

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 IPR2016-01718
Patent 8,479,741 B2

Before RICHARD E. RICE, BARRY L. GROSSMAN, and
JAMES J. MAYBERRY, *Administrative Patent Judges*.

GROSSMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

ResMed Limited, ResMed Inc., and ResMed Corp (collectively, “Petitioner”) filed a Petition (Paper 4, “Pet.”) requesting an *inter partes* review of claims 2–4, 6–10, 12–17, 19, 20, and 35 of U.S. Patent No. 8,479,741 B2 (Ex. 1001, “the ’741 patent”). Petitioner supported the Petition with a 142 page declaration from John Izuchukwu, Ph.D., P.E. (Ex. 1008). Fisher & Paykel Healthcare Limited (“Patent Owner”) filed a Preliminary Response (Paper 10, “Prelim. Resp.”).

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted “unless . . . 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(a). The Board acts on behalf of the Director. 37 C.F.R. § 42.4(a). Upon considering the Petition and the Preliminary Response, we determine that Petitioner has not shown a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. Accordingly, we do not institute an *inter partes* review.

B. Related Proceedings

The parties identify a related federal district court case involving the ’741 Patent: *Fisher & Paykel Healthcare Ltd. v. ResMed Corp.*, Case No. 3:16-cv-02068-GPC-WVG (S.D. Cal.). Pet. 1; Paper 7, 1–2.

The parties also inform us that Petitioner filed and then voluntarily dismissed, without prejudice, a declaratory judgment action challenging the validity of the ’741 Patent (*ResMed Inc. v. Fisher & Paykel Healthcare Corporation Limited*, Case No. 3:16-cv-02072-JAH-MDD (S.D. Cal.)).

Pet. 1–2; Paper 7, 1; *see* Ex. 1046 (Petitioner’s Notice of Voluntary Dismissal Without Prejudice).

There are several pending *inter partes* reviews between the parties related to the ’741 patent. Petitioner is seeking *inter partes* review of claims 1, 21–25, 27–31, 33, and 34 of the ’741 patent in a separate petition (IPR2016-01714). The ’741 patent is a continuation of the application that matured into Patent No. 8,443,807 (“the ’807 patent”). Petitioner also is seeking *inter partes* review of the claims in the ’807 patent (IPR2016-01726; 01734).

Petitioner also seeks *inter partes* review of several patents related to the general subject matter of the ’741 patent, including IPR2016-01716; 01717; 01719; 01723; 01724; 01725; 01727; 01729; 01730; 01731; and 01735.

C. Statutory Bar Under 35 U.S.C. § 315(a)(1)

Patent Owner argues that the Petition is barred under 35 U.S.C. § 315(a)(1) because Petitioner filed a declaratory judgment action for invalidity of the ’741 Patent on August 16, 2016, and before filing the instant Petition. Prelim. Resp. 10–17. That action, however, was voluntarily dismissed without prejudice on August 18, 2016, well before the instant Petition was filed. Pet. 1–2 (citing Ex. 1046). As such, Patent Owner’s argument fails because prior Board decisions have consistently interpreted 35 U.S.C. § 315(a)(1) as not barring *inter partes* review if the previously filed civil action was dismissed without prejudice, which is the case here. *See, e.g., Microsoft Corp. v. Parallel Networks Licensing, LLC*, Case IPR2015-00486, slip op. at 6–7 (PTAB Jul. 15, 2015) (Paper 10); *Oracle*

Corp. v. Click-to-Call Techs. LP, Case IPR2013-00312, slip op. at 12–13 (PTAB Oct. 28, 2014) (Paper 52).

Patent Owner now challenges the Board’s consistent interpretation of 35 U.S.C. § 315(a)(1). Prelim. Resp. 10–17. But Patent’s Owner’s arguments are in direct contrast to a decision in the related district court action, which relied upon the Board’s consistent interpretation of 35 U.S.C. § 315(a)(1) in deciding whether to impose a stay pending our resolution of this proceeding. Ex. 3001. There, Patent Owner argued the statutory bar as a reason the court should not impose a stay. *Id.* at 3. Noting that Petitioner’s declaratory judgment action was voluntarily dismissed “without prejudice” prior to the instant Petition being filed, the district court held that “the effect of a voluntary dismissal w/out prejudice is to render the prior action a nullity” such that it is “treated as if it was not ‘filed’ at all” and thus “cannot give rise to a statutory bar under 35 U.S.C. § 315(a)(1).” *Id.* at 4. In doing so, the district court relied upon, and expressly adopted, the reasoning of prior Board decisions that came to a similar conclusion.¹ *Id.* Moreover, the district court in the related action noted that “at least eight Circuits had likewise determined that a dismissal without prejudice makes the situation as if the action never had been filed.”² *Id.*

¹ The district court may have recognized that “an agency’s interpretation of the statute under which it operates is entitled to some deference.” *Southeastern Community College v. Davis*, 442 U.S. 397, 411 (1979).

