

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOD SPORTSMAN MARKETING, LLC,  
Petitioner,

v.

HANGZHOU ZH TECH CO., LTD.,  
Patent Owner.

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PGR2024-00034  
Patent 11,736,855 B1

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Before ANNETTE R. REIMERS, DANIEL J. GALLIGAN, and  
STEPHEN E. BELISLE, *Administrative Patent Judges*.

REIMERS, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining All Challenged Claims Unpatentable  
*35 U.S.C. § 328(a)*

## I. INTRODUCTION

Good Sportsman Marketing, LLC (“Petitioner”) filed a corrected Petition (Paper 4, “Pet.”) requesting post-grant review of claims 1–19 (“challenged claims”) of U.S. Patent No. 11,736,855 B1 (Ex. 1001, “the ’855 patent”). Hangzhou ZH Tech Co., Ltd. (“Patent Owner”) did not file a preliminary response.<sup>1</sup> A post-grant review of the challenged claims on all grounds of unpatentability alleged in the Petition was instituted. Paper 6 (“Institution Decision” or “Dec.”). Patent Owner did not file a response and Petitioner did not file a reply.

We have jurisdiction under 35 U.S.C. § 6 (2018). Under the applicable evidentiary standard, Petitioner has the burden to prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 326(e); 37 C.F.R. § 42.1(d) (2023). “Preponderance of the evidence means the greater weight of evidence, evidence which is more convincing than the evidence which is offered in opposition to it.” *U.S. v. C.H. Robinson Co.*, 760 F.3d 1376, 1383 (Fed. Cir. 2014) (internal quotations omitted). This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73.

For the reasons discussed below, we determine Petitioner has established by a preponderance of the evidence that claims 1–19 of the ’855 patent are unpatentable.

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<sup>1</sup> Although mandatory notices for an owner of the ’855 patent have not been filed to date, United States Patent and Trademark Office (“USPTO”) records indicate that the ’855 patent is assigned to Hangzhou ZH Tech Co., Ltd., based on the assignment document recorded on February 14, 2023, at Reel 062680/Frame 0763. *See* Paper 5 (“Notice of Delinquent Mandatory Notices”). Accordingly, for purposes of this Decision and until further notice, we consider Hangzhou ZH Tech Co., Ltd. to be Patent Owner.

## II. BACKGROUND

### *A. Real Parties in Interest*

Petitioner identifies itself as the sole real party in interest. Pet. 8. Patent Owner has not filed its mandatory notice as required by 37 C.F.R. § 42.8(a)(2), which requires identifying each real party in interest, among other information. Nor has any attorney entered an appearance in this proceeding on Patent Owner's behalf. Without further information presented, and based on USPTO assignment records, we identify Hangzhou ZH Tech Co., Ltd. as a potential real party in interest.

### *B. Related Matters*

Petitioner indicates that it is not aware of any related matters. Pet. 8.

### *C. The '855 Patent*

The '855 patent, titled "Communication Device and System for Connecting Communication Device to Hearing Protection Equipment," issued on August 22, 2023, with claims 1–19. Ex. 1001, codes (45), (54), 6:66–9:17. The '855 patent explains that personal protective equipment, such as earmuffs or earplugs, is commonly used in environments where people are exposed to excessive decibel levels, and users often equip the protective equipment with a communication device, so they can use their mobile phones normally when wearing the equipment. *Id.* at 1:24–31. According to the '855 patent, however, existing communication devices can only be installed on a limited range of protective equipment and are inconvenient to install. *Id.* at 1:32–35.

The '855 patent purports to overcome these drawbacks by disclosing a system for connecting a communication device to hearing protection equipment, in which the communication device includes a housing having

first and second mounting assemblies, wherein the first mounting assembly is rotatably arranged on the housing. Ex. 1001, 1:38–67.

Figure 9 of the '855 patent is reproduced below.

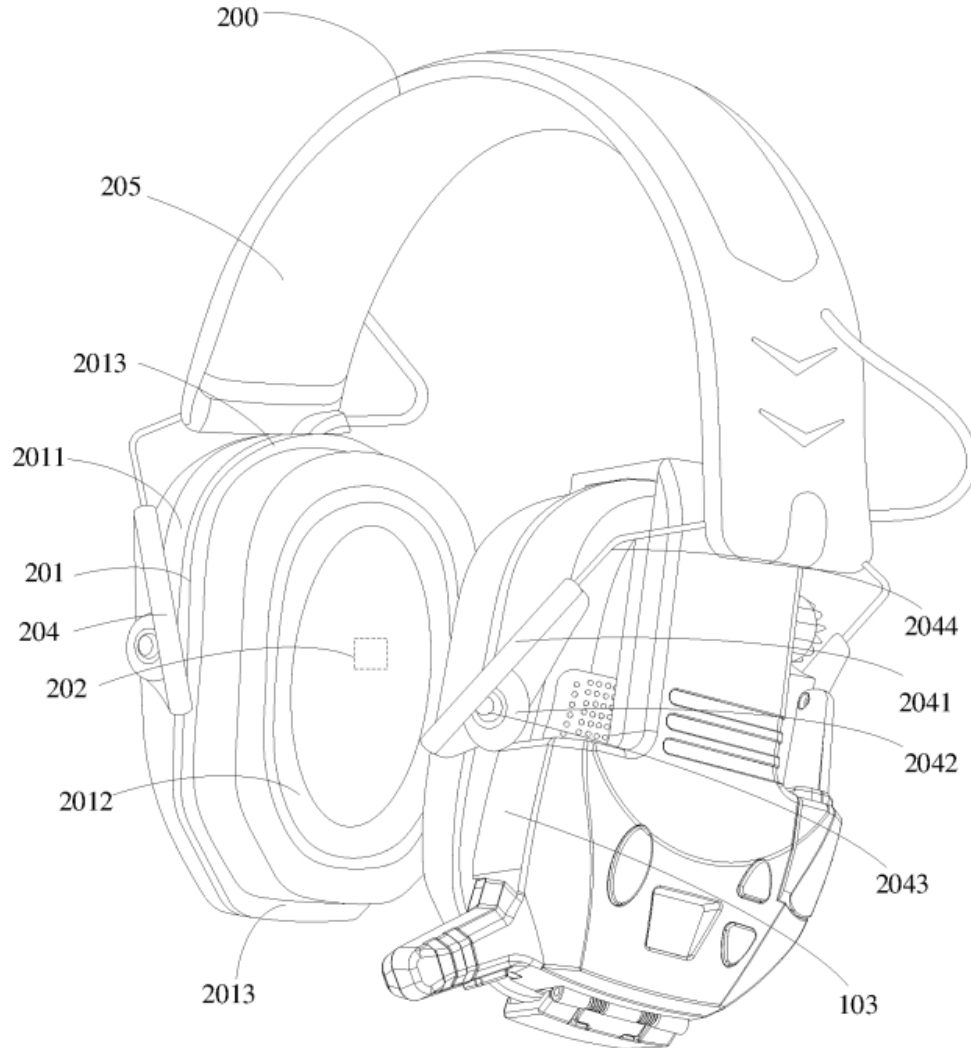
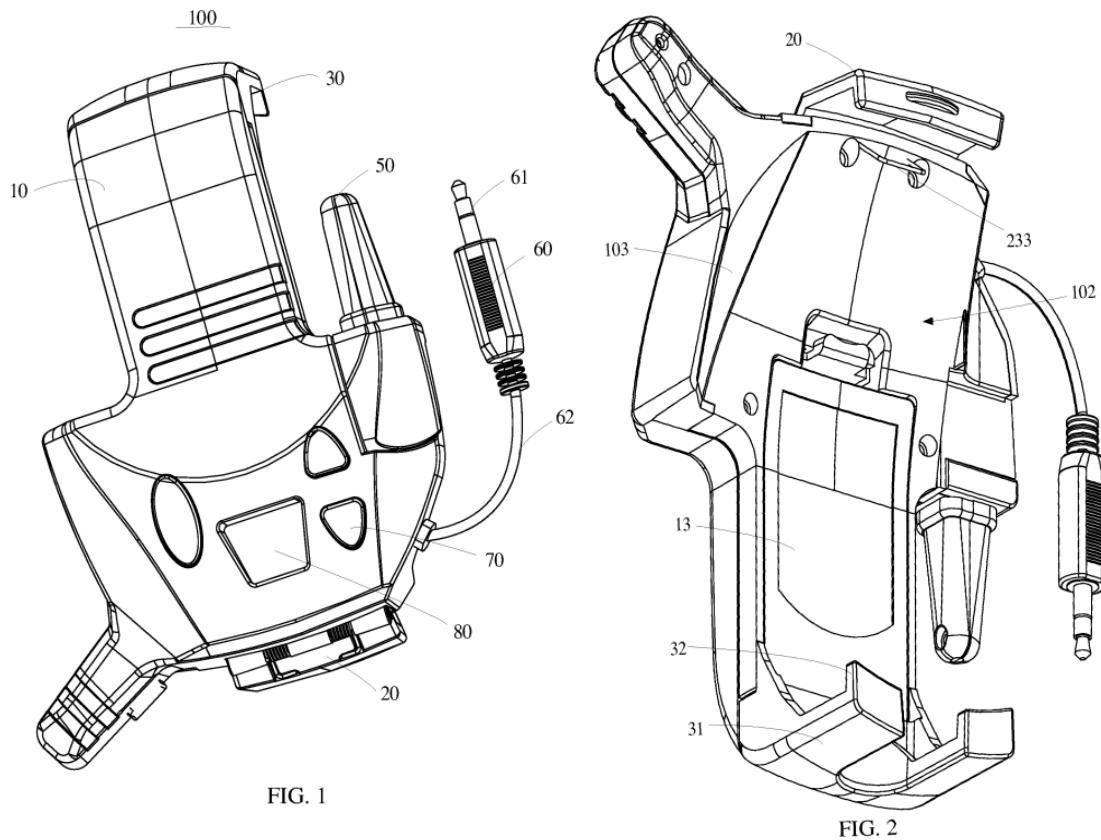


