloses a conductor configured to have an impedance mismatch with the surrounding tissues when implanted in the recipient.

In view of the foregoing, Appellant does not apprise of error in the Examiner’s rejection of claim 5. We sustain the rejection.

Claim 10

Claim 10 depends from claim 9, which in turn depends from independent claim 1. Appeal Br., Claims App. Claim 10 recites that the flexible conductor comprises a wire, and that the hearing prosthesis further includes “a sheath disposed over the wire, the sheath adapted to acoustically decouple the wire, when implanted in the recipient, from tissue interior to the recipient and proximal to the flexible conductor.” *Id.*

The Examiner finds Hortmann discloses wire 45 embedded in tube 43, which is made from silicone. Final Act. 7 (citing Hortmann 4:29–30, 44–47, Fig. 3). According to the Examiner, in such a configuration, the silicone tube is a sheath disposed over the wire, and the silicone material will acoustically decouple the wire from tissue. *Id.*

Appellant argues the broadest reasonable interpretation of “sheath” does not encompass Hortmann’s tube. Appeal Br. 99–101; Reply Br. 123–125. We disagree. The ordinary and customary meaning of “sheath” is “a case or close-fitting covering.” *Sheath*, Random House Kernerman Webster’s College Dictionary (2010). Similarly, Appellant’s Specification describes a sheath as a coating or sleeve placed around a core. Spec. ¶ 48. Accordingly, the broadest reasonable interpretation of “sheath” is a close-fitting covering, which encompasses Hortmann’s silicone tube 43 when wire 45 is embedded therein. As shown in Hortmann’s Figure 3, silicone tube 43 completely surrounds and covers wire 45 when the wire is embedded therein.

Appellant also argues there is no support for the Examiner’s finding that Hortmann’s tube will acoustically decouple the wire. Appeal Br. 100; Reply Br. 123–124. Appellant does not apprise us of error in the Examiner’s finding that Hortmann’s tube discloses this functional limitation.

Both Hortmann’s tube 43, which is part of hydromechanical coupling element 23 attached to converter 21, and Appellant’s flexible conductor conduct sound vibrations from an actuator to an ear component. Hortmann 3:31–35, Fig. 2; Spec. ¶ 25. Appellant’s Specification explains that the flexible conductor may include a silicone coating to decouple the flexible connector from the surrounding tissues. Spec. ¶ 48. Like Appellant’s

sheath, Hortmann's tube 43 is made of silicone. Hortmann 4:29–33. Consequently, the Examiner has reason to believe the recited function of acoustically decoupling the wire may be an inherent characteristic of Hortmann's silicone tube, and Appellant does not show otherwise.

For these reasons, Appellant does not apprise us of error in the Examiner's rejection of independent claim 10. We sustain the rejection.

Claims 11 and 25

Claims 11 and 25 depend from claim 10. Appeal Br., Claims App. Appellant does not make arguments for claims 11 and 25 apart from claim 10. Accordingly, we sustain the rejection of claims 11 and 25 for the same reasons as claim 10.

Claim 26

Claim 26 depends from independent claim 1, and recites that hearing prosthesis further comprises “a fixation device configured to limit movement of the flexible conductor in a direction parallel to the longitudinal length of the conductor.” Appeal Br., Claims App. The Examiner relies on Gilman's sealing material 92 which holds the distal end of tube 142 in place for disclosing the recited fixation device. Final Act. 8 (citing Gilman 5:34–41). According to the Examiner, “[a]nything that fixes an element to something else will limit movement of the element.” Ans. 8–9.

Appellant argues that the broadest reasonable interpretation of each of “fixation device” and “limit movement” does not encompass Gilman's sealing material 92 and what it does, respectively. Appeal Br. 102–103. Appellant, however, does not describe any meaningful distinction between the claim terms “fixation device” and “limit movement” and the corresponding language in Gilman, “sealing material” and “held in place,”

respectively. *See In re Bond*, 910 F.2d at 832 (explaining there is no *ipsissimis verbis* test for determining whether a reference discloses a claim element).