² See, e.g., *Holloway v. U.S.*, 60 Fed. Cl. 254, 261 (2004), *aff’d* 143 F. App’x 313 (Fed. Cir. 2005) (treating civil action dismissed without prejudice “as if it never existed.”); *Bonneville Assoc., Ltd. P’ship v. Barram*, 165 F.3d 1360, 1364 (Fed. Cir. 1999) (“The rule in the federal courts is that ‘[t]he effect of a

We see no reason to deviate from our prior decisions interpreting 35 U.S.C. § 315(a)(1) or the district court's concurring analysis of this issue, and Patent Owner's arguments to the contrary do not persuade us otherwise. As such, we hold that the Petition is not barred by 35 U.S.C. § 315(a)(1).

D. Prior Consideration of Arguments under § 325(d)

Under 35 U.S.C. § 325(d), the Board, acting on behalf of the Director, may take into account whether, and reject a petition because, the same or substantially the same prior art or arguments previously were presented to the Office. Patent Owner argues that the Board should exercise its discretion under § 325(d) and deny institution of a trial because Gunaratnam was expressly considered by the PTO during prosecution of the '741 patent. Prelim. Resp. 38–39. We recognize that Gunaratnam was considered and applied by the Examiner during the PTO proceedings leading to issuance of the '741 patent. The specific combination of references asserted in the Petition, the evidence provided by the Declaration testimony of Dr. Izuchukwu, and the specific factual issues raised by the Petition and newly cited references, however, were not previously considered. Accordingly, we do not reject or deny the Petition under § 325(d).

E. The '741 Patent

In an effort to treat obstructive sleep apnea, a technique known as Continuous Positive Airway Pressure (CPAP) was devised to supply

voluntary dismissal without prejudice pursuant to Rule 41(a) is to render the proceedings a nullity and leave the parties as if the action had never been brought.”) (citations and some internal quotations omitted).

The annotated figures above depict a patient interface embodiment including mask 2 and headgear 21. Mask 2 includes mask base 22 (see Fig. 5 below) and mask body 23 (see Fig. 7 below).

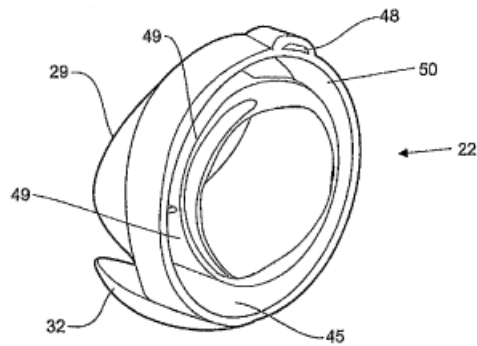


FIGURE 5
Mask base 22

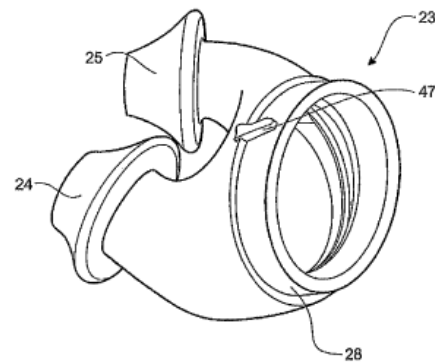


FIGURE 7
Mask body 23

As shown in Figure 7, mask body 23 includes nasal pillows 24, 25. Ex. 1001, 5:28–36. Nasal pillows 24, 25 are frustoconical in shape and in use rest against a patient’s nares,³ to substantially seal the patient’s nares. Ex. 1001, 5:32–34; Figs. 6, 7. As shown in Figure 5, mask base 22 is a ring or sleeve type attachment. *Id.* at 6:22–23. One end of swivel elbow connector 30 is connected to one side of mask base 22 (*id.* at 6:42–46), and mask body 23 is connected to the other side of mask base 22 (*id.* at 5:34–36). The other end of connector 30 is attached to tube 31, which connects to a source of pressurized air. *Id.* at 6:47–50; see Figs. 1 and 2. In use, air flows through tube 31, connector 30, mask base 22 and mask body 23, and exits from nasal pillows 24, 25 through outlets 26, 27 into the patient’s nostrils.

³ Nares also are referred to as nostrils. See Ex. 1002, 6:12–13 (“This allows easier insertion of the pillow 24 into a user’s nostrils . . .”).

Mask 2 and its related components, as described above, are held in place on the patient by headgear 21. As shown in Figures 2 and 3, headgear 21 includes headgear straps 35, 36, 37, 38 and substantially curved, rigid, elongate member 34. *Id.* at 6:61–65. Elongate member 34 of headgear 21 includes central section 42 and contoured side arms 41, 54. *Id.* at 7:8–10. Preferably the side arms of curved member 34 are integrally molded with central section 42. *Id.* at 21–22; *see also* 7:53–54 (“The central section 42 is a half circle that is integrally moulded with the side arms 41, 54.”).

