

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHARKNINJA, INC., SHARKNINJA OPERATING LLC,
SHARKNINJA MANAGEMENT LLC, AND
SHARKNINJA SALES COMPANY,
Petitioner,

v.

DYSON TECHNOLOGY LIMITED,
Patent Owner.

IPR2023-01324
Patent 9,414,662 B2

Before JAMES A. TARTAL, FRANCES L. IPPOLITO, and
MATTHEW S. MEYERS, *Administrative Patent Judges*.

MEYERS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

SharkNinja, Inc., SharkNinja Operating LLC, SharkNinja Management LLC, and SharkNinja Sales Company (“Petitioner” or “Petitioners”) filed a Petition to institute an *inter partes* review of claims 26–28 (the “challenged claims”) of U.S. Patent 9,414,662 B2 (Ex. 1001, “the ’662 patent”). Paper 2 (“Pet.”). Dyson Technology Limited (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2020). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review of all challenged claims on all asserted grounds pursuant to 35 U.S.C. § 314. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–1360 (2018) (requiring institution on all claims, if any); *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019) (providing guidance in view of *SAS*).¹

¹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

B. Real Parties-in-Interest

Petitioner identifies SharkNinja, Inc., SharkNinja Operating LLC, SharkNinja Management LLC, and SharkNinja Sales Company as the real parties-in-interest. Pet. vi. Additionally, “out of an abundance of caution,” Petitioner identifies SharkNinja Midco LLC, SharkNinja Appliance LLC, Shark Ninja Appliance UK Holdco Limited, and SharkNinja Global SPV, Ltd. as real-parties-in-interest. *Id.*

Patent Owner identifies Dyson Technology Limited as the real party-in-interest. Paper 4, 1.

C. Related Proceedings

The parties agree that there are no other matters that would affect, or be affected by, a decision in this proceeding. Pet. vi.; Paper 4, 1.

D. Overview of the '662 Patent

The '662 patent is titled “Hand Held Appliance.” Ex. 1001, code (54). The '662 patent observes that “[b]lowers and in particular hot air blowers are used for a variety of applications such as drying substances such as paint or hair and cleaning or stripping surface layers.” *Id.* at 1:17–19. In particular, the '662 patent focuses on a hair care appliance that may, for example, include a “double layered wall [that] reduces the transmission of vibration and noise from within the handle” and “isolates internal components of the handle from the outer wall.” *Id.* at 1:35–44. Figure 3 of the '662 patent illustrates a cross section of a hairdryer, and is reproduced below.