FIG. 9

Figure 9 shows communication device 100 (identified in Figure 1) installed on hearing protection equipment 200. Ex. 1001, 2:27–30, 2:55–58. Hearing protection equipment 200 includes earmuffs 201, loudspeakers 202 arranged in earmuffs 201, and audio input member 203 (identified in Figure 10) arranged on a side of one of the earmuffs. *Id.* at 2:58–61.

Communication device 100 is shown in more detail in Figures 1 and 2, which we reproduce below.



Figures 1 and 2 are two different structural diagrams of the communication device. Ex. 1001, 2:11–14. Communication device 100 includes housing 10, first mounting assembly 20 rotatably arranged on a first end of housing 10, second mounting assembly 30 arranged on a second end of housing 10, microphone 40 (identified in Figure 3) for capturing audio, radio transceiver 50 for wirelessly transmitting and receiving audio signals, and audio output member 60, which connects to audio input member 203 of hearing protection equipment 200. *Id.* at 2:62–3:3.

In at least some embodiments, first and second mounting assemblies 20, 30 are releasably mounted on respective ends of earmuff 201 to connect communication device 100 to hearing protection equipment 200. Ex. 1001,

3:5–9. Specifically, first and second mounting assemblies 20, 30 engage respective fixing parts 2013 of earmuff 201 so that communication device 100 is installed on hearing protection equipment 200. *Id.* at 3:44–47.

In at least some embodiments, first mounting assembly 20 is rotatably arranged on a first end of housing 10, and is rotated away from the housing for easily installing communication device 100 on hearing protection equipment 200. Ex. 1001, 4:16–26. For this arrangement, first mounting assembly 20 includes first connecting member 21 connected to housing 10, first mounting member 22 rotatably connected with first connecting member 21, and elastic member 23. *Id.* at 4:37–41, Figs. 6–8. When communication device 100 is installed on hearing protection equipment 200, first mounting member 22 is clamped to earmuff 201 under the elastic force of elastic member 23 to remove communication device 100, and first mounting member 22 can be separated from earmuff 201 after overcoming the elastic force of elastic member 23. *Id.* at 4:41–45.

#### *D. Challenged Claims*

As noted above, Petitioner challenges claims 1–19 of the '855 patent. Claims 1 and 17 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below.

1. A communication device for a hearing protection equipment, the hearing protection equipment comprising at least one earmuff, at least one loudspeaker and an audio input member, wherein the communication device comprises:
  - a housing;
  - a first mounting assembly, rotatably arranged on a first end of the housing;
  - a second mounting assembly, arranged on a second end of the housing, the first mounting assembly and the second

mounting assembly are connected to two ends of the earmuff respectively to releasably connect the communication device with the hearing protection equipment;

a microphone, configured for capturing an audio;

a radio transceiver, configured for wirelessly transmitting the audio captured by the microphone to user and wirelessly receiving a wireless signal containing an audio from the user; and

an audio output member, communicated with the audio input member and configured for transmitting the wireless signal containing the audio to the at least one loudspeaker, wherein the first mounting assembly comprises:

a first connecting member, connected with the housing;

an elastic member;

a first mounting member, rotatably connected with the first connecting member by the elastic member, the first mounting member is coupled with the earmuff under an elastic force of the elastic member; and the first mounting member is separated from the earmuff after overcoming the elastic force of the elastic member.

Ex. 1001, 6:66–7:32.

*E. Instituted Grounds of Unpatentability*

Post-grant review of claims 1–19 of the '855 patent was instituted on the following grounds asserted by Petitioner, which relies on the Declaration of Jason Janet, Ph.D. (Ex. 1002) to support its challenges. Dec. 1, 29; Pet. 9–10.

| Claims Challenged | 35 U.S.C. § | Reference(s)/Basis                     |
|-------------------|-------------|----------------------------------------|
| 1–19              | 103         | Unger, <sup>2</sup> Smith <sup>3</sup> |

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<sup>2</sup> US 11,451,900 B2, issued Sept. 20, 2022 (Ex. 1004).

<sup>3</sup> US 8,050,444 B2, issued Nov. 1, 2011 (Ex. 1005).

| Claims Challenged | 35 U.S.C. § | Reference(s)/Basis                   |
|-------------------|-------------|--------------------------------------|
| 18                | 103         | Unger, Smith, Hakansson <sup>4</sup> |
| 3–6, 8, 9, 16     | 112(b)      | Indefiniteness                       |
| 10                | 112(a)      | Lack of Enablement                   |
| 10                | 112(a)      | Lack of Written Description          |

### III. ANALYSIS

#### *A. Eligibility for Post-Grant Review*

As a threshold matter, we must determine whether the ’855 patent is eligible for post-grant review. There are two requirements that must be met for post-grant review to be available. First, “[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).” 35 U.S.C. § 321(c). The Institution Decision correctly states that this first requirement is met. Dec. 8.

Second, post-grant review is available only for patents that issue from applications that at one point contained at least one claim with an effective filing date of March 16, 2013 or later. *See* the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) §§ 3(n)(1), 6(f)(2)(A). The Institution Decision correctly states that this second requirement is met. Dec. 8.

#### *B. Applicable Law*

Petitioner challenges the patentability of claims 1–19 of the ’855 patent on the grounds that certain claim(s) would have been obvious under 35 U.S.C. § 103 in light of various references, namely Unger, Smith, and Hakansson, that claims 3–6, 8, 9, and 16 are indefinite under 35 U.S.C.

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<sup>4</sup> US 10,792,190 B2, issued Oct. 6, 2020 (Ex. 1013).

§ 112(b), that claim 10 is non-enabled under 35 U.S.C. § 112(a), and that claim 10 lacks sufficient written description under 35 U.S.C. § 112(a). In a post-grant review, the petitioner has the burden from the onset to show *with particularity* why the patent it challenges is unpatentable. *See* 35 U.S.C. § 322(a)(3) (requiring post-grant review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”); *cf. Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (“[I]t was [Petitioner’s] burden to explain to the Board how [the combination of prior art] rendered the challenged claims unpatentable.”). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

### *1. Obviousness*

A claim is unpatentable under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103; *see 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) when of record, objective evidence of obviousness or non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Secondary considerations may include the following: “commercial

success, long felt but unsolved needs, failure of others, etc.”<sup>5</sup> *Id.* The totality of the evidence submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The Supreme Court has made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming a combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. To reach this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. *Id.* “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the

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<sup>5</sup> As a preliminary response and a response were not filed, Patent Owner did not present objective evidence of non-obviousness.

legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

## 2. Indefiniteness

Under 35 U.S.C. § 112(b), a patent specification “shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.” This is commonly referred to as the definiteness requirement.