A substantial length of each of side arms 41 and 54 overlaps and is attached to respective side straps 37, 38. Side straps 37, 38 are made from a soft foam type material to make the headgear more comfortable, whereas curved member 34 and side arms 41, 54 are made from a more rigid material to provide stability to headgear 21 and nasal mask 2. *See generally id.* at 7:8–18.

When everything is assembled, elongate member 34 supports mask base 22 and mask body 23 such that pillows 24, 25 are positioned properly against the patient’s nares. In an alternative form, the mask base and the curved elongate member are integrally formed, such as by molding or the like. *Id.* at 8:3–6.

Of the challenged claims in this Petition, claim 2 is the only independent claim and is reproduced below:

2. A patient interface comprising:
 - a mask body comprising a molded elastomeric material,
 - the mask body comprising two extending nasal pillows and a lip,
 - the nasal pillows, in use, resting in a substantially sealed manner against corresponding nares of a user;
 - a ring engaged with the lip of the mask body;

a plane substantially bisecting the ring, each of the two nasal pillows positioned on opposite sides of the plane;

an elbow rotatably engaged with the ring, the elbow comprising a wall, a vent being formed in the wall of the elbow, the vent comprising a plurality of holes;

a tube or conduit extending from the elbow; and

a headgear comprising side straps that pass down the cheeks of the user, a top strap connected to the side straps, a back strap extending from at least one of the side straps and the top strap, the headgear further comprising molded side arms extending away from the ring to connect with the side straps, wherein the molded side arms overlap the side straps and the side straps are made from a soft foam material, and wherein the side straps overlap the molded side arms on a portion of the molded side arms that is spaced from the ring, the side straps extending away from the ring along the molded side arms;

the elbow being capable of swiveling in the ring such that the tubing can be attached to the top strap or can fall freely;

in use, gases flow from the tube or conduit, through the elbow, through the ring, through the mask body and through the pillows;

wherein the ring is configured to connect to only two molded side arms and wherein each of the two molded side arms is configured to connect with a single side strap.

F. Prosecution History

During prosecution, the Examiner rejected independent application claim 31, which became patent claim 2, under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 7,210,481 (Ex. 2006, “Lovell”) and U.S. Patent Publication No. 2004/0226566 A1 (Ex. 1004, “Gunaratnam”). Ex. 1010, 466–471. Concerning Gunaratnam, the Examiner stated that Gunaratnam “discloses another nasal mask that incorporates a pair of arms in numerous embodiments (see elements 608 and the unnumbered arms in Figure 135) so as to enhance the fit between the mask and face of a user by

adding rigidity between the straps and mask.” *Id.* at 468. Independent application claim 30, which became patent claim 1, was rejected only on the non-statutory ground of obviousness-type double patenting based on pending claims in its parent application, which matured into the ’807 patent. *Id.* at 470.

Following a substantive amendment to application claim 31 (patent claim 2) (*id.* at 493–501), the application was allowed by the Examiner (*id.* at 513–515). The Examiner’s reason for allowance was:

none of the prior art of record including the device defined by the patented claims of Application 12/307,993 [now the parent ’807 patent], alone or in combination, teach a patient interface including the feature of a [sic] first and second side arms that are three dimensionally molded and having a varying cross-sectional thickness that overlap with a first and second side strap of headgear, as claimed.

Ex. 1010, 514.

G. The Asserted Grounds

Petitioner challenges claims 2–4, 6–10, 12–17, 19, 20, and 35 under 35 U.S.C. § 103(a)⁴ on the following grounds (Pet. 3–4):

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011), took effect on September 16, 2012. Because the application for the patent at issue in this proceeding has an effective filing date before that date, we refer to the pre-AIA versions of the statute.

Reference(s)	Claims Challenged
Gunaratnam and Ging ⁵	2–4, 6–9, 12–17, 19, 20, and 35
Gunaratnam, Ging, and Kopala ⁶	10
Gunaratnam, Ging, McAuley ⁷	2–4, 6–9, 12–17, 19, 20, and 35
Gunaratnam, Ging, McAuley, Kopala	10

II. ANALYSIS

A. Level of Skill in the Art

Petitioner asserts that a person of ordinary skill in the art “would have had a bachelor’s degree in mechanical engineering, biomedical engineering, or a related discipline, and at least five years of relevant product design experience in the field of medical devices or respiratory therapy, or an equivalent advanced education.” Pet. 10–11 (citing Ex. 1008 ¶ 17). Patent Owner does not propose a level of skill. We adopt Petitioner’s proposed level of skill for the purposes of our Decision.

B. Claim Construction

In an *inter partes* review, the Board gives claim terms in an unexpired patent their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); see *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under that standard, a claim term generally is given its ordinary and customary meaning, as would

⁵ U.S. Patent Publication No. 2003/0196658 A1 (Ex. 1005, “Ging”).

⁶ U.S. Patent No. 4,919,128 (Ex. 1025, “Kopala”).

⁷ PCT Pub. WO 2005/079726 (Ex. 1034, McAuley).

be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes a specific construction for the term “ring” (Pet. 11) and the phrase “a plane substantially bisecting the ring, each of the two nasal pillows positioned on opposite sides of the plane” (*id.* at 15), which are recited in independent claim 2.

Patent Owner does not propose any specific construction, but disputes Petitioner’s proposed construction of “ring.” Prelim. Resp. 31–36.

We consider the construction of the term “ring” below.

1. “ring”

Claim 2 recites “a *ring* engaged with the lip of the mask body” (emphasis added). Petitioner asserts “[t]he claimed “ring” is a structure with a generally circular inner passage to enable the claimed rotatable engagement with an elbow that fits into the ring, and does not require a particular outside shape for the ring.” Pet. 11.

According to Petitioner, the structure in the ’741 Specification corresponding to the “ring” is “mask base” 22. *Id.* at 12. As discussed above, the Specification discloses that mask base 22 is “a ring or sleeve type attachment.” Ex. 1002, 6:22–23 (referring to Figs. 4 and 5).

Petitioner states that the term “ring” does not have a special meaning in the applicable field of the ’741 patent, and is not defined in the ’741 Specification. Pet. 11–12 (citing Ex. 1008, ¶ 27–28). Petitioner argues that “nothing within the plain language of the term ‘ring’ or from the intrinsic record requires that the outer surface of the ring be of a particular shape.” *Id.* at 13.

Dr. Izuchukwu testifies that a person of ordinary skill would have understood that the term “ring” “does not require a particular outside shape.” Ex. 1008 ¶ 27. Dr. Izuchukwu also testifies that “although the term ‘ring’ implies a structure having a circular inner passage, there is no requirement that its outer geometry also be circular.” *Id.* at ¶ 28.

Patent Owner disagrees with Petitioner’s construction, and argues that “the term ring should be given its ordinary meaning, namely ‘a generally circular band of material.’” Prelim. Resp. 31. Patent Owner asserts that its proposed construction is consistent with the description in the Specification of mask base 22 as “a ring or sleeve like type attachment.” *Id.* at 31–32 (citing Ex. 1001, 6:22–23). Patent Owner also asserts that its proposed construction is supported by standard dictionary definitions. *Id.* at 32–33 (citing Ex. 2001, 3; Ex. 2003, 3). Patent Owner further argues that Petitioner’s construction is overly broad because it encompasses “[v]irtually any structure, regardless of its shape, that includes ‘a generally circular inner passage.’” *Id.* at 33.

We agree with, and adopt, Patent Owner’s proposed claim construction. It is more consistent with the “ring” structure claimed, disclosed in the Specification, and supported by the dictionary definitions of record. We are aware that the Specification also discloses that mask base 22 may include additional structures, such as a channel 45 on one side of base 22 to receive lip 28 on mask body 23, and a semi-tubular projection 29 on the other side of base 22 to receive a ball joint connector end to accommodate connector 30. Ex. 1002, 6:27–30; 42–46. Various other structures also are disclosed for allowing mask body 23 and connector 30 to connect to base 22. *Id.* at 6:30–42. Neither channel 45, semi-tubular

projection 29, nor the other disclosed structures are recited in claim 2 as part of the “ring.” The structure recited in claim 2 is simply a ring.

For the purposes of this Decision, we determine that the broadest reasonable interpretation consistent with the Specification of the term “ring” is a generally circular band of material.

2. Other Claim Terms

We determine that no other explicit claim interpretation is required for the purposes of this Decision. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

C. Asserted Obviousness

A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *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) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

1. Asserted Obviousness over Gunaratnam and Ging Claims 2–4, 6–9, 12–17, 19, 20, and 35

Gunaratnam is a published patent application relating to a nasal assembly patient interface for a mask used in treating sleep apnea. Ex. 1004, ¶ 2. It is a comprehensive disclosure, including 109 pages of drawings, with

135 drawing figures, and 404 paragraphs of explanatory text. Figure 135 of Gunaratnam is reproduced below.

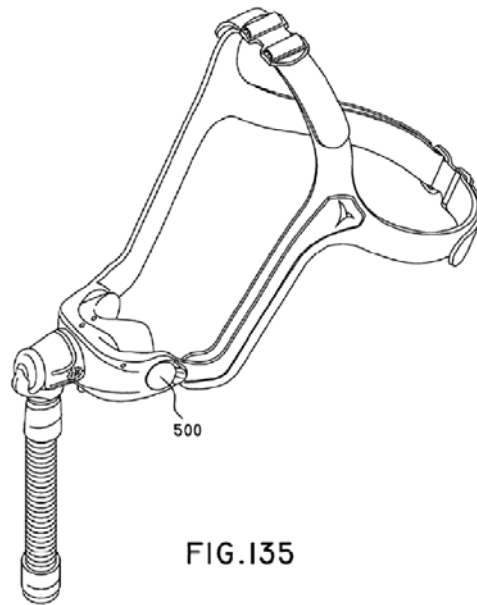


Figure 135 of Gunaratnam depicts a headgear and respiratory mask that provides a nasal interface for the supply of air from a CPAP machine. *Id.* ¶ 403.