Appellant further argues that Gilman's sealing material 92 holding the tube in place does not make the sealing material a fixation device because holding the tube in place does not mean limiting the tube's movement. Appeal Br. 103–104; Reply Br. 128–130. By holding tube 142 in place, however, Gilman's sealing material 92 prevents tube 142 from moving in any direction. Consequently, Appellant does not persuade us of error in the Examiner's finding that Gilman's sealing material 92 discloses the fixation device recited in claim 26.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's rejection of claim 26. We, therefore, sustain the rejection.

Independent claim 13

Independent claim 13 is similar to independent claim 1, and Appellant relies on its arguments for independent claim 1 to contest the rejection of independent claim 13. Appeal Br. 108; Reply Br. 138. These arguments are not persuasive of error of the reasons set forth above with respect to independent claim 1, and we similarly sustain the rejection of independent claim 13.

Claims 14 and 30

Claims 14 and 30 depend from independent claim 13. Appeal Br., Claims App. Appellant does not make arguments for these claims apart from independent claim 13. Accordingly, we sustain the rejection of claims 14 and 30 for the same reasons as independent claim 13.

Claim 15

Claim 15 depends from claim 14, and recites that coupling the first end of the flexible conductor comprises “connecting the first end of the flexible conductor to a coupling element; and coupling the coupling element to the ear component.” Appeal Br., Claims App. The Examiner relies on Gilman’s sealing member 92 to disclose the recited coupling element, and finds Gilman discloses coupling the first end of tube 142 to sealing member 92 and coupling sealing member 92 to the ear component. Final Act. 10 (citing Gilman 5:34–41).

Appellant argues that the broadest reasonable interpretation of “coupling element” does not including Gilman’s sealing material 92, and that the broadest reasonable interpretation of each of “connecting” and “coupling” does not encompass what occurs at sealing material 92. Appeal Br. 119. Appellant, however, does not describe any consequential distinction between these claim terms and the corresponding language in Gilman. *See In re Bond supra*.

Appellant further argues that Gilman’s sealing material 92 holding the tube in place does not correspond to the actions of connecting the first end of flexible conductor to a coupling element and coupling the coupling element to the ear component, as claim 15 requires. Appeal Br. 120–121; Reply Br. 156–158.

Gilman discloses that, in position 146*a*, distal end 146 of tube 142 penetrates round window 52 of cochlea 46 and is in contact with perilymph 82. Gilman 5:26–29, Fig. 3A. Gilman further discloses that in position 146*a*, tube 142 is held in place with sealing material 92. *Id.* at 5:34–41, Fig. 3A. As shown in Figure 3A, in position 146*a*, distal end 146

of tube 142 is connected to sealing member 92, and sealing member 92 is coupled to cochlea 46. Consequently, Appellant does not apprise us of error in the Examiner's finding that Gilman discloses the "connecting" and "coupling" limitations of claim 15.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's rejection of claim 15. We sustain the rejection.

Claim 17

Claim 17 depends from claim 15. Appeal Br., Claims App. Appellant does not make arguments for claim 17 apart from claim 15. Accordingly, we sustain the rejection of claim 17 for the same reasons as claim 15.

Claim 20

Claim 20 is similar to claim 10, and Appellant's arguments for claim 20 are similar to its arguments for claim 10. *Compare* Appeal Br. 122–123, *with* Appeal Br. 99–101; *compare* Reply Br. 158–162, *with* Reply Br. 122–125. These arguments are not persuasive of error of the reasons set forth above with respect to claim 10, and we similarly sustain the rejection of independent claim 20.