The Board applies in post-grant reviews the same indefiniteness standard as used in federal courts and the U.S. International Trade Commission under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014), and its progeny. USPTO Memorandum, *Approach To Indefiniteness Under 35 U.S.C. § 112 In AIA Post-Grant Proceedings* (Jan. 6, 2021). Under *Nautilus*, “[a] patent is invalid for indefiniteness if its claims, read in light of the patent’s specification and prosecution history, fail to inform, with *reasonable certainty*, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 898–99 (emphasis added). “[A] patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them,” but the present standard recognizes that “absolute precision is unattainable.” *Id.* at 899 (internal quotation marks omitted).

## 3. Enablement

“The requirement of enablement, stated in 35 U.S.C. § 112, enforces the essential ‘*quid pro quo* of the patent bargain’ by requiring a patentee to teach the public how ‘to practice the full scope of the claimed invention.’” *McRO, Inc. v. Bandai Namco Games America Inc.*, 959 F.3d 1091, 1099–100 (Fed. Cir. 2020) (quoting *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003)). “To prove that a claim is invalid for lack of

enablement, a challenger must show . . . that a person of ordinary skill in the art would not be able to practice the claimed invention without ‘undue experimentation.’” *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1188 (Fed. Cir. 2014) (quoting *In re Wands*, 858 F.2d 731, 736–37 (Fed. Cir. 1988)). “Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations.” *In re Wands*, 858 F.2d at 737. Those factual considerations, which have come to be known as the “*Wands* factors,” include:

- (1) the quantity of experimentation necessary,
- (2) the amount of direction or guidance presented,
- (3) the presence or absence of working examples,
- (4) the nature of the invention,
- (5) the state of the prior art,
- (6) the relative skill of those in the art,
- (7) the predictability or unpredictability of the art, and
- (8) the breadth of the claims.

*Id.*

The Federal Circuit has explained that, “[a]fter the challenger has put forward evidence that some experimentation is needed to practice the patented claim, the factors set forth in *Wands* then provide the factual considerations that a court may consider when determining whether the amount of that experimentation is either ‘undue’ or sufficiently routine such that an ordinarily skilled artisan would reasonably be expected to carry it out.” *Alcon Research*, 745 F.3d at 1188 (quoting *In re Wands*, 858 F.2d at 737). Although a specification does not need to “describe how to make and use every possible variant of the claimed invention, when a range is claimed, there must be reasonable enablement of the scope of the range.” *McRO*, 959 F.3d at 1100 (citing *AK Steel*, 344 F.3d at 1244) (internal quotations

omitted). “An artisan’s knowledge of the prior art and routine experimentation can often fill gaps, interpolate between embodiments, and perhaps even extrapolate beyond the disclosed embodiments, depending upon the predictability of the art, and a patent need not teach, and preferably omits, what is well known in the art.” *Id.* at 1102 (internal quotations and citations omitted).

#### 4. *Written Description*

Under 35 U.S.C. § 112(a), a patent specification shall contain a “written description” of the invention. The purpose of the written description requirement is to “ensure that the scope of the right to exclude, as set forth in the claims, does not overreach the scope of the inventor’s contribution to the field of art as described in the patent specification.” *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920 (Fed. Cir. 2004) (quoting *Reiffin v. Microsoft Corp.*, 214 F.3d 1342, 1345 (Fed. Cir. 2000)). This requirement protects the *quid pro quo* between inventors and the public, whereby the public receives “meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 970 (Fed. Cir. 2002).

To satisfy the written description requirement, the disclosure must reasonably convey to skilled artisans that the inventor possessed the claimed invention as of the filing date. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). “One does that by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). “The invention is, for purposes of the ‘written description’ inquiry, *whatever is now claimed.*” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991). Such description need

not recite the claimed invention *in haec verba* but must do more than merely disclose that which would render the claimed invention obvious. *Univ. of Rochester*, 358 F.3d at 923; *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566–67 (Fed. Cir. 1997); *see also PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306–07 (Fed. Cir. 2008) (explaining that § 112, ¶ 1 “requires that the written description actually or inherently disclose the claim element”).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

*C. Level of Ordinary Skill in the Art*

In determining whether an invention would have been obvious at the time it was made, 35 U.S.C. § 103 requires us to resolve the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art include, but are not limited to, the types of problems encountered in the art, the sophistication of the technology, and educational level of active workers in the field. *Id.* In a given case, one or more factors may predominate. *Id.*

Petitioner contends that “a person having ordinary skill in the art (‘POSITA’) would have had a bachelor’s degree in mechanical engineering or a similar field and at least one year of practical mechanical design experience with electro-mechanical products,” and “[a] person could also have qualified as a POSITA with some combination of more formal

education (e.g., a Ph.D.) and less experience or less formal education and more experience in the foregoing fields.” Pet. 19 (citing Ex. 1002 ¶ 86).

We note that the identification of a Ph.D. as an example of “more formal education” creates a vast range of education relative to a bachelor’s degree. Thus, we treat the identification of a Ph.D. just as it is—an example—and not a requirement. In this case, “more formal education” can be satisfied by a level of education less than a Ph.D (but greater than a bachelor’s degree). Based on our review of the record before us, we determine that Petitioner’s stated level of ordinary skill in the art is reasonable because it appears consistent with the evidence of record, including the asserted prior art. Accordingly, we adopt Petitioner’s definition, limited as discussed above, for the purposes of this Decision.

#### *D. Claim Construction*

In post-grant reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.200(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. See *id.* at 1317–19.

Petitioner contends that it “does not believe any terms need to be construed to resolve the prior art issues presented in this Petition.” Pet. 20 (citing Ex. 1002 ¶ 89).

On the present record, we do not discern a need to construe explicitly any claim language because doing so would have no effect on our analyses below of Petitioner’s asserted grounds and will not assist in resolving the present controversy between the parties. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

*E. Asserted Obviousness Based on Unger and Smith*

Petitioner challenges claims 1–19 as unpatentable under 35 U.S.C. § 103 based on the combination of Unger and Smith. Pet. 9, 20–110. We first summarize the references and then address Petitioner’s contentions.

*3. Unger (Ex. 1004)*

Unger is titled “Communication Device for Hearing Protection Devices.” Ex. 1004, code (54). Unger discloses “[a] communication device for hearing protection devices [that] provides communication capabilities to users adorning hearing protection devices, which would ordinarily hinder or block communication.” *Id.* at code (57).

Figure 1 of Unger is reproduced below.