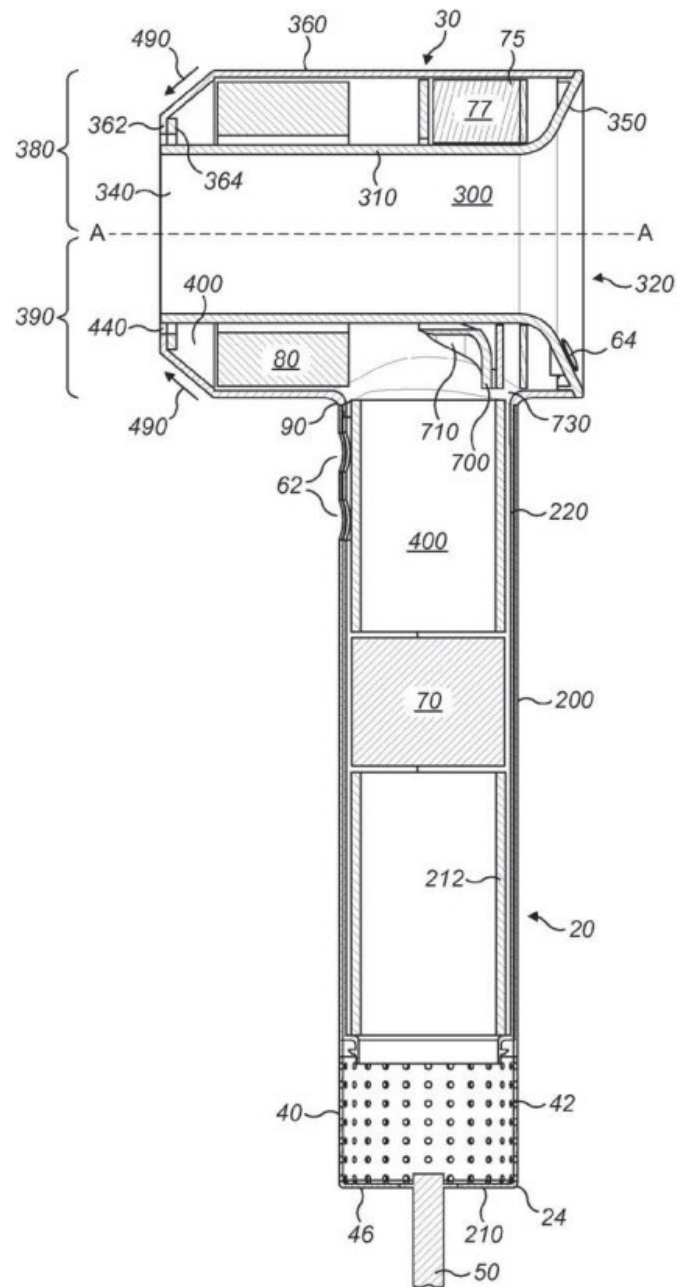


FIG. 3

The hairdryer shown in Figure 3 is comprised of handle 20 and body 30. Ex. 1001, 10:1–3. The handle includes outer wall 200, “which extends from the body 30 to a distal end 24 of the handle,” as well as inner wall 220, which “is a duct which surrounds and defines a primary fluid flow path 400

through the hairdryer.” *Id.* at 10:1–3, 12:30–33. “[P]rimary inlet 40 in the handle 20 includes first apertures that extend around and along 42 the outer wall 200 of the handle and second apertures that extend across 46 and through the end wall 210 of the handle 20.” *Id.* at 10:5–8. Fan unit 70 is located upstream of primary inlet 40 and “draws fluid through the primary inlet 40 towards the body 30 through a fluid flow path 400 that extends from the primary inlet 40 and into the body 30 where the handle 20 and the body 30 are joined 90.” *Id.* at 10:22–27. Fluid flow path 400 continues through body 30, around heater 80, and to primary fluid outlet 440. *Id.* at 10:27–30.

E. Illustrative Claim

Petitioner challenges claims 26–28 of the ’662 patent. Pet. 1. Challenged claim 26 is independent, and is reproduced below.

26. A hair care appliance comprising a body and a handle, the handle comprising an inner wall and an outer wall, wherein the inner wall is disposed radially inwardly from the outer wall and defines a primary fluid flow path that extends from a primary fluid inlet into the appliance, wherein the outer wall is an external surface of the handle, and wherein the primary fluid flow path from the primary fluid inlet to a primary fluid outlet from the body is non linear.

Ex. 1001, 20:4–11.

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 26–28 of the ’662 patent are unpatentable on the following five grounds:

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
26–28	102	Jeong ³
26–28	102	Yoshida ⁴
26–28	102	Jeffs ⁵
26–28	103	Jeffs, Jeong
26–28	103	Jeffs, Yoshida

Petitioner also relies on the Declaration of Daniel M. Nosenchuck, Ph.D. (Ex. 1003).

II. ANALYSIS

A. Summary of Asserted Prior Art References

1. Overview of Jeong (Ex. 1004)

Jeong is directed to “a hair dryer which generates an air current using a coanda effect.” Ex. 1004 ¶ 2. An embodiment of Jeong’s hairdryer is depicted in Figure 5, reproduced below.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the ’662 patent’s earliest effective filing date is after the effective date of the AIA amendments to §§ 102 and 103, this decision refers to the AIA versions of §§ 102 and 103.

³ US 2013/0111777 A1, published May 9, 2013 (Ex. 1004, “Jeong”).

⁴ JP S60-249907, published Dec. 10, 1985 (Ex. 1005, “Yoshida”).

⁵ US 5,407,135, issued Apr. 18, 1995 (Ex. 1006, “Jeffs”).