Claim 27

Claim 27 depends from independent claim 13, and recites that the action of implanting the flexible conductor comprises "flexing the conductor about a portion of the mastoid bone of the recipient." Appeal Br., Claims App. The Examiner finds Gilman discloses liquid transmission means 140 is inserted through the mastoid bone and led around the malleus and incus. Final Act. 8 (citing Gilman 3:41–47, 5:11–15). According to the Examiner, flexing the conductor around the malleus is considered flexing

about a portion of the mastoid bone because the term “about” means “near or close to.” *Id.* The Examiner also explains that bending or maneuvering liquid transmission means 140 around structures near the mastoid bone after exiting the mastoid bone will cause flexing of the liquid transmission means 140 about at least a portion of the mastoid bone. Ans. 9.

Appellant argues Gilman does not disclose leading anything around the malleus and incus. Appeal Br. 110–111; Reply Br. 142–143. Gilman, however, expressly discloses distal end 146 of tube 142 of liquid transmission means 140 is led around malleus 40 and incus 42. Gilman 5:11–16.

Appellant further contends there is not support for the Examiner’s finding that bending or maneuvering tube 142 around structures near the mastoid would cause flexing of the tube. Reply Br. 139–141. We disagree. Gilman discloses tube 142 is made from a flexible material, namely silicone elastomer. Gilman 5:21–23.

In view of the foregoing, Appellant does not apprise us of error in the Examiner’s rejection of claim 27. We sustain the rejection.

Claim 28

Claim 28 depends from independent claim 13, and recites that the action of implanting the flexible conductor comprises “fixing the flexible conductor in the recipient to prevent movement of the conductor in a direction parallel to the longitudinal length of the conductor.” Appeal Br., Claims App. The Examiner finds Gilman’s liquid transmission means 140 is fixed in the recipient by sealing member 92 to prevent movement thereof. Final Act. 8 (citing Gilman 5:34–41).

Appellant argues that the broadest reasonable interpretation of each of “fixing” and “prevent movement” does not encompass what occurs with respect to sealing means 92. Appeal Br. 113. Yet, Appellant does not describe any meaningful distinction between these claim terms and “held in place.” *See In re Bond supra*.

Appellant also argues Gilman’s sealing material 92 that holds tube 142 does not result in fixing any flexible conductor in the recipient to prevent movement of the conductor in a direction parallel to the longitudinal length of the conductor, as claim 28 requires. Appeal Br. 114–115; Reply Br. 146–148. By holding tube 142 in place, however, Gilman’s sealing material 92 prevents tube 142 from moving in any direction. Consequently, Appellant does not persuade us of error in the Examiner’s finding that Gilman’s discloses the “fixing” limitation of claim 28.

For these reasons, Appellant does not apprise us of error in the Examiner’s rejection of claim 28. We sustain the rejection.

Claim 29

Claim 29 depends from claim 28, and recites that action of fixing the flexible conductor comprises “fixing the flexible conductor in the recipient to a mastoid bone of the recipient at a location along the flexible conductor between the first end and the second end of the flexible conductor.” Appeal Br., Claims App. The Examiner finds Gilman discloses tube 142 is implanted through the mastoid bone between first and second ends of the tube. Final Act. 8 (citing Gilman 3:41–47). According to the Examiner, implanting “constitutes fixing into the mastoid bone because a portion of the conductor between the first and second ends resides within the mastoid bone

and is left in place at this location.” Ans. 9 (citing Gilman 3:41–47, Figs. 1–2).

Appellant contends “[s]imply because Gilman discloses that the flexible conductor is implanted through the mastoid bone does not mean that it is fixed to the mastoid bone.” Appeal Br. 117; Reply Br. 150–151. Although Gilman discloses implanting the tube, as opposed to fixing the tube, Appellant does not describe any meaningful distinction between “implanting” and “fixing.” See *In re Bond supra*. Appellant, therefore, does not persuade us of error in the Examiner’s finding that Gilman’s discloses fixing the flexible conductor as recited in claim 29. Being unapprised of error in the Examiner’s rejection of claim 29, we sustain the rejection.