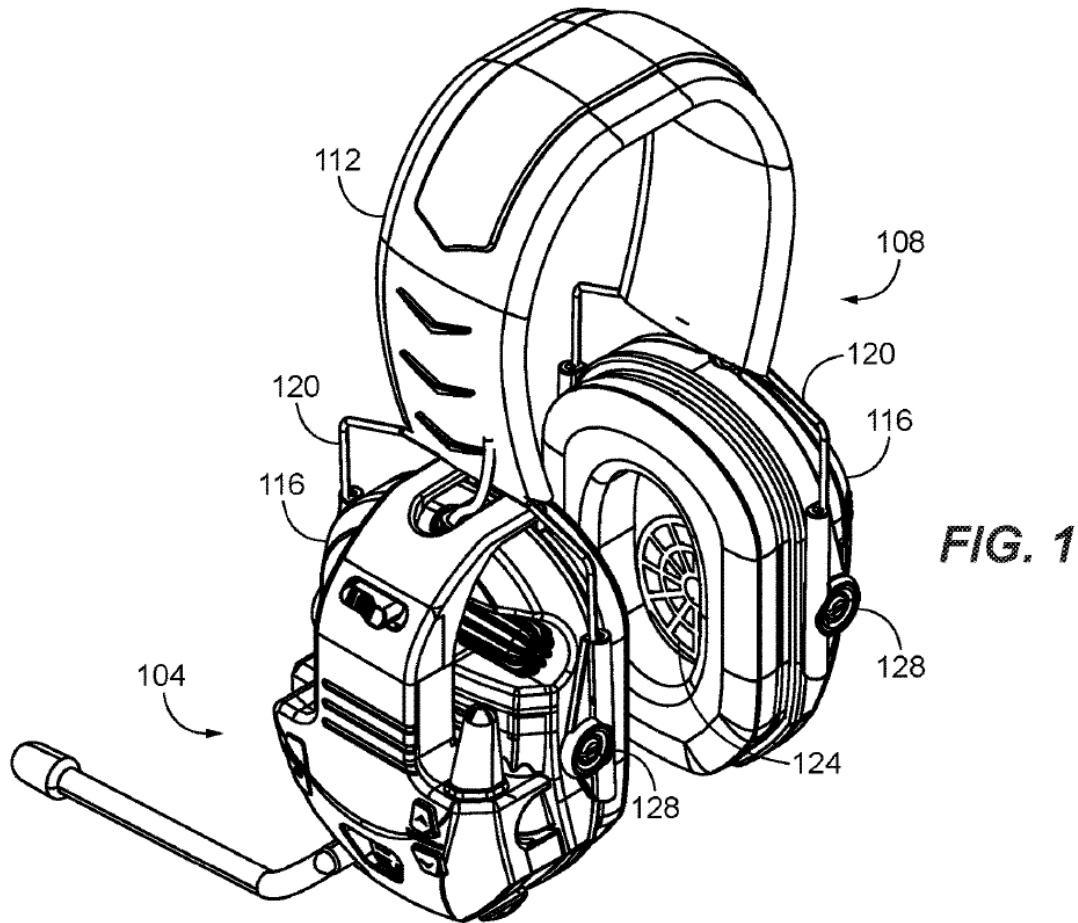


Figure 1 is a perspective view of communication device 104 attached to hearing protection device 108. Ex. 1004, 3:8–9, 3:55–57. Hearing protection device 108 includes headband 112 and cups 116 that cover a user's ears. *Id.* at 3:58–60. Hearing protection device 108 also includes speakers 124 in each cup 112 for active noise cancellation and one or more microphones 204 (shown in Figure 2). *Id.* at 3:64–4:1.

Figure 3 depicts communication device 104 in more detail and is reproduced below.

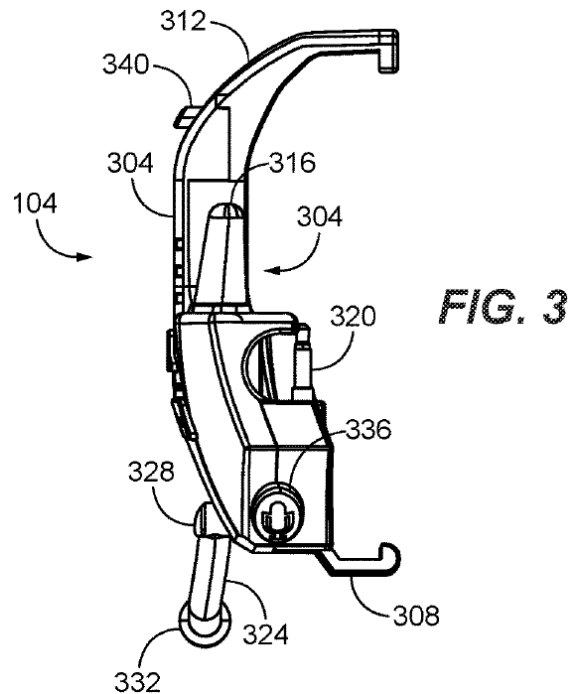


Figure 3 is a side view of communication device 104. Ex. 1004, 3:12–13, 4:5–7. Communication device 104 includes housing or enclosure 304 that houses various components of the device. *Id.* at 4:7–9. Device mounts 308, 312 are provided for removably attaching communication device 104 to a hearing protection device. *Id.* at 4:12–15. The device mounts “may be formed of a flexible or resilient material to aid in attachment to and removal from a hearing protection device, while an enclosure 304 remains rigid or at least more rigidly formed.” *Id.* at 4:26–30.

Communication device 104 also includes one or more audio output connectors 320 for providing communication audio signals from communication device 104 to a hearing protection device. Ex. 1004, 4:48–56. One or more microphones 332 are mounted to enclosure 304 via boom or arm 324. *Id.* at 5:3–12.

#### 4. Smith (Ex. 1005)

Smith is titled “Adjustable Mechanism for Improving Headset Comfort.” Ex. 1005, code (54). As background, Smith indicates that “[h]eadphones (or headsets) and ear protectors are often uncomfortable due to the pressures they exert on a user’s head and ears.” *Id.* at 1:11–13. Thus, Smith discloses “[a] headphone, headset, or ear protector incorporating adjustable clamping pressure and providing configurable distribution of headband pressure.” *Id.* at code (57).

Figure 1 of Smith is reproduced below.

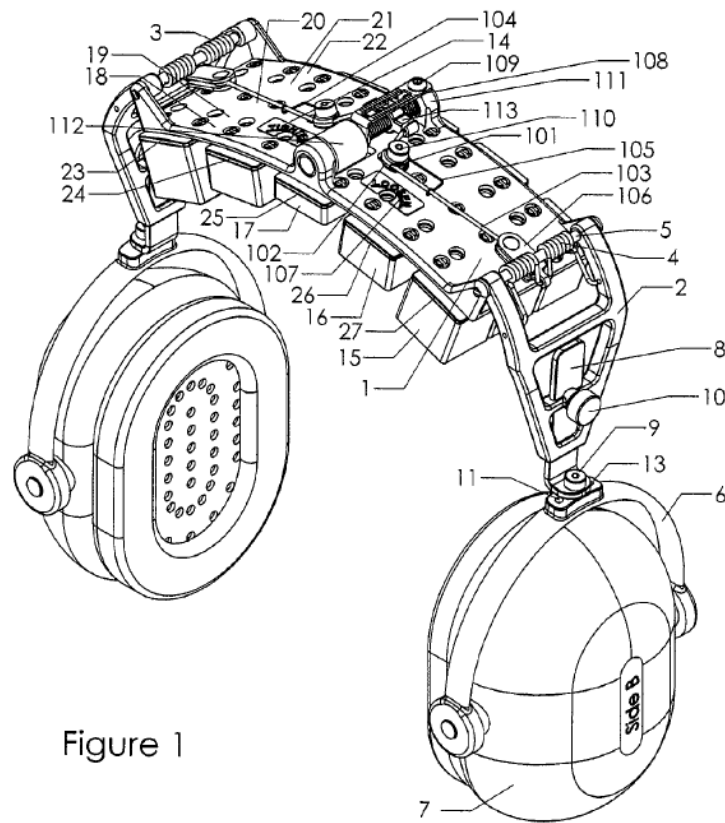


Figure 1

Figure 1 depicts a headphone that allows single-knob adjustment of clamping force using cables that pull on the earcups through a spring. Ex. 1005, 3:42–44. The headphone includes headband 1 having swing arm 2 and earcup 7 (Smith indicates that, although many of the elements are

described only for one side of the headphone, corresponding elements exist on the other side.). *Id.* at 4:43–56.

Clamping pressure is applied to earcup 7 by torsion spring 4, which provides rotational force to swing arm 2. Ex. 1005, 4:60–64. Specifically, “[t]orsion spring 4 applies inward rotational force to swing arm 2, which pivots on the same axis that torsion spring 4 rotates on.” *Id.* at 5:59–61. The clamping pressure applied by torsion spring 4 can be adjusted by rotating thumbscrew 112, which changes the relative radial position of torsion spring 4 via cable 103 and cable termination 106. *Id.* at 5:61–6:14.

#### 5. Independent Claim 1

- a) *“A communication device for a hearing protection equipment, the hearing protection equipment comprising at least one earmuff, at least one loudspeaker and an audio input member, wherein the communication device comprises:”*

Petitioner contends that Unger discloses communication device 104 for hearing protection device 108, which Petitioner equates to the claimed hearing protection equipment. Pet. 48–49 (citing Ex. 1004, 3:55–57, Fig. 1). Petitioner further contends that Unger’s hearing protection equipment 108 includes earmuffs comprising headband 112, cups 116, and speaker 124. *Id.* at 49 (citing Ex. 1004, 3:57–66). According to Petitioner, one of ordinary skill in the art would have understood speaker 124 to be a loudspeaker. *Id.* (citing Ex. 1002 ¶ 153).