Ging also is a published patent application that relates to a headgear and respiratory mask that provides a nasal interface for the supply of air from a CPAP machine. Figure 6b from Ging is reproduced below.

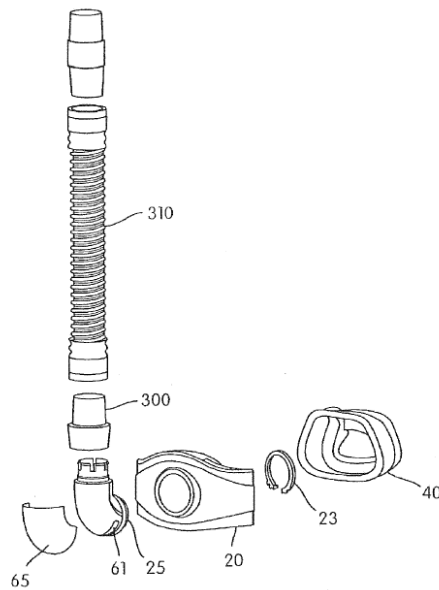


FIG. 6b

Figure 6b from Ging is an exploded view of an elbow assembly, mask frame, cushion, and air delivery tube

Ging discloses nasal mask assembly 10, having frame 20, cushion 40, and elbow assembly 60 (*see* Figure 1). A headgear assembly (*see* Figure 1) can be attached to frame 20. C-clip 23 is used to attach elbow 60 to mask frame 20.

Throughout the 55 page Petition, Petitioner provides a detailed clause-by-clause analysis of each limitation in the challenged claims along with an analysis of why, in Petitioner's view, it would have been obvious to a person of ordinary skill to glean selected features from the disclosures in the cited references and combine them. Throughout its analysis, Petitioner relies on the Declaration testimony of Dr. John Izuchukwu. Dr. Izuchukwu earned a Ph.D. in Industrial and Mechanical Engineering and an MBA degree. Ex. 1008 ¶ 2. He has extensive experience in the development of various

medical technologies, including CPAP machines, ventilators for respiratory support, and sleep masks. *Id.* at ¶¶ 3–4.

a. A Ring Engaged With the Lip Of the Mask Body

Claim 2 recites “a ring engaged with the lip of the mask body.” Patent Owner asserts, among other issues, that this asserted ground of unpatentability “fails because neither Gunaratnam nor Ging disclose or make obvious the claimed ‘ring.’” Prelim. Resp. 42. We agree and find this issue dispositive.

Petitioner asserts that “Gunaratnam’s Figure 135 design includes ‘a ring engaged with the mask body’ inherently, or at a minimum obviously in view of Ging, which shows a similar or identical mask body to that in Figure 135 of Gunaratnam in greater detail.” Pet. 28. According to Petitioner, Ging discloses a “ring” in the form of mask frame 20, in that mask frame 20 is a structure that *includes a circular inner passage* that is configured to receive an elbow. *Id.* (citing Ex. 1005, Fig. 6b). Additionally, Petitioner asserts Ging discloses that the central portion of mask frame 20 is engaged with mask cushion 40. *Id.* Petitioner concludes that mask cushion 40 “is engaged with a mask body as claimed. *Id.* (citing Ex. 1005).

Regarding the requirement in claim 2 that the “ring” is “engaged with the lip of the mask body,” Petitioner asserts this feature is disclosed by Gunaratnam alone *or* in combination with Ging. *Id.* at 29 (citing Pet. 24–27 for the discussion of the lip structure in Gunaratnam and Ging).

Petitioner’s argument is based on Petitioner’s proposed construction of “ring,” which we have rejected in our claim construction discussion above. As we have determined for purposes of this decision, the broadest reasonable interpretation consistent with the Specification of the term “ring”

is a generally circular band of material. The claimed ring is not any structure that includes a circular inner passage.

Patent Owner argues that the mask frames in Gunaratnam and Ging are *not* a generally circular band of material and thus are not a “ring.” Prelim. Resp. 42–45. We agree with, and adopt, Patent Owner’s argument. As Patent Owner argues, the mask frame in the Gunaratnam/Ging combination is “oblong” or “horseshoe-shaped”—i.e., it “includes upper and lower peripheral edges that form two surfaces that are generally parallel with each other across the length of the frame”—and thus is not a generally circular band of material as required under our claim interpretation of “ring.” *Id.*

Petitioner bears the burden of establishing a reasonable likelihood of unpatentability of one or more claims. 37 C.F.R. § 42.108(c). Here, the evidence on which Petitioner relies does not meet this burden.

“Ring” is an ordinary, simple English word, the meaning of which is clear and unquestionable. It means exactly what it says. *See Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004). The claim construction inquiry begins and ends in all cases with the actual words of the claim. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (citations omitted). The intrinsic evidence, and, in some cases, the extrinsic evidence, can shed light on the meaning of the terms recited in a claim, either by confirming the ordinary meaning of the claim terms or by providing special meaning for claim terms. *Id.* (citations omitted). As Petitioner acknowledges, the term “ring” “does not have a special meaning in the applicable field of the ’741 patent, and is not defined in the ’741 Specification. Pet. 11. The resulting claim interpretation must,

in the end, accord with the words chosen by the patentee to stake out the boundary of the claimed property. *Renishaw*, 158 F.3d at 1248. Ultimately, the interpretation to be given a term can be determined and confirmed only with a full understanding of what the inventors actually invented and intended to envelop with the claim. *Id.* at 1250. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction. *Id.*

Claim 2 simply recites a ring. Dependent claim 3 adds the limitation that the ring comprises a channel for receiving the lip of the mask body. Dependent claim 35 recites that the ring is configured to releasably connect to the two molded side arms. These additional limitations indicate that the structure recited in claim 2, a ring, is just that, a generally circular band of material. The structures relied on by Petitioner from Gunaratnam and Ging admittedly have a generally circular inner passage. That alone, however, does not establish that these structures are a generally circular band of material.

Neither curved, rectangular frame 20 of Ging nor the horseshoe-shaped frame in Gunaratnam is a generally circular band of material. Moreover, Petitioner's proposed ground of unpatentability under § 103 is based on a combination of Gunaratnam and Ging. Pet. 4, 20. Petitioner asserts that the "ring" element is "disclosed by Gunaratnam alone, or in combination with Ging." Pet. 29. We determined that neither Gunaratnam nor Ging disclose a ring. In asserting the combination of Gunaratnam and Ging, however, Petitioner offers no rationale in the Petition in its Ground 1 analysis as to *why* a person of ordinary skill would modify Gunaratnam's frame with the frame in Ging. In determining whether there would have

been a motivation to combine prior art references to arrive at the claimed invention, it is insufficient to simply conclude the combination would have been obvious without identifying any reason why a person of skill in the art would have made the combination. *Metalcraft of Mayville, Inc. v. The Toro Co.*, No. 2016-2433, 2017 WL 631749, at *4 (Fed. Cir. Feb. 16, 2017).

“[W]e cannot allow hindsight bias to be the thread that stitches together prior art patches into something that is the claimed invention.” *Id.* at *5

In general, taken out of a specific context, modifying the shape or structure of an element to be a “ring” may seem like a simple, common sense modification that would have been obvious to a person of ordinary skill and creativity. We do not abandon our common sense in considering obviousness of claimed inventions. *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.”). Our decision is based on the evidence and arguments before us. *See Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016) (“[R]eferences to ‘common sense’ . . . cannot be used as a wholesale substitute for reasoned analysis and evidentiary support . . .”). The evidence on which Petitioner relies does not disclose or suggest the “ring” recited in the challenged claims. In the highly developed field of patient interfaces and nasal masks for the supply of air to a patient, small differences may produce a nonobvious advance. *See Outside the Box Innovations, LLC v. Travel Caddy, Inc.*, 695 F.3d 1285, 1298 (Fed. Cir. 2012). *See also Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360–61 (Fed.Cir.2011) (providing that the inquiry under § 103 is not whether the claimed invention is “sufficiently simple to appear obvious to judges after

the discovery is finally made”). “The emphasis on nonobviousness is one of inquiry, not quality” of the advance. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). While “the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not,” (*Leapfrog Enters., Inc. v. Fisher–Price, Inc.*, 485 F.3d 1157, 1161 (Fed.Cir.2007)), the determination is made not after observing what the inventor actually did, but in light of the state of the art before the invention was made. *Outside the Box Innovations*, 695 F.3d at 1298.

For the reasons discussed above, we determine that Petitioner has not established a reasonable likelihood of prevailing on its challenge to independent claim 2 as obvious over Gunaratnam and Ging. Petitioner’s arguments and evidence with respect to dependent claims 3, 4, 6–9, 12–17, 19, 20, and 35 do not remedy the deficiencies with respect to independent claim 2. Accordingly, we also determine that Petitioner has not established a reasonable likelihood of prevailing on its challenges to those dependent claims.