Obviousness Based on Gilman, Hortmann, and Leysieffer

Claim 12 depends from independent claim 1. Appeal Br., Claims App. Claim 12 recites the hearing prosthesis further comprises:

a stimulating lead assembly adapted to be implanted at least partially within a cochlea of the recipient and comprising one or more electrode contacts; and

a stimulator unit configured to deliver a stimulation signal to an electrode contact for applying electrical stimulation to the cochlea in accordance with the acoustic signal.

Id.

The Examiner finds Leysieffer’s electrical intracochlear array 10 and signal processing electronic module 34 teach the recited stimulating lead assembly and stimulator unit, respectively. Final Act. 10 (citing Leysieffer ¶¶ 20–21, 72, 83–86). The Examiner determines that it would have been obvious to include Leysieffer’s electrical intracochlear array 10 and signal

processing electronic module 34 as part Gilman's system, as modified by Hortmann, to provide both electrical and mechanical stimulation and thereby overcomes the drawbacks of either type of hearing aid alone. *Id.* at 10–11 (citing Leysieffer ¶ 21); Ans. 10.

Appellant argues the Examiner's has not provided a sufficient reason for combining the teachings of Gilman, Hortmann, and Leysieffer.

Appeal Br. 105–106; Reply Br. 130–133. In particular, Appellant contends

[t]he Examiner has not substantiated that the person of ordinary skill in the art would have recognized any problem of Gilman, and thus sought out Leysieffer, or that the person of ordinary skill in the art practicing Gilman would have recognized that the problems detailed in Leysieffer are transferrable or otherwise correlated to what would occur when practicing Gilman.

Appeal Br. 106.

A reason for combining the teachings of prior art references, however, need not come from the references themselves. *See WMS Gaming supra.*

Moreover, “a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”

KSR, 550 U.S. at 416. The Examiner's proposed combination is a combination of familiar elements according to known methods, namely the addition of Leysieffer's stimulation electrode assembly to Gilman's system, as modified by Hortmann, to provide a hearing aid having both electrical and mechanical stimulation capabilities. Consequently, Appellant does not show error in the Examiner's reason for combining the teachings of Gilman, Hortmann, and Leysieffer.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's rejection of claim 12. We, therefore, sustain the rejection.

Graham Factors

Appellant contends the Examiner's obviousness rejections are deficient because the Examiner has not properly evaluated the *Graham* factors. Appeal Br. 66–72, 150–151; Reply Br. 79–82, 187–188. More specifically, Appellant contends that the Examiner has inaccurately assessed the *Graham* factor regarding the level of ordinary skill in the art because the Examiner has and is rejecting the claims for indefiniteness. Appeal Br. 69–70, 150–151, Reply Br. 80–81, 187. We disagree with Appellant.

Like obviousness, indefiniteness is evaluated from the perspective of a person of ordinary skill in the art. Namely, indefiniteness considers whether a claim contains a word or phrase having a meaning that is unclear to a person of ordinary skill in the art. *See Ex parte McAward supra*. A determination that the language of a claim would have been unclear to a person of ordinary skill in the art is not tantamount to a misunderstanding the invention or a mischaracterization of the level of ordinary skill in the art. More simply put, the mere existence of an indefiniteness rejection does not call into question the assessed level of ordinary skill and does not apprise us of error in the Examiner's obviousness rejections.

CONCLUSION

Claim(s) Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
35	112, second paragraph	indefiniteness	35	
31–38, 41	102(b)	Ball	31–33, 36–38	34, 35, 41

Claim(s) Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1, 39, 40	103(a)	Ball, as evidenced by Saadat	1, 39, 40	
22	103(a)	Ball, as evidenced by Saadat, and Schaefer	22	
1, 4, 5, 9–11, 13–15, 17, 20, 23, 25–30	103(a)	Gilman and Hortmann	1, 4, 5, 9–11, 13–15, 17, 20, 23, 25–30	
12	103(a)	Gilman, Hortmann, and Leysieffer	12	
Overall Outcome			1, 4, 5, 9–15, 17, 20, 22, 23, 25–33, 35–40	34, 41

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART