

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESMED LIMITED, RESMED INC., AND
RESMED CORP.,
Petitioner,

v.

FISHER & PAYKEL HEALTHCARE LIMITED,
Patent Owner.

Case IPR2019-00178
Patent 9,974,914 B2

Before THOMAS L. GIANNETTI, JAMES J. MAYBERRY, and
AMANDA F. WIEKER, *Administrative Patent Judges*.

WIEKER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background*

ResMed Limited, RedMed Inc., and ResMed Corp. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 9 and 11–21 (“challenged claims”) of U.S. Patent No. 9,974,914 B2 (Ex. 1001, “the ’914 patent”). Paper 1 (“Pet.”); *see also* Paper 7, 1 (informing that ResMed Limited has changed its corporate name to ResMed Pty Ltd.). Fisher & Paykel Healthcare Limited (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314 and 37 C.F.R. § 42.4. An *inter partes* review may not be instituted unless it is determined that “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314; *see also* 37 C.F.R. § 42.4(a) (“The Board institutes the trial on behalf of the Director.”).

For the reasons provided below and based on the record before us, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least one of the challenged claims. Accordingly, we do not institute an *inter partes* review.

B. *Related Proceedings*

The parties represent that the ’914 patent is involved in an International Trade Commission investigation titled: *In the Matter of Obstructive Sleep Apnea Treatment Mask Systems and Components Thereof*, Inv. No 337-TA-1136, (USITC, Sept. 7, 2018). Pet. 1–2; Paper 5, 1. The parties also represent that the ’914 patent is the subject of three additional

inter partes review proceedings: IPR2019-00172, IPR2019-00173, and IPR2019-00177. Pet. 2; Paper 5, 1.

Additionally, the parties state that they are involved in district court litigation, *Fisher & Paykel Healthcare Ltd. v. ResMed Corp.*, No. 3:16-cv-02068 (S.D. Cal.), and other *inter partes* review proceedings, concerning other patents. Pet. 1–2; Paper 5, 1.

C. *The '914 Patent*

The '914 patent is titled “Breathing Assistance Apparatus” and issued on May 22, 2018, from U.S. Application No. 14/333,134, which was filed on July 16, 2014. Ex. 1001, (21), (22), (45), (54). Patent Owner does not dispute Petitioner’s contention that the effective filing date of the '914 patent is no earlier than August 6, 2004. *See generally* Prelim. Resp.; *see also* Pet. 13–17; Ex. 1001, (30); Ex. 1002, 301.

The '914 patent discloses a nasal cannula for use in a continuous positive airway pressure (CPAP) device that treats sleep apnea by supplying pressurized gases to a patient. Ex. 1001, 1:14–16, 1:29–36, 2:49–63, Fig. 1. According to the '914 patent, CPAP nasal masks utilized in the prior art were uncomfortable, due to the headgear attaching the mask to the patient’s face, and were noisy, due to air leaks at the interface between the mask and the face. *Id.* at 1:66–2:14. Such disadvantages led some patients to forgo treatment. *Id.* at 2:7–10. Thus, the '914 patent discloses a breathing assistance apparatus intended to avoid these disadvantages. *Id.* at 2:45–48.

Figures 9 and 12 of the '914 patent are reproduced below.