2. Asserted Obviousness over Gunaratnam, Ging, and Kopala

Petitioner asserts claim 10, dependent from claim 2, would have been obvious based on Gunaratnam, Ging and Kopala. Pet. 51–53. Kopala is cited for the asserted disclosure of a nasal pillow patient interface with an inner profile offset inwardly relative to its outer profile. *Id.* at 49. Kopala is not cited for, and does not cure, the deficiencies discussed above in the Gunaratnam and Ging references concerning the ring. Accordingly, it is not reasonably likely, based on the record before us, that Petitioner will prevail with respect to claim 10.

3. *Asserted Obviousness over Gunaratnam, Ging, and McAuley
Claims 2–4, 6–9, 12–17, 19, 20, and 35*

Petitioner asserts that if the Board construes the claimed “ring” more narrowly than proposed by Petitioner “to require a generally circular outer periphery (which it should not),” McAuley teaches such a ring. Pet. 51. We emphasize that we have not construed the term ring to require a generally circular outer periphery. We have construed the term ring to mean a generally circular band of material.

Petitioner contends that McAuley remedies any failure of the Gunaratnam/Ging combination to teach or suggest a “ring.” *Id.* Petitioner provides an annotated version of McAuley’s Figure 9, reproduced below, depicting McAuley’s “nasal cannula”:

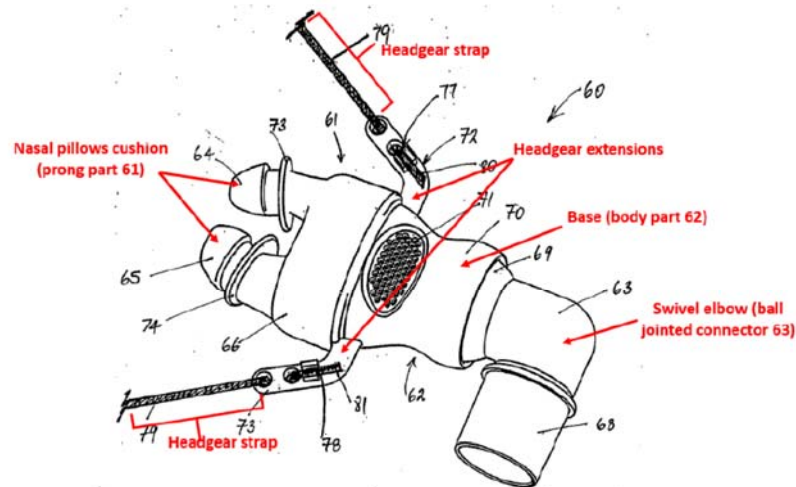


Figure 9

Id. at 52. As shown in annotated Figure 9 above, McAuley’s cannula includes body part 62, which Petitioner asserts is a “ring” as recited in claim 1. *Id.* at 51–53. The nasal cannula also includes a flexible prong part

61 (i.e., a nasal pillows mask body) and a ball jointed connector 63 (swivel elbow). *Id.* at 53; *see* Ex. 1034, 10:31–11:9⁸.

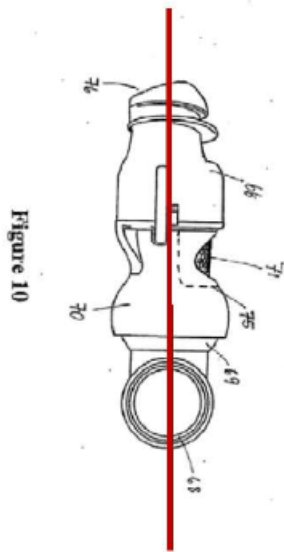
Petitioner argues that one of skill in the art would have been motivated to use McAuley’s teachings to modify the Gunaratnam/Ging patient interface to make the exterior of the frame generally circular, because, according to Petitioner, “[d]oing so would reduce the weight of the mask on the patient’s face, make the frame more compact (and therefore less obstructive to the patient’s view), and reduce material costs in manufacturing the frame.” *Id.* at 53 (citing Ex. 1008 ¶¶ 53–56). Dr. Izuchukwu’s testimony repeats Petitioner’s rationale for the proposed modification. Dr. Izuchukwu testifies “that a skilled artisan would have seen a reason to have modified the outer periphery of the frame that is shown in Gunaratnam’s Figure 135 embodiment (and also in various embodiments of Ging) so that the outer periphery was generally circular.” Ex. 1008 ¶ 55. According to Dr. Izuchukwu, “skilled artisans would have understood these advantages to include reducing the weight of the mask on a patient’s face, making the frame more compact and therefore less obstructive to the patient’s view, and reducing the material costs to manufacture the frame.” *Id.*

Patent Owner argues that “[m]odifying the oblong, horseshoe shaped frame of Gunaratnam Figure 135 to make it a ring would require substantial modifications to the frame.” Prelim. Resp. 66. According to Patent Owner, “Petitioners provide almost no details as to how the mask frame of McAuley could be combined with a reasonable expectation of success with the frame