In addition, Petitioner contends that Unger’s hearing protection equipment 108 includes audio connector 824 that connects to audio output 320 of communication device 104. Pet. 49–50 (citing Ex. 1004, 7:46–53, Fig. 8). Petitioner further asserts that Figure 3 of Unger depicts audio output connector as a male-type auxiliary audio output port and one of ordinary skill in the art would have understood “that output 320 of communication

device 104 inserts into the female-type audio input member 824 of hearing protection device 108 when the devices are coupled.” *Id.* at 50 (citing Ex. 1004, 4:48–5:2, Fig. 3; Ex. 1002 ¶¶ 154–155). Thus, according to Petitioner, Unger’s audio connector 824 corresponds to the claimed audio input member. *Id.*

To the extent that the preamble is limiting and based on the record before us, we find Petitioner sufficiently establishes that Unger discloses claim 1’s preamble.

*b) “a housing;”*

Petitioner contends that Unger discloses that communication device 104 includes housing or enclosure 304 that houses or supports components of the device. Pet. 51 (citing Ex. 1004, 4:5–12, Figs. 3, 5; Ex. 1002 ¶ 156).

Based on the record before us, we find Petitioner sufficiently establishes that Unger discloses the claimed housing.

*c) “a first mounting assembly, rotatably arranged on a first end of the housing;”*

Petitioner contends that Unger discloses device mount 308, which is arranged on the lower end (i.e., a first end) of housing 304 for mounting communication device 104 to hearing protection device 108. Pet. 51–52 (citing Ex. 1004, 4:16–22, 4:34–40, Figs. 3, 5; Ex. 1002 ¶ 157). Thus, according to Petitioner, lower device mount 308 corresponds to a first mounting assembly for mounting communication device 104 to hearing protection device 108.<sup>6</sup> *Id.* at 52 (citing Ex. 1002 ¶ 158).

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<sup>6</sup> Petitioner alternatively contends that Unger’s upper device mount 312 could be the first mounting assembly. Pet. 52–53 (citing Ex. 1002 ¶ 159).

Petitioner concedes that Unger does not disclose that device mount 308 is rotatably arranged on the housing's first end, but contends that it would have been obvious to incorporate Smith's torsion spring mechanism into Unger's lower device mount such that the lower device mount would be rotatably arranged on the housing's first end. Pet. 53–54; *see also id.* at 28–47 (describing proposed combination of Unger and Smith).

Petitioner argues that one of ordinary skill in the art would have found the proposed modification obvious for several reasons. Pet. 30. For instance, Petitioner argues that “Unger contains an express teaching, suggestion and/or motivation to incorporate an element such as Smith's torsional spring into the lower and/or upper mount assemblies 308, 312 to facilitate attachment and detachment.” *Id.* Namely, Petitioner points to Unger's disclosure that device mounts 308, 312 may be flexible or resilient so that device mounts 308, 312 may be bent to engage a portion of hearing protection device 108 and are then allowed to return to a normal state to secure communication device 104 to hearing protection device 108. *Id.* at 30–31 (quoting Ex. 1004, 6:20–37). Petitioner adds that one of ordinary skill in the art would have understood this disclosure “to teach that mount arms 308, 312 could be removable from housing 304 (e.g., as mount arm 312 is in Figure 6) and/or they could be designed to be ‘flexible’ or ‘resilient’ such that they can be manipulated,” and “that ‘resilient’ is defined as ‘bouncing or *springing back* into shape, position, etc. after being stretched, *bent*, or, esp., *compressed*.’” *Id.* at 31 (citing Ex. 1002 ¶ 117). Thus, according to Petitioner, this disclosure of Unger suggests using a torsion spring. *Id.*

In addition, Petitioner asserts that one of ordinary skill in the art would have understood Unger's disclosure to “suggest the use of a torsion

spring to facilitate attachment and detachment, because torsion springs are designed to impart this functionality.” Pet. 30 (citing Ex. 1002 ¶ 118).

Petitioner also asserts that one of ordinary skill in the art would have “understood that there were a limited number of ways to impart the referenced resilient or flexible ‘manipulation,’” and “would have been motivated to look to various known solutions to impart the suggested functionality, including the torsional spring mechanism of Smith that is used in a similar hearing protection device application for a similar purpose as Unger’s mounting arms (to apply a clamping force).” *Id.* at 32 (citing Ex. 1002 ¶¶ 120–121).

Other reasons for combining the references set forth by Petitioner are the proposed modification: (1) “would have involved applying a known technique to a known device ready for improvement to yield predictable results” (Pet. 39–49 (citing *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023); Ex. 1002 ¶ 131)), (2) would have constituted “combining prior art elements using known methods to achieve predictable results” (*id.* at 40 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); Ex. 1002 ¶ 133)); and (3) would have been “the simple substitution of one known element (i.e., Smith’s torsion spring mechanism) into another (i.e., the connection point of Unger’s lower mount arm 308 and housing 304)” (*id.* at 40–41 (citing *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1077 (Fed. Cir. 2016); Ex. 1002 ¶ 135)).

Petitioner argues that one of ordinary skill in the art would have had a reasonable expectation of success in making the proposed modification because the use of torsion springs to provide additional freedom of manipulation and impart a rotational biasing force in headset devices was ubiquitous. Pet. 41–45 (citing Ex. 1006, 1:11–13, 2:30–37, 3:30–64, 3:56–

62, 5:9–11, Figs. 1, 3, 4; Ex. 1007, 1:8–11, 3:15–32, 4:39–72, 5:19–43, Figs. 4, 6; Ex. 1008, 1:1–3, 1:51–2:24, Figs. 1, 4, 6; Ex. 1002 ¶¶ 136–141).

Petitioner also argues that “torsion spring design was part of a standard mechanical engineering curriculum, demonstrating that their design, functions and capabilities were well-known and predictable.” *Id.* at 45–46 (citing Ex. 1002 ¶¶ 142–146). Last, Petitioner argues that one of ordinary skill in the art “had a reasonable expectation of success in making this modification, as it only involves the application of basic mechanical engineering principles.” *Id.* at 46–47 (citing Ex. 1002 ¶¶ 147–148).

Based on the record before us, we find Petitioner sufficiently establishes that Unger and Smith disclose the first mounting assembly as claimed. We find Petitioner’s rationale and evidence are sufficient to show that a person of ordinary skill in the art would have modified Unger to include a torsion spring mechanism in the lower device mount as taught by Smith. Furthermore, we find Petitioner sufficiently establishes that this modification would have resulted in the lower device mount being rotatably arranged on a first end of the housing. We find Petitioner provides sufficient rational reasons to combine Unger and Smith with a reasonable expectation of success in doing so.

*d) “a second mounting assembly, arranged on a second end of the housing, the first mounting assembly and the second mounting assembly are connected to two ends of the earmuff respectively to releasably connect the communication device with the hearing protection equipment;”*

Petitioner contends that Unger’s upper device mount 312 corresponds to the claimed second mounting assembly,<sup>7</sup> and device mounts 308, 312 are

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<sup>7</sup> In the case of Petitioner’s alternative contention that Unger’s upper device mount 312 is the first mounting assembly, Petitioner contends that lower

connected to the two ends, respectively, of earmuff cup 116 to releasably connect communication device 104 with hearing protection device 108. Pet. 55–56 (citing Ex. 1004, 4:33–40, 5:49–55, Figs. 3, 7; Ex. 1002 ¶ 163). Petitioner further contends that one of ordinary skill in the art would have “understood that device mounts 308 and 312 were *releasably connected* to the hearing protection device 108 because they can be released from the hearing protection device 108 by manipulating the mounts.” *Id.* at 57 (citing Ex. 1002 ¶ 165).

Based on the record before us, we find that Petitioner sufficiently establishes that Unger discloses the second mounting assembly as claimed.

*e) “a microphone, configured for capturing an audio;”*

Petitioner contends that Unger discloses that communication device 104 includes one or more microphones 332 that receive a user’s voice or other audio. Pet. 58–59 (citing Ex. 1004, 5:3–12, 7:16–22, Figs. 3, 5, 8; Ex. 1002 ¶ 166).

Based on the record before us, we find that Petitioner sufficiently establishes that Unger discloses the microphone as claimed.

*f) “a radio transceiver, configured for wirelessly transmitting the audio captured by the microphone to user and wirelessly receiving a wireless signal containing an audio from the user; and”*

Petitioner contends that Unger discloses that communication device 104 includes one or more radio transceivers 804 that wirelessly transmit and/or receive audio signals and that these radio transceivers satisfy the claimed radio transceivers. Pet. 59–60 (citing Ex. 1004, 1:53–61, 9:7–10, 9:44–45, 6:43–67, Fig. 8; Ex. 1002 ¶ 171).

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device mount 308 is the second mounting assembly. Pet. 56–57 (citing Ex. 1002 ¶ 164).

Based on the record before us, we find that Petitioner sufficiently establishes that Unger discloses the radio transceiver as claimed.

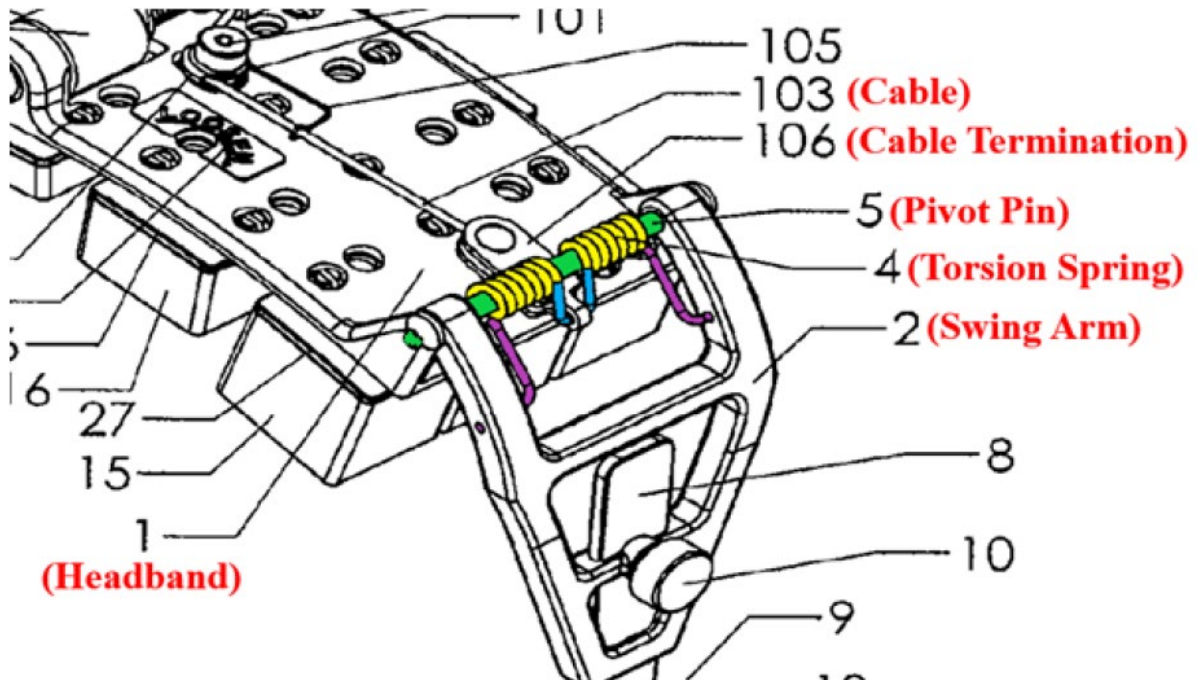
- g) *“an audio output member, communicated with the audio input member and configured for transmitting the wireless signal containing the audio to the at least one loudspeaker,”*

Petitioner contends that Unger discloses that communication device 104 includes audio output connector 320 (i.e., an audio output member) extending outwardly from housing 304. Pet. 60–61 (citing Ex. 1004, 4:48–5:2, Figs. 3, 8; Ex. 1002 ¶ 172). Petitioner further contends that Unger discloses that, when communication device 104 is attached to an earmuff cup, audio output connector 320 is automatically inserted into a corresponding connector of the cup to allow communication of audio signals. *Id.* at 61 (citing Ex. 1004, 4:66–5:2, 7:47–59; Ex. 1002 ¶ 173).

Based on the record before us, we find that Petitioner sufficiently establishes that Unger discloses the audio output member as claimed.

- h) *“wherein the first mounting assembly comprises:” “a first connecting member, connected with the housing;” “an elastic member;” and “a first mounting member, rotatably connected with the first connecting member by the elastic member, the first mounting member is coupled with the earmuff under an elastic force of the elastic member; and the first mounting member is separated from the earmuff after overcoming the elastic force of the elastic member.”*

Petitioner contends that the combination of Unger and Smith discloses these limitations. Pet. 63. To support this contention, Petitioner provides an annotated version of a portion of Figure 1 of Smith, which we reproduce below.



*Id.* at 63. Figure 1 depicts a headphone allowing single-knob adjustment of clamping forces using cables to pull on the earcups through a spring.

Ex. 1005, 3:42–44. In this partial, annotated version of Figure 1, Petitioner added (1) green overlay to identify pivot pin 5, (2) yellow overlay to identify a double-bodied portion of torsion spring 4, (3) blue overlay to identify a portion of torsion spring 4 connected to cable termination 106, and (4) purple overlay to identify a portion of torsion spring 4 connected to swing arm 2. Pet. 63. Petitioner argues that Smith’s pivot pin 5 is *a first connecting member* connected with a housing (i.e., headband 1), torsion spring 4 is *an elastic member*, and swing arm 2 is *a first mounting member* rotatably connected with pivot pin 5 by torsion spring 4. *Id.*

Petitioner then contends that, in the proposed combination of Unger and Smith in which Unger’s device mount 308 is rotatably arranged on the housing’s first end via Smith’s torsion spring mechanism, pivot pin 5 (the first connecting member) is connected with the lower end of housing 304, and lower mount arm 308 (the first mounting member) is rotatably

connected with pivot pin 5 by torsion spring 4 (the elastic member). Pet. 65 (citing Ex. 1002 ¶ 177). According to Petitioner, in this modified device, torsion spring 4 normally applies an elastic force to lower mount arm 308 to facilitate attachment of the mounting member to the earmuff, and when lower mount arm 308 is manipulated, the elastic force of torsion spring 4 is overcome to facilitate separating the mounting member from the earmuff. *Id.* at 65–66 (citing Ex. 1002 ¶ 178; Ex. 1020).

Based on the record before us, we find that Petitioner sufficiently establishes that the combination of Unger and Smith discloses these limitations of claim 1.

*i) Conclusion*

For the above reasons, we find, based on the record before us, that Petitioner establishes by a preponderance of the evidence that claim 1 would have been obvious over the combination of Unger and Smith. Patent Owner does not contend that any limitations in claim 1 are absent in the combination of Unger and Smith, or that claim 1 would not have been obvious over the combination of Unger and Smith, and therefore, has waived such arguments.<sup>8</sup>

*6. Independent Claim 17*

Independent claim 17 recites a system for connecting a communication device to a hearing protection equipment having similar

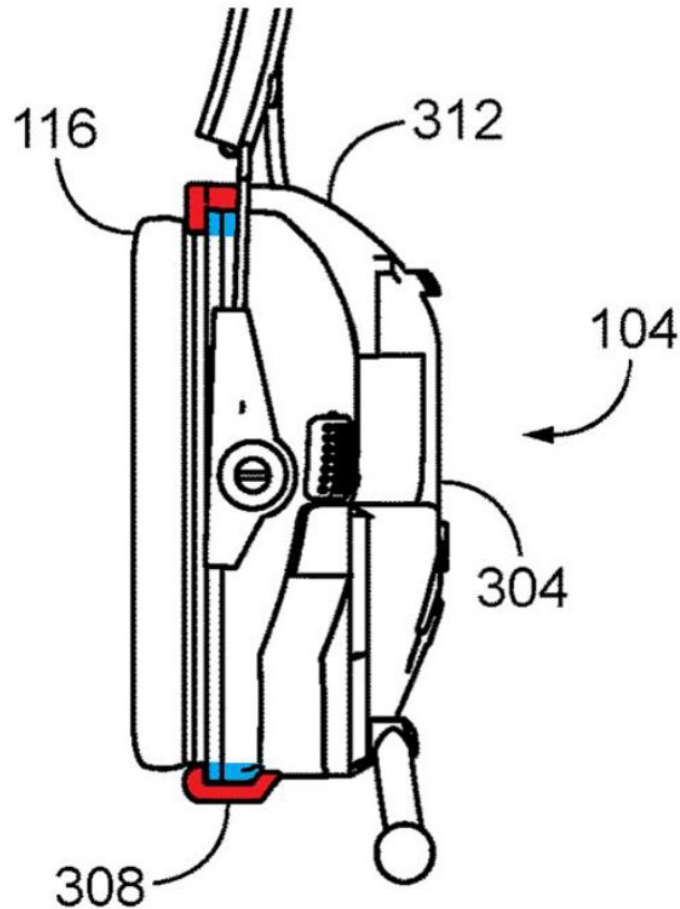
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<sup>8</sup> See *In re Nuvasive, Inc.*, 842 F.3d 1376, 1379–82 (Fed. Cir. 2016) (holding that patent owner waived arguments on an issue that were not raised in its response after institution); see also *Papst Licensing GmbH & Co. KG v. Samsung Elecs. Am., Inc.*, 924 F.3d 1243, 1250 (Fed. Cir. 2019) (holding patent owner forfeited argument for patentability not presented to the Board); *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1048 (Fed. Cir. 2019) (explaining that arguments not presented to the Board are waived).

limitations as the device of claim 1. *Compare* Ex. 1001, 6:66–7:32, *with id.* at 8:51–9:7. For its analysis of claim 17, Petitioner primarily refers back to its analysis of claim 1. Pet. 97–101.

Claim 17, however, differs from claim 1 in that it recites that the at least one earmuff “compris[es] two fixing parts, the first mounting assembly and the second mounting assembly are installed on the two fixing parts respectively, to connect the communication device to the hearing protection equipment.” Ex. 1001, 8:60–64.

For this limitation, Petitioner contends that Unger’s hearing protection device 108 comprises headband 112 and cups 116 that cover the user’s ears. Pet. 98 (citing Ex. 1004, 3:55–60). According to Petitioner, Figure 7 of Unger shows communication device 104 attached at two fixing parts of cup 116—one fixing part is a lip on an upper end of the cup 116 and another fixing part is a lip on the lower end of the cup 116. *Id.* at 98–99 (citing Ex. 1004, Fig. 7; Ex. 1002 ¶ 222). To illustrate this contention, Petitioner provides a partial, annotated version of Unger’s Figure 7, which we reproduce below.



*Id.* at 99. Figure 7 is a side view of a communication device attached to a hearing protection device. Ex. 1004, 3:20–21. In this partial, annotated version of Figure 7, Petitioner added blue overlay to identify the alleged fixing parts on the upper and lower ends of cup 116. Pet. 98–99. Although not described in the Petition, Petitioner added red overlay that appears to identify the portions of device mounts 308, 312 that engage cup 116. *Id.* at 99.

Petitioner then contends that one of ordinary skill in the art would have understood that the blue-highlighted portions in the annotated version of Figure 7 were fixing parts because lower device mount 308 and upper device mount 312 are installed on the lower and upper fixing parts,

respectively, to attach the communication device to the hearing protection equipment. Pet. 100–101 (citing Ex. 1002 ¶ 222).

Based on the record before us, we find that Petitioner sufficiently establishes by a preponderance of the evidence that the combination of Unger and Smith discloses the limitations of claim 17. Patent Owner does not contend that any limitations in claim 17 are absent in the combination of Unger and Smith or that claim 17 would not have been obvious over the combination of Unger and Smith, and therefore, has waived such arguments. *See In re Nuvasive*, 842 F.3d at 1379–82.

#### 7. Claims 2–16, 18, and 19

Claims 2–16 depend from claim 1, and claims 18 and 19 depend from claim 17. Ex. 1001, 7:33–8:50, 9:8–17. Petitioner provides reasonable and detailed explanations, supported by the testimony of Dr. Janet, indicating where in the references the limitations of claims 2–16, 18, and 19 are disclosed. Pet. 66–97, 101–110.

Based on the record before us, we find that Petitioner sufficiently establishes by a preponderance of the evidence that the combination of Unger and Smith discloses the limitations of claims 2–16, 18, and 19. Patent Owner does not contend that any limitations in claims 2–16, 18, and 19 are absent in the combination of Unger and Smith or that claims 2–16, 18, and 19 would not have been obvious over the combination of Unger and Smith, and therefore, has waived such arguments. *See In re Nuvasive*, 842 F.3d at 1379–82.

#### F. Asserted Obviousness Based on Unger, Smith, and Hakansson

Petitioner alternatively challenges claim 18 as unpatentable under 35 U.S.C. § 103 based on the combination of Unger, Smith, and Hakansson. Pet. 111–112.

We have determined on the record before us that Petitioner established by a preponderance of the evidence that claim 18 would have been obvious over the combination of Unger and Smith. *See supra* § III.E.7. In addition, we have reviewed Petitioner’s contentions with respect to this alternative ground and find, based on the record before us, that Petitioner establishes by a preponderance of the evidence that claim 18 would have been obvious over the combination of Unger, Smith, and Hakansson. Patent Owner does not contend that any limitations in claim 18 is absent in the combination of Unger, Smith, and Hakansson or that claim 18, and 19 would not have been obvious over the combination of Unger, Smith, and Hakansson, and therefore, has waived such arguments. *See In re Nuvasive*, 842 F.3d at 1379–82.

*G. Asserted Indefiniteness*

*1. Claims 3–6, 8, and 9*

Claim 3 depends from claim 1 and recites “the at least one elastic body” but claim 1 does not recite “elastic body.” Ex. 1001, 6:66–7:32, 7:46–48. Claim 4 depends from claim 1 and recites “the at least one butting part” but claim 1 does not recite “butting part.” *Id.* at 6:66–7:32, 7:49–52. Claim 5 depends from claim 1 and recites “the butting part” and “the elastic body” but claim 1 does not recite “butting part” or “elastic body.” *Id.* at 6:66–7:32, 7:53–56. Claim 6 depends from claim 1 and recites “the elastic body” but claim 1 does not recite “elastic body.” *Id.* at 6:66–7:32, 7:57–60. Claim 8 depends from claim 1 and recites “the two elastic bodies” but claim 1 does not recite “elastic bodies.” *Id.* at 6:66–7:32, 8:1–5. Claim 9 depends from claim 1 and recites “each butting part” but claim 1 does not recite “butting part.” *Id.* at 6:66–7:32, 8:6–9.

Petitioner argues that claims 3–6, 8, and 9 are indefinite because each of these claims recites language that lacks antecedent basis. Pet. 112–119. Petitioner argues that thus, these claims fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention because of the lack of antecedent basis and because of similar language recited in claims 2, 3, 5, and 7 thereby resulting in possible different interpretations. *Id.* (citing *Nautilus*, 572 U.S. at 901; *Sonix Tech. Co. v. Publications Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017); Ex. 1002 ¶¶ 244–248, 250, 251, 253–257, 259, 260. As an example, Petitioner contends that it is unclear whether “the at least one elastic body” recited in claim 3 refers to the “at least one elastic body” recited in claim 2 or is meant to recite “at least one elastic body sleeves on the first connecting member,” i.e., a different elastic body. *Id.* at 113. As a result, Petitioner contends it is unclear which of these two different interpretations with “vastly different claim scope” is appropriate. *Id.*

Based on the record before us, we find that Petitioner sufficiently establishes by a preponderance of the evidence that claims 3–6, 8, and 9 are indefinite. Patent Owner does not dispute that the lack of antecedent basis in claims 3–6, 8, and 9 results in possible different interpretations to render these claims indefinite, and therefore, has waived such arguments. *See In re Nuvasive*, 842 F.3d at 1379–82.

## 2. Claim 16

Claim 16 recites “the housing is substantially arc-shaped.” Ex. 1001, 8:48–50. The ’855 patent discloses that “housing 10 is substantially arc-shaped.” *Id.* at 3:20. Petitioner argues that “the specification provides no guidance to determine or distinguish an arc-shaped housing from a *substantially* arc-shaped housing.” Pet. 119 (citing Ex. ¶ 261). Petitioner

argues that “[t]he specification provides no guidance on what factors or characteristics can be used to measure the degree of ‘arc-ness’ of a shape.” *Id.* at 120. Petitioner questions, for example, whether “substantially arc-shaped encompass[es] designs where half of the inside surface of the housing is flat and the other half is arc-shaped.” *Id.* Thus, Petitioner argues, “it [is] impossible to determine or distinguish a *substantially* arc-shaped housing from a housing that is merely arc-shaped” and that “the specification provides no way of *measuring* the degree of that characteristic to distinguish between a *substantially* and non-*substantially* arc shaped housing.” *Id.* (citing Ex. 1002 ¶ 262). Petitioner argues that as the Specification fails to provide a person of ordinary skill in the art with sufficient guidance to determine the scope of the claim with reasonable certainty, claim 16 is indefinite. *Id.* at 121 (citing *Sonix Tech. Co.*, 844 F.3d at 1377; Ex. 1002 ¶ 262).

As used in the Specification, the term “substantially arc-shaped” introduces at least a degree of subjectivity. The Specification states that “[t]he housing 10 is substantially arc-shaped, and the housing 10 is matched with the earmuff 201 in structure.” Ex. 1001, 3:20–21. This description does little to shed light on the meaning of “substantially arc-shaped.” Thus, the Specification fails to provide a person of ordinary skill in the art with sufficient guidance to determine the scope of the claim with reasonable certainty as to the meaning of “substantially arc-shaped.”

For the above reasons, we find, based on the record before us, that Petitioner establishes by a preponderance of the evidence that claim 16 is indefinite. Patent Owner does not contend that the Specification provides guidance to differentiate between an “arc-shaped housing” and a

“substantially arc-shaped housing,” and therefore, has waived such arguments. *See In re Nuvasive*, 842 F.3d at 1379–82.

*H. Asserted Lack of Enablement and Written Description*

Petitioner argues that claim 10 is unpatentable under 35 U.S.C. § 112(a) because it lacks enablement and contains limitations not supported by the written description. Pet. 121–130.

Claim 10 is reproduced below.

10. The communication device according to claim 1, wherein the elastic member comprises:  
an elastic body, arranged on the first connecting member; and  
two butting parts, spaced apart from each other and butted against the first mounting member, the two butting parts are both connected with the elastic body.

Ex. 1001, 8:10–16.

Petitioner asserts that claim 10’s lack of enablement stems from the requirement that the two butting parts must be connected to the same elastic body and also must be butted against the same mounting member. Pet. 122 (citing Ex. 1002 ¶ 264). Petitioner argues that the scope of the claim encompassing the butting parts being *indirectly* connected with the elastic body is embodied by the dual-body torsion spring of Figure 8, but the scope of the claim encompassing the butting parts being *directly* connected with the elastic body is embodied by the single-body torsion spring of Figure 11. *Id.* at 122–23 (citing Ex. 1002 ¶¶ 265–266). According to Petitioner, however, the single-body torsion spring of Figure 11 lacks enablement. *Id.* at 123–28. To support this contention, Petitioner provides an annotated version of Figure 11, which we reproduce below.

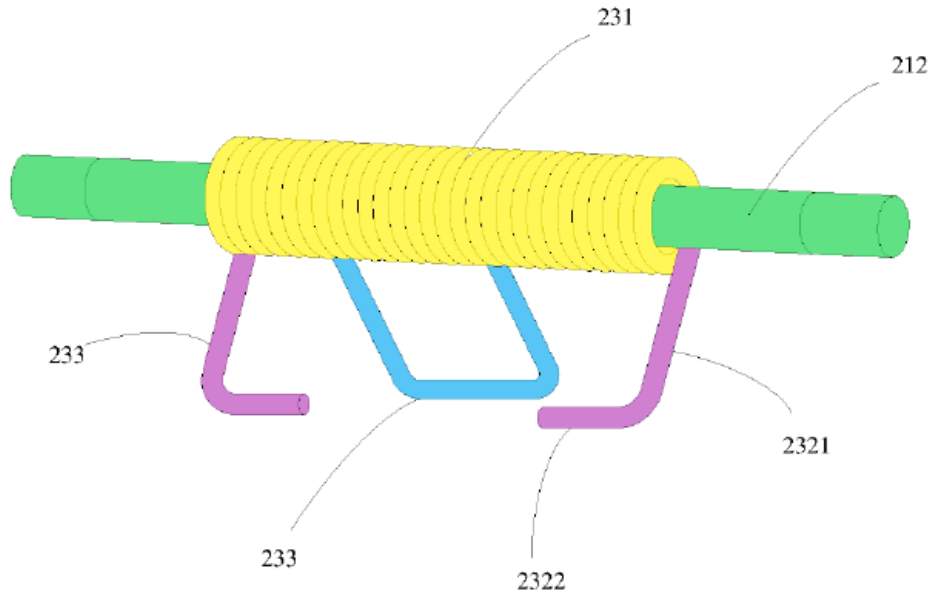


FIG. 11

*Id.* at 123. Figure 11 is a structural diagram of an elastic member of the communication device according to one embodiment. Ex. 1001, 2:34–35. In this annotated version of Figure 11, Petitioner added (1) green overlay to identify the connecting member (having thread 212), (2) yellow overlay to identify elastic body 231, (3) blue overlay to identify fixing part 233, and (4) purple overlay to identify butting parts 232 (having sections 2321, 2322).<sup>9</sup> Pet. 123; Ex. 1001, 6:29–43.

Based on this annotated version of Figure 11, Petitioner argues that one of ordinary skill in the art would not have understood this embodiment to be enabled because it “relies on a single-body torsion spring with a fixing part 233 (blue) that is mysteriously coming off of the back of the body.” Pet. 123 (citing Ex. 1002 ¶ 266). According to Petitioner, “[t]his is not a conventional torsion spring design and a [person of ordinary skill in the art] would be baffled as to how to manufacture or create the spring depicted in

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<sup>9</sup> The left butting part is misidentified as “233” in Figure 11.

Figure 11.” *Id.* at 123–24 (citing Ex. 1002 ¶ 266); *see also id.* at 126–29 (arguing why one of ordinary skill in the art would not have understood how to attach blue fixing part 233 of Figure 11 to yellow elastic body 231) (citing Ex. 1002 ¶¶ 270–273).

Petitioner argues that claim 10 lacks written description for similar reasons. Pet. 129–30 (citing Ex. 1002 ¶ 274).

Based on the full record before us, we find Petitioner’s arguments unpersuasive. The issue before us is whether *the limitations in claim 10* (not a particular drawing) are enabled and sufficiently described in the Specification. Petitioner does not sufficiently explain why the skilled artisan (e.g., a mechanical engineer with relevant experience) would not have understood the inventor to possess the invention as recited in claim 10, or why the skilled artisan would have had to engage in *undue* experimentation to arrive at such invention (which at least in one form includes a basic torsion spring).

For the above reasons, we find, based on the record before us, that Petitioner does not establish by a preponderance of the evidence that claim 10 lacks enablement and contains limitations not supported by the written description.

#### IV. CONCLUSION

Petitioner has met its burden to show, by a preponderance of the evidence, that all of the challenged claims (i.e., claims 1–19) are unpatentable under one or more of 35 U.S.C. §§ 112(b) and 103.<sup>10</sup>

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<sup>10</sup> Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice*

Petitioner has not met its burden to show, by a preponderance of the evidence, that claim 10 is unpatentable under 35 U.S.C. §§ 112(a).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–19 of U.S. Patent No. 11,736,855 B1 are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to this proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

| <b>Claim(s)</b>            | <b>35 U.S.C. §</b> | <b>Reference(s)/<br/>Basis</b>    | <b>Claim(s)<br/>Shown<br/>Unpatentable</b> | <b>Claim(s)<br/>Not Shown<br/>Unpatentable</b> |
|----------------------------|--------------------|-----------------------------------|--------------------------------------------|------------------------------------------------|
| 1–19                       | 103                | Unger, Smith                      | 1–19                                       |                                                |
| 18                         | 103                | Unger,<br>Smith,<br>Hakansson     | 18                                         |                                                |
| 3–6, 8, 9,<br>16           | 112(b)             | Indefiniteness                    | 3–6, 8, 9, 16                              |                                                |
| 10                         | 112(a)             | Lack of<br>Enablement             |                                            | 10                                             |
| 10                         | 112(a)             | Lack of<br>Written<br>Description |                                            | 10                                             |
| <b>Overall<br/>Outcome</b> |                    |                                   | 1–19                                       |                                                |

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*Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).*

PGR2024-00034  
Patent 11,736,855 B1

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