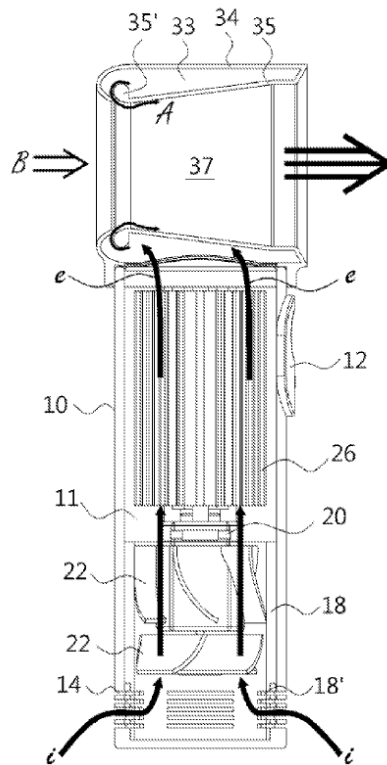


FIG. 5

Figure 5 is an operational state view of the hairdryer that illustrates air current generation. *Id.* ¶ 28. As shown in Figure 5, the hairdryer includes housing 10 with inner space 11 in which parts are installed. *Id.* ¶ 30. Inflow slots 14, located around the circumference of housing 10, provide passage for air introduced from outside the hairdryer. *Id.* ¶ 31. Motor housing 18 is positioned in housing 10 such that “[a]n outer surface of the motor housing 18 may be closely attached to an inner surface of the housing 10.” *Id.* ¶ 33. Inner inflow slots 18’ in motor housing 18 correspond to inflow slots 14 so as to “introduce external air into the motor housing 18.” *Id.* Motor 20, located inside motor housing 18, drives fan 22 to generate air flow through motor housing 18, via inflow slots 14 and inner inflow slots 18’, and into

discharge nozzle 30 (not labeled in Figure 5), which “is disposed on an upper end of the housing 10.” *Id.* ¶¶ 34–36, 39.

2. Overview of Yoshida (Ex. 1005)

Yoshida is directed to “[a] hair dryer in which a motor, a fan, and a heater are housed in an air passage in a cylindrical housing.” Ex. 1005, 9.⁶ An exemplary embodiment is shown in Yoshida’s Figure 1(a), reproduced below.

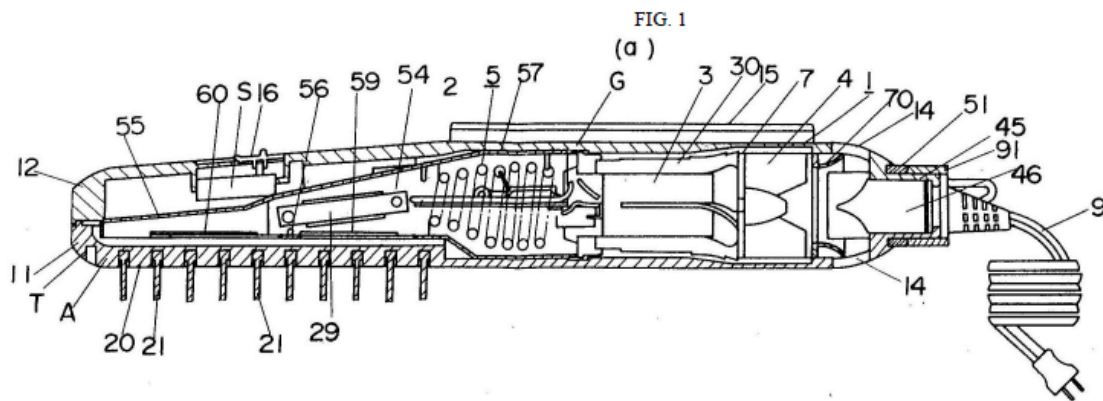


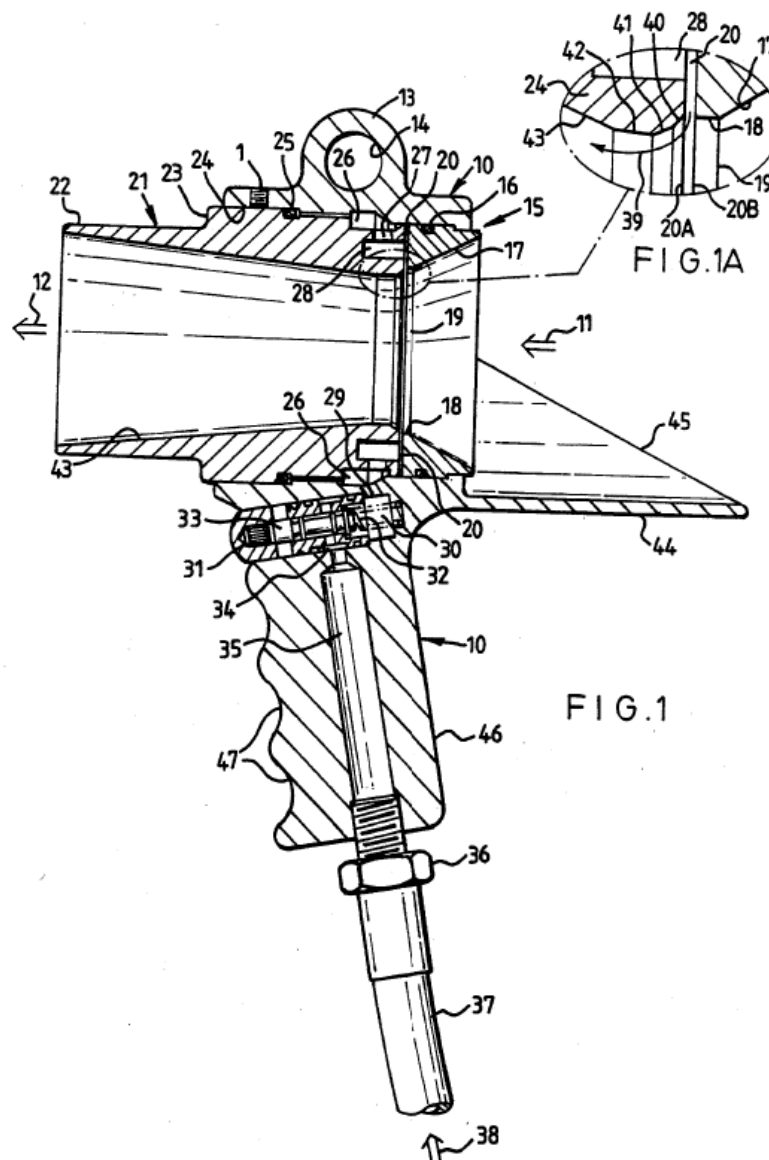
Figure 1(a) is a cross-sectional view of a hair dryer that shows housing 1 comprised of front side half 11 and rear side half 12. *Id.* at 10. Housing 1 includes “a fan 4, a wind tunnel 7 surrounding fan 4, a motor 3 for driving the fan 4, rectifying vanes 30 positioned on the outer circumference of the motor 3, a heater 2, and switch S, in that order.” *Id.* “The cylindrical wind tunnel 7 surrounding the fan 4 is provided because the cross-sectional shape of the housing 1 is rectangular and the air blowing efficiency is low if left as it is.” *Id.* “[S]uction ring 70 is integrally formed at one end in the axial direction for directing the air flowing in from the suction ports 13 [(not

⁶ We cite to the pages numbers of Exhibit 2005 provided by Petitioner, rather than the original page numbers of Yoshida.

labeled in Figure 1(a))] and 14 in the axial direction.” *Id.* Attachment A of the hairdryer, which is “constructed by planting a large number of bristles 56 in a base 20 in which a slit 22 serv[es] as an air outlet,” is attached to the front of hair styling section T. *Id.* In operation, “air flowing into the housing 1 from the suction ports 13 and 14 located at the rear end of the housing 1 is heated by the heater 2, or is guided by the partition plate 55 of the heater enclosing frame 5 without being heated [and] is blown forward through an air outlet composed of the outlet 59 of the front plate 56 arranged on the front surface of the housing 1 and the slit 22 of the attachment A.” *Id.* at 11.

3. *Overview of Jeffs (Ex. 1006)*

Jeffs is directed to “[a] hand-held air blower device for directing a jet of air in a desired direction.” Ex. 1006, code (57). Figure 1 illustrates a longitudinal section through an exemplary hand-held air blower device, and is reproduced below.



As shown in Figure 1, the device includes handle 10 and barrel 21, where “barrel 21 has a generally cylindrical outer wall which is accommodated with a sliding fit by a cylindrical opening in the handle 10.” *Id.* at 3:13–17. “[H]andle 10 has a pistol grip portion 46 with indentations 47 for receiving the fingers of the operator, and a push button 31 for operating a high pressure air inlet valve 30, 32, 33,” also referred to as a valve assembly. *Id.* at 3:19–22, 4:18–19. In operation, when knob 31 is depressed, high pressure air 38 is conveyed through flexible hose 37, union 36, and channel 35 within

handle 10, until it reaches inner chamber 30 of the valve assembly, after which the air “emerges through channel 29, to the barrel chambers 26 and 28,” which are annular chambers in barrel 21, and then “emerges through the inlet slot 20.” *Id.* at 4:26–34