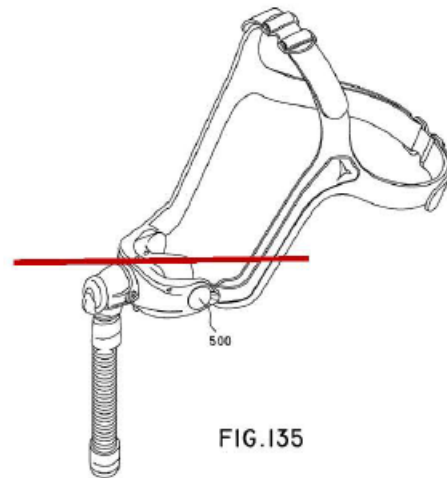
⁸ We cite to the page numbers applied to the exhibit on the bottom of each page of Exhibit 1034 in accordance with 37 C.F.R. § 42.63(d)(2)(i).

shown in Gunaratnam Figure 135 (as already modified by Petitioners in view of Ging).” *Id.*

Patent Owner additionally argues that Petitioner appears to propose modifying Figure 135 so that the added nozzle assembly attaches to a vertically oriented surface of the mask frame and thus has a horizontal attachment orientation. *Id.* at 68 According to Patent Owner, that is substantially different from the arrangement shown in McAuley, in which nasal prongs 64, 65 and associated body 66 are located on top of body 62 and have a vertical attachment orientation. *Id.* Patent Owner provides annotated figures from McCauley (Figure 10) and from Gunaratnam (Figure 135), reproduced below, to demonstrate its argument:



**Vertically
oriented attachment**



**Horizontally
oriented attachment**

Id. at 68. In the above figures, Patent Owner uses a vertical line through McAuley’s Figure 10 to show the vertical orientation of McAuley’s “ring” and a horizontal line through Gunaratnam’s Figure 135 to show the horizontal orientation of the Gunaratnam/Ging frame.

Patent Owner concludes that neither Petitioner nor Dr. Izuchukwu have explained adequately *how* or *why* the proposed modifications would be made (*id.* at 70, 72) and argues that “Petitioners’ conclusory assertions are insufficient to demonstrate any reason why a POSITA would have replaced the frame of Gunaratnam Figure 135 with a ring.” *Id.* at 73.

We agree with Patent Owner that Petitioner’s asserted reasons for modifying the Gunaratnam/Ging patient interface in view of McAuley are conclusory and unpersuasive. Petitioner has not explained sufficiently why a person of ordinary skill in the art who wanted to modify the frame of Gunaratnam or Ging to make it lighter or more compact would have changed its structure to be a generally circular band of material. Petitioner does not assert that McAuley teaches using a generally circular band of material for that purpose. There is no persuasive evidence that using a generally circular band of material as the frame reduces weight or makes the structure more compact. *See also InTouch Techs., Inc. v. VGO Comms., Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014) (determining that conclusory assertions that a skilled person *could* have combined the teachings of the references was insufficient to show that the skilled person *would* have been motivated to do so). Our analysis in Petitioner’s Ground 1, and the legal authority relied on therein, is applicable also to Petitioner’s failure to provide an evidence-based, persuasive analysis as to why the proposed modifications would have been obvious in this Ground 3.

For the reasons discussed above, we determine that Petitioner has not established a reasonable likelihood of prevailing on its challenge to claims 2–4, 6–9, 12–17, 19, 20, and 35 as obvious over Gunaratnam, Ging, and McAuley.

4. *Asserted Obviousness over Gunaratnam,
Ging, McAuley and Kopala*

Similar to Petitioner's asserted Ground 2, Petitioner asserts claim 10, dependent from claim 2, would have been obvious based on Gunaratnam, Ging, McAuley, and Kopala. Pet. 55. Kopala is cited for the asserted disclosure of a nasal pillow patient interface with an inner profile offset inwardly relative to its outer profile. *Id.* Kopala is not cited for, and does not cure, the deficiencies discussed above in the Gunaratnam, Ging, and McAuley references concerning the ring. Accordingly, it is not reasonably likely, based on the record before us, that Petitioner will prevail with respect to claim 10.

III. CONCLUSION

For the reasons give, Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of at least one of claims 2–4, 6–10, 12–17, 19, 20, and 35 of the '741 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner's Petition for an *inter partes* review of claims 2–4, 6–10, 12–17, 19, 20, and 35 of U.S. Patent No. 8,479,741 B2 is *denied*.

IPR2016-01718
Patent 8,479,741 B2

PETITIONER:

Michael Hawkins
Michael J. Kane
Stephen R. Schaefer
Christopher Hoff
Andrew Dommer
FISH & RICHARDSON P.C.
hawkins@fr.com
kane@fr.com
schaefer@fr.com
hoff@fr.com
dommer@fr.com

PATENT OWNER:

Brenton Babcock
Joseph Jennings
KNOBBE MARTENS OLSON & BEAR LLP
2brb@knobbe.com
2jfj@knobbe.com