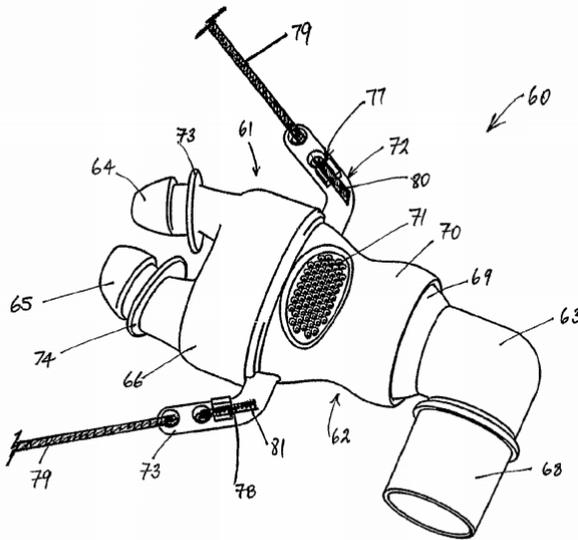


Figure 9

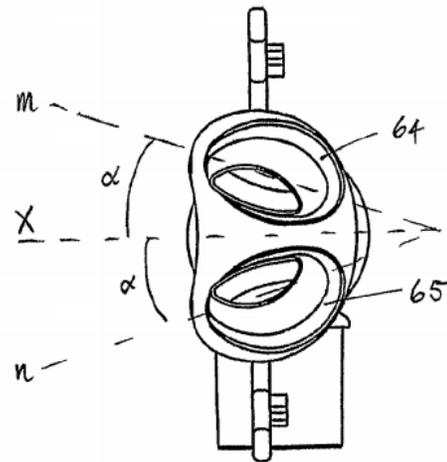


Figure 12

Figure 9 depicts a nasal cannula for use with a CPAP device (*see id.* at Fig. 1), and Figure 12 depicts a front view of the prong portion of such a cannula. *Id.* at 3:39–40, 3:44–45, 4:21–24. As shown in Figure 9, nasal cannula 60 includes three main components: prong part 61, body part 62, and ball jointed connector 63, which connects to a source of treatment gas. *Id.* at 6:66–7:2, 8:1–5.

Prong part 61 includes tubular body 66, from which nasal prongs 64, 65 extend at a proximal end. *Id.* at 7:7–14. Prongs 64, 65 are “shaped to follow the contours of the human nares.” *Id.* at 7:3–6. Thus, prongs 64, 65 are substantially oval, with their widths narrowing closer to the tip of each prong, and wherein the prongs “are angled toward one another (or toward the horizontal axis X),” as shown in Figure 12, such that “they are more ergonomically correct . . . and may assist in directing the gas[] flow from the prongs to the user’s nasal cavities.” *Id.* at 7:14–30.

The distal end of tubular body 66 of prong part 61 fits with body part 62. *Id.* at 7:7–10, Fig. 11. Body part 62 “is a tubular passageway” connecting prong part 61 and ball joint 69. *Id.* at 7:48–50. Body part 62 includes apertures 71, which vent gas exhaled by the patient, and shield 75, which prevents the mixing of supplied treatment gas and exhaled gas. *Id.* at 7:52–60, Fig. 10.

D. Illustrative Claim

The '914 patent includes 28 claims, 12 of which are challenged in this proceeding. Independent claim 9 is illustrative and is reproduced below, with added paragraph numbers as utilized by the parties. *See generally* Pet.; Prelim. Resp. 3 n.2, 3–4.

- 9.P A nasal cannula configured to deliver humidified gases to a user, the nasal cannula comprising:
 - 9.1 a prong part comprising: a prong part body having a first end with two openings, a second end with a single opening, and an outer surface extending between the two openings of the first end and the single opening of the second end and having at least *a curved user-side portion facing toward a user's face in use, the user-side portion curving inwardly toward an interior of the prong part body*; and
 - 9.2 two prongs extending from and integrally formed with the first end of the prong part body, the two prongs being angled toward each other,
 - 9.3 *each of the two prongs having a first side adjacent the user-side portion and a second side opposite the first side, the first sides of the two prongs being disposed further apart than the second sides of the two prongs,*
 - 9.4 the prongs being spaced from each other and being shaped to fit within corresponding nares of a user to deliver the gases thereto in use, and

9.5 the second end of the prong part body being disposed opposite to the first end and being configured to receive the humidified gases.

Ex. 1001, 10:4–27 (emphases added).

E. Applied References

Petitioner relies upon the following references (Pet. 3–4):

Gunaratnam et al., U.S. Patent Application Publication No. 2004/0226566 A1, filed February 20, 2004, published November 18, 2004 (Ex. 1011, “Gunaratnam”);

Wood, U.S. Patent No. 6,478,026 B1, filed March 13, 2000, issued November 12, 2002 (Ex. 1012, “Wood”); and

Sleeper et al., U.S. Patent Application Publication No. 2005/0028822 A1, filed July 26, 2004, published February 10, 2005 (Ex. 1014, “Sleeper”).

Petitioner also relies upon the Declaration of Mr. Anthony Michael Ging (Ex. 1009).

Patent Owner supports its Preliminary Response with a Declaration of Mr. Patrick W. Truitt, Jr. (Ex. 2001).

F. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 9 and 11–21 of the ’914 patent based on the following grounds. Pet. 3.

References	Basis	Claim(s)
Sleeper and Wood	§ 103	9
Sleeper, Wood, and Gunaratnam	§ 103	11–21

II. DISCUSSION

A. *Claim Construction*

The Petition was filed on November 7, 2018, prior to the effective date of the rule change that replaces the broadest reasonable interpretation

standard. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (final rule) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR and CBM petitions filed on or after the effective date.”). Neither party disputes the application of the broadest reasonable interpretation standard, and accordingly we apply it in this proceeding. Pet. 18; Prelim. Resp. 10.

Under the broadest reasonable interpretation standard, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2017). Accordingly, under such a standard, “words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016).

Petitioner does not propose that we construe expressly any claim term. Pet. 18. Patent Owner proposes that we construe the term “adjacent,” appearing in claims 1 and 9, as “next to or adjoining.” Prelim. Resp. 10. According to Patent Owner, this construction is consistent with the usage of “adjacent” in the claims and with the embodiment shown in Figure 12 of the ’914 patent. *Id.* at 10–11. Patent Owner also argues that this construction is supported by two dictionary definitions. *Id.* at 11 (citing Ex. 2003 (New Oxford American Dictionary defining “adjacent” as “next to or adjoining something else”); Ex. 2004 (American Heritage Dictionary defining “adjacent” as “1) [c]lose to; lying near; 2) [n]ext to; adjoining”)).

On this record, we determine that the construction of “adjacent” proposed by Patent Owner is the broadest reasonable interpretation of this

term, in light of the specification. Although the '914 patent specification does not utilize the term “adjacent,” outside of the claims, we agree with Patent Owner that Figure 12 is consistent with Patent Owner’s proposed construction of “next to or adjoining.” Prelim. Resp. 10–11.

Figures 9 and 12 are reproduced below, wherein Figure 12 includes the substance of Patent Owner’s annotations (Prelim. Resp. 11).¹

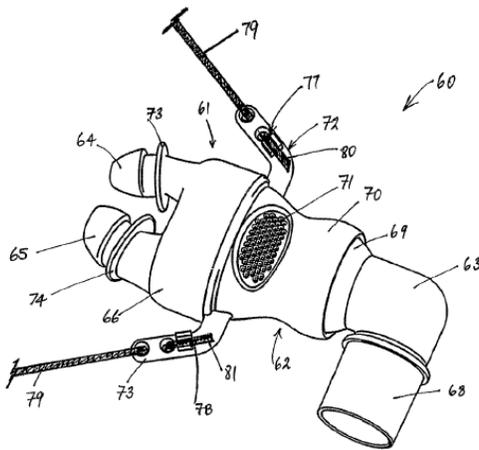


Figure 9

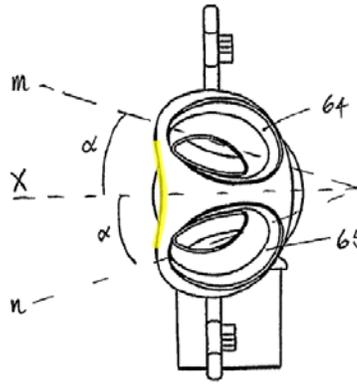


Figure 12

Figure 9 depicts a perspective view, and Figure 12 depicts a front view, of the same nasal cannula. Ex. 1001, 3:39–47. As shown in Figure 9, nasal cannula 60 includes prong part 61, which includes prong part body 66 and prongs 64, 65. *Id.* at 7:3–8. The '914 patent specification explains that “prongs 64, 65 are integrally moulded with the tubular body 66 in a flexible plastics material or rubber, such as silicone.” *Id.* at 7:10–12. Patent Owner’s annotations to Figure 12 identify “a curved segment or curved user-side portion (highlighted in yellow)” of the prong part body shown in

¹ The version of Figure 12 shown above includes annotations made by the panel—but reflecting the same content as those made by Patent Owner—to provide a clearer image.

Figure 9. Prelim. Resp. 11; Ex. 1001, 3:39–45; *see also* Pet. 16 (identifying the same area as a “curved segment”). If Patent Owner’s annotations were to be applied to Figure 9, the identified curved segment would be located on the back side of the nasal cannula, which is hidden from view in this perspective figure.

Figure 12 depicts prongs 64, 65 extending out of the page, toward the viewer, from prong part body 66, in very close proximity, i.e., next to or adjoining, the identified curved segment of the outer surface of prong part body 66. Indeed, no intervening structures are present between the prongs and the identified curved segment. *Cf.* Prelim. Resp. 11. Thus, we discern that the space between the prongs and the identified curved segment is minimal, such that these structures can be considered to be next to, or adjoining, each other. Accordingly, on this record, we agree with Patent Owner that Figure 12 depicts the identified “curved segment or curved user-side portion (highlighted in yellow)” as “next to or adjoining the nasal prongs (64 and 65).” Prelim. Resp. 11. The dictionary definitions cited by Patent Owner are consistent with this construction of “adjacent.” Ex. 2003, 3; Ex. 2004, 4.

Accordingly, on this record, we construe “adjacent” as “next to or adjoining.” We determine that no further claim term requires construction. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

B. Principles of Law

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of non-obviousness.² *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). 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)). Whether a combination of prior art elements would have produced a predictable result weighs in the ultimate determination of obviousness. *Id.* at 416–417.

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). The burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

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

² At this stage of the proceeding, Patent Owner has not presented objective evidence of non-obviousness.

C. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art at the time of the effective filing date would have had “at least a bachelor’s degree in industrial design, mechanical engineering, biomedical engineering, or a similar technical field, with at least two years of relevant product design experience,” and that additional experience or education could compensate for a deficit of the other. Pet. 18–19 (citing Ex. 1009 ¶¶ 20–21). Patent Owner does not dispute Petitioner’s position. Prelim. Resp. 12.

For purposes of this Decision, we agree with and apply Petitioner’s identification of the qualifications of a person of ordinary skill, which is consistent with the testimony of each party’s declarant. Ex. 1009 ¶¶ 20–21; Ex. 2001 ¶¶ 25–26.

D. Obviousness over the Combined Teachings of Sleeper and Wood, and further in view of Gunaratnam

Petitioner contends that claim 9 of the ’914 patent would have been obvious over the combined teachings of Sleeper and Wood (Pet. 19–39), and that claims 11–21 would have been obvious over the combined teachings of Sleeper, Wood, and Gunaratnam (Pet. 40–75). Patent Owner disagrees. Prelim. Resp. 16–32. Among other things, Patent Owner argues that Petitioner fails to demonstrate that the combined teachings of Sleeper and Wood satisfy the limitation of claim 9 that requires a first side of each prong be “adjacent” a curved user-side portion. *Id.* at 16–20.

We have considered the arguments and evidence presented in the Petition and the Preliminary Response, and we determine that Petitioner has not presented sufficient argument or evidence to establish a reasonable

likelihood of prevailing with respect to challenged independent claim 9, or claims 11–21 depending therefrom. Our reasoning follows.

1. Overview of Sleeper (Ex. 1014)

Sleeper is a U.S. patent application publication titled “Sealing Nasal Cannula.” Ex. 1014, (54). Sleeper’s Figure 6 is reproduced below.

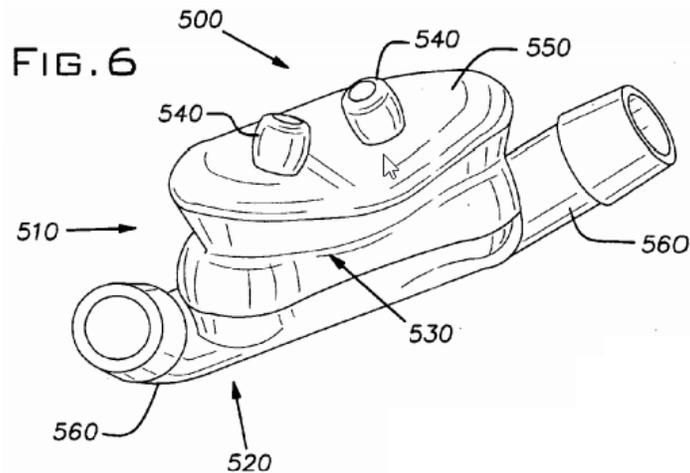


Figure 6 depicts a nasal cannula body. *Id.* ¶ 18. As shown, nasal cannula body 500 includes top housing portion 510, with bellows 530 and nasal prongs 540, and bottom housing portion 520. *Id.* ¶ 46. Bottom housing 520 serves as a base for the bellows, and includes air inlets 560. *Id.* ¶ 47.

2. Overview of Wood (Ex. 1012)

Wood is a U.S. patent titled “Nasal Ventilation Interface.” Ex. 1012, (54). Wood’s Figures 3 and 4 are reproduced below.

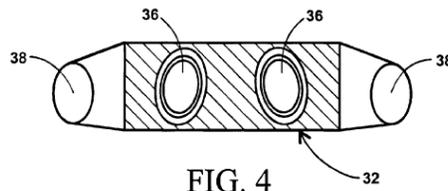


FIG. 4

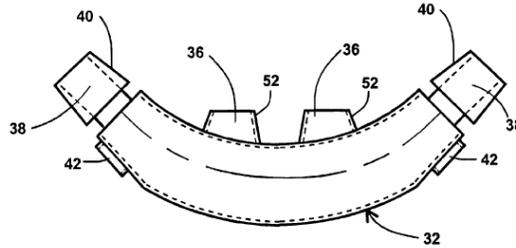


FIG. 3

Figure 3 depicts a side view, and Figure 4 depicts a top view, of nasal interface 10, having hollow body 32 and two nasal apertures 36. *Id.* at 3:61–63, 5:16–19.

3. Independent Claim 9

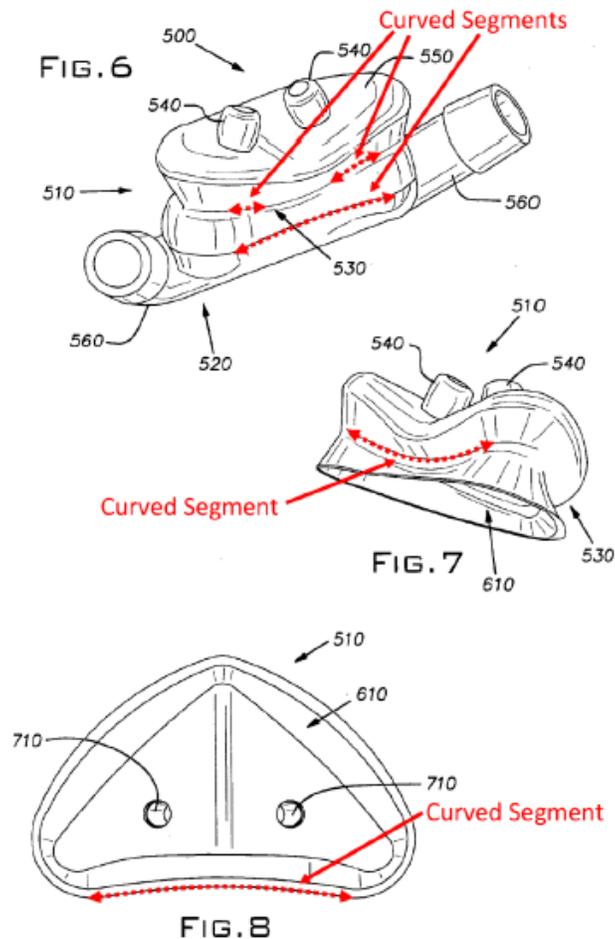
Claim 9 recites, *inter alia*, “a prong part comprising: a prong part body having . . . an outer surface . . . having at least a curved user-side portion facing toward a user’s face in use, the user-side portion curving inwardly toward an interior of the prong part body,” and “two prongs . . . having a first side adjacent the user-side portion.”

Thus, each challenged claim recites, either directly or through dependence on independent claim 9, a limitation requiring that each of two prongs includes a first side that is adjacent a “curved user-side portion . . . curving inwardly.” We will refer to this limitation that the first side be adjacent a curved user-side portion as the “adjacent limitation.”

Claim 9

As discussed, the adjacent limitation of claim 9 requires a “curved user-side portion . . . curving inwardly.” To meet this requirement,

Petitioner identifies “multiple curved, user-side portions . . . that curve inward toward the interior and face toward a user’s face,” on Sleeper’s top housing portion 510, as shown in Petitioner’s annotations to Sleeper’s Figures 6–8, which are reproduced below (Pet. 26):



Annotated Figures 6–8 depict a top portion of a nasal cannula, with arrows added by Petitioner to identify several curved segments. Ex. 1014 ¶¶ 18–20, Figs. 6–8; Pet. 26–28; Ex. 1009 ¶¶ 194, 197–199, 237–238.

Petitioner devotes only one paragraph of its Petition to the aspect of claim 9 calling for the first side of the nasal prongs to be “adjacent” the curved user-side portion. See Pet. 35–36. Petitioner contends that:

In the predictable modification of Sleeper's nasal cannula (based on Wood's suggestion), a [person of ordinary skill] would have recognized the reasonable likelihood of success and predictability where the resulting *nasal prongs would be positioned such that the first sides of the prongs (which are disposed further apart) were positioned adjacent to the user-facing curved segment of Sleeper's nasal cannula, especially in light of the suggestion in Wood's FIG. 4 and the additional teachings cited above.* Indeed, a [person of ordinary skill] would have recognized that such a configuration properly conforms to the natural shape and angular orientation of many patients' nares, and that the predictable change to Sleeper's design was a minor mechanical modification for a skilled artisan at the time.

Id. (emphasis added) (citing Ex. 1009 ¶¶ 214, 217, 240–241; Ex. 1012, 5:40–43). The Petition is not clear as to whether Petitioner relies on Sleeper alone, or a combination of Sleeper and Wood, with respect to the adjacent limitation of the claim. We, therefore, address both alternatives.

First, with respect to Sleeper alone, Petitioner identifies several curved user-side portion of Sleeper's top housing portion 510, as shown above. These portions, however, are not "next to or adjoining" prongs 540, as required by our construction of "adjacent." Rather, a notable portion of top surface 550 and bellows 530 exists between prongs 540 and the closest identified curved segment. *See* Pet. 26. Indeed, Patent Owner contends that a ridge exists in this area, between the prongs and the identified curved segments, at the area where top surface 550 transitions into bellows 530. Prelim. Resp. 18. Regardless of whether this area defines a ridge, as argued, Petitioner has not explained how prongs 540 are "adjacent" the identified curved segment(s), given the ample horizontal (i.e., on top surface 550) and vertical (i.e., on bellows 530) space between them. *Id.* at 19 (citing Ex. 2001

¶ 46). Thus, to the extent Petitioner relies upon Sleeper alone to satisfy the adjacent limitation, we find Petitioner’s contentions to be unpersuasive.

With respect to Sleeper and Wood, Petitioner refers to “the predictable modification of Sleeper’s nasal cannula (based on Wood’s suggestion).” Pet. 35. However, the “modification” presented in the Petition concerns Petitioner’s contention, on pages 31–35 of the Petition, that a person of ordinary skill would have found it obvious to orient Sleeper’s nasal prongs in an angled manner, such that their first sides are “further apart” than their second sides to, e.g., improve patient comfort by better conforming to the angled orientation of most patients’ nostrils. *Id.* at 31–35; Ex. 1009 ¶¶ 214–216. The Petition does not present any analysis or reasoning with respect to a modification of Sleeper, in light of Wood, to orient Sleeper’s prongs such that they are adjacent the identified curved segments. *See* Pet. 31–35. For example, neither Petitioner nor Mr. Ging articulates any reasoning that would have led an ordinarily skilled artisan to make such a modification. *Id.*; *see also* Ex. 1009 ¶ 217. Indeed, when discussing the application of “Wood’s suggested nasal prong shape and arrangement to Sleeper’s nasal cannula,” Mr. Ging references “known benefits I’ve described above.” Ex. 1009 ¶ 217. However, the benefits previously discussed address only the proposed modification to orient the first sides of Sleeper’s nasal prongs further apart than the second sides. *Id.* ¶¶ 214–216; *see also id.* ¶¶ 209–214, 240–241.

The quoted portion of the Petition reproduced above also references “the suggestion in Wood’s FIG. 4 and the additional teachings cited above.” Pet. 36. However, the teachings discussed on the preceding pages of the Petition, *see* Pet. 31–35, including those directed to Wood’s Figure 4, do not

address the adjacent limitation, and do not propose modifying Sleeper to include prongs adjacent the identified curved segments.

For example, Petitioner contends that “Wood provided a straightforward suggestion to use two oval-shaped nasal apertures 36 that are arranged in an *angular orientation* so that the nasal prongs extending therefrom form a comfortable seal with the patient’s nostrils.” *Id.* at 31–32 (emphasis added) (citing Ex. 1012, Fig. 4). Petitioner also contends, “[a]s can be seen in FIG. 4 of Wood, the first sides are on the user facing side and disposed *further apart* than the second sides of the two prongs while the second side (top blue line) is opposite the first side.” *Id.* at 33 (emphasis added); *see also* Ex. 1009 ¶ 211 (“[T]he portions of a person’s nostrils closer to the tip of the nose are generally closer together than the portions of the nostrils closer to the person’s upper lip and this natural shape is reflected in the orientation of the oval shaped nasal apertures depicted in FIG. 4 of Wood.”). The foregoing passages do not demonstrate sufficiently that Wood teaches nasal prongs having first sides adjacent a curved user-side portion. Moreover, even if we were to conclude that Wood taught prongs that are adjacent to a curved user-side portion, Petitioner has not provided sufficient reasoning to demonstrate that a person of ordinary skill would have found it obvious to apply that teaching to Sleeper.

Thus, to the extent Petitioner relies upon the combined teachings of Sleeper and Wood to satisfy the adjacent limitation, we find Petitioner’s contentions to be unpersuasive.

4. *Dependent Claims 11–21*

Dependent claims 11–21 include the adjacent limitation by virtue of their dependency on claim 9. Petitioner does not rely on the additional

reference Gunaratnam in connection with the adjacent limitation. Pet. 40–75. Accordingly, for the same reasons discussed in Section II.D. 3, we are not persuaded by Petitioner’s contentions regarding claims 11–21.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood it would prevail in establishing the unpatentability of any challenged claim of the ’914 patent. Accordingly, we deny institution of an *inter partes* review.

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that the Petition is *denied* as to all challenged claims, and no trial is instituted.

PETITIONER:

Edward H. Sikorski
Tiffany Miller
James M. Heintz
DLA PIPER LLP (US)
Ed.Sikorski@dlapiper.com
Tiffany.Miller@dlapiper.com
James.Heintz@dlapiper.com

PATENT OWNER:

Douglas G. Muehlhauser
Benjamin J. Everton
KNOBBE, MARTENS, OLSON & BEAR, LLP
2dgm@knobbe.com
2bje@knobbe.com