As shown in more detail in Figure 1A, above, which is a partial view of Figure 1, high pressure air emerges from the inlet 20 at right angles to the longitudinal axis of the barrel 21” and “is drawn by the Coanda effect progressively in the downstream direction, as shown by arrow 39.” *Id.* at 4:42–45. “[T]his high pressure air 39 creates a region of low pressure which attracts bulk air flow 11 in the longitudinal direction” that “combines with the high pressure air flow, within the barrel 21, and the combined air flow is at an intermediate velocity when it emerges at 12.” *Id.* at 4:10–16, 4:49–54.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of invention. *Graham*, 383 U.S. at 17. Factors pertinent to determining the level of ordinary skill in the art include (1) the educational level of the inventor; (2) the type of problems encountered in the art; (3) prior-art solutions to those problems; (4) the rapidity with which innovations are made; (5) the sophistication of the technology; and (6) the educational level of workers active in the field. *Env'tl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983). Not all factors may exist in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive, but merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). Further, the prior art

itself may reflect an appropriate skill level. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Petitioner asserts that, “on or around July 5, 2013,” one of ordinary skill in the art

would have had a Bachelor’s degree or comparable technical degree in Mechanical and/or Aerospace Engineering (or an equivalent engineering or design-related field that involved exposure to introductory fluid mechanics and heat transfer at a level roughly equivalent to that of a second-year engineering student) or equivalent work experience, and at least one year’s worth of experience in research, design and/or development related to appliances for blowing air such as hair dryers (or other comparable industrial design).

Pet. 18–19 (citing Ex. 1003 ¶ 19). Petitioner notes that “[a]dditional education could substitute for experience, and vice versa.” *Id.* at 19 (citing Ex. 1003 ¶ 19). At this stage of the proceeding, “Patent Owner does not contest Petitioners’ definition of a person of ordinary skill in the art.” Prelim. Resp. 3 n.1 (citing Pet. 18–19).

On the current record, we determine that Petitioner’s definition of a person of ordinary skill in the art is consistent with the scope and content of the ’662 patent, and, at this stage, we apply Petitioner’s definition for purposes of this Decision.

C. Claim Construction

In an *inter partes* review, a patent claim shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). This rule adopts the same claim construction standard used by Article III federal courts, which follow *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny.

Under that standard, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *See Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner submits “that no construction of any claim[] term is necessary” because “the Challenged Claims would have been anticipated or obvious under any reasonable construction.” Pet. 8. Petitioner does, however, argue that the preamble of claim 26 is not limiting because “hair use” is merely the “purpose or intended use” of the claim, and the body of claim 26 is structurally complete without recitation of the term “hair care.” *Id.* at 65–66.

Patent Owner responds that “there are two claim construction issues for the Board to resolve in order to determine whether to grant the Petition and institute trial,” namely “inner wall” and whether the preamble of claim 26 is limiting. Prelim. Resp. 2. At this stage of the proceeding, we determine that it is necessary only to construe the term “inner wall.” *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)).

1. “inner wall”

Patent Owner asserts that under the *Phillips* claim construction standard, the Board should construe the term “inner wall” to mean “the wall located on the inside of the handle that extends the entirety of the handle from the primary fluid inlet to the body of the appliance.” Prelim. Resp. 3–4. Patent Owner disagrees with Petitioner’s application of the asserted art in a way that allegedly implies that the “inner wall” “limitation is met as long as there is a fluid flow path from the outside of the housing into *any* portion of the appliance.” *Id.* at 4 (citing Pet. 32–34, 56–57, 79–81). Rather, Patent Owner argues that the term “‘inner wall’ in Claim 26 must define something more than just a fluid flow path from the outside of the housing into *any* portion of the appliance.” *Id.* at 4–5. Patent Owner reasons that “[b]ecause the primary fluid flow path extends from the primary fluid inlet to a primary fluid outlet from the body, the inner wall defining the primary fluid flow path in the handle *must* extend the length of the handle to complete the primary fluid flow path.” *Id.* at 5 (emphasis added).

To support its construction, Patent Owner directs our attention to examples in the Specification which Patent Owner contends “consistently require the ‘inner wall’ to extend the entirety of the handle from the primary fluid inlet to the body of the appliance in order to define ‘a primary fluid flow path that extends from a primary fluid inlet into the appliance.’” *Id.* at 5; *see also id.* at 5–7 (discussing Figures 3, 4b, 5, and 6). Thus, Patent Owner concludes that one of ordinary skill in the art would have “interpreted ‘inner wall’ to mean ‘the wall located on the inside of the handle that extends the full length of the handle from the primary fluid inlet to the body of the appliance.’” *Id.* at 7.

On the current record, and for purposes of this decision, we decline to adopt Patent Owner’s proposed construction for the term “inner wall.” Claim 26 recites an “inner wall” of a handle of the claimed appliance that “is disposed radially inwardly from the outer wall and defines a primary fluid flow path that extends from a primary fluid inlet into the appliance.” Ex. 1001, 20:6–8. Thus, claim 26 recites that the “inner wall” defines the “primary fluid flow path” insofar as that path “extends from a primary fluid inlet into the appliance.” Claim 26 also recites that “the primary fluid flow path from the primary fluid inlet to a primary fluid outlet from the body is non linear.” *Id.* at 20:9–11. This further defines the “primary fluid flow path” as continuing to “a primary fluid outlet” of the body of the appliance, but this language does not further limit the claimed “inner wall.”

On the current record, Patent Owner does not adequately explain why we should construe the “inner wall” in a manner such that it “must extend the length of the handle to complete the primary fluid flow path,” as Patent Owner suggests. *See* Prelim. Resp. 5. Nor do we see anything in claim 26 itself that would require the “inner wall” to extend the entire length of the handle so as to meet the body. Claim 26 does not appear to preclude another element from defining some part of the “primary fluid flow path” between the “inner wall” and the body, and so Patent Owner’s concern that if the “inner wall” did not meet the body, “the primary fluid flow path would not extend from the primary fluid inlet to the primary fluid outlet from the body” (*id.*), is not persuasive.

Patent Owner argues that Petitioner’s contentions read the term “inner wall” out of claim 26, but we disagree. *See* Prelim. Resp. at 4 (“Such a claim interpretation renders the phrase ‘inner wall . . . defines a primary

fluid flow path that extends from a primary fluid inlet into the appliance’ meaningless because the fluid inlet itself meets the Petitioner’s interpretation that the inner wall is met by any wall that provides a fluid flow path from the outside of the housing into *any* portion of the appliance.”). As Patent Owner acknowledges, Petitioner’s contentions recognize the need for some “wall” element through which fluid may flow. *See id.* Further, the fact that claim 26 requires an “inner wall” reflects its position relative to the claimed “outer wall,” namely, that it is “disposed radially inwardly from the outer wall.” Our claim construction analysis here, as well as our analysis below regarding Petitioner’s contentions, fully appreciates the positional aspect of the “inner wall” of claim 26. On the current record, we are not persuaded that claim 26 requires any limitation on the extent of the “inner wall” toward the body of the appliance, where no such limitation governing the length of the “inner wall” is present in the claim.

Patent Owner’s reliance on the Specification (*see* Prelim. Resp. 5–7) is also unavailing in persuading us to accept its proposed construction on the current record. While “the specification is ‘always highly relevant to the claim construction analysis’” (*Phillips*, 415 F.3d at 1315 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996))), we do not import limitations from the Specification into the claim (*see id.* at 1323 (noting “the danger of reading limitations from the specification into the claim”)). As noted above, there is no limitation in claim 26 governing the length of the “inner wall,” specifically, how far it extends toward the body, including whether it makes contact with the body. Even if, as Patent Owner asserts, “[a]ll of the figures illustrating the handle show that inner wall 220 extends the full length of the handle and the primary fluid flow path from the

primary fluid inlet 40 to the body 30” (*see* Prelim. Resp. 5), this does not require us to read such feature into claims that capture the invention in broader terms. *See Phillips*, 415 F.3d at 1323 (“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”). In short, on the current record Patent Owner’s proposed construction appears to add a limitation to claim 26 not required by claim 26.

We need not, at this stage, provide a precise construction for “inner wall,” as it suffices for purposes of instituting an *inter partes* review to determine on the current record that claim 26 does not require an “inner wall” that “extends the entirety of the handle from the primary fluid inlet to the body of the appliance” as submitted by Patent Owner. Prelim. Resp. at 3–4.

D. Alleged Anticipation by Jeong (Ground 1)

Petitioner asserts that claims 26–28 are anticipated by Jeong. Pet. 19–48. Petitioner also relies on the testimony of Dr. Nosenchuck to support its arguments. *Id.* (citing Ex. 1003). Patent Owner presents arguments disputing Petitioner’s contentions based on Jeong. *See* Prelim. Resp. 11–16.

1. Overview of Jeong (Ex. 1004)

Jeong is directed to “a hair dryer which generates an air current using a coanda effect.” Ex. 1004 ¶ 2. An embodiment of Jeong’s hairdryer is depicted in Figure 5, reproduced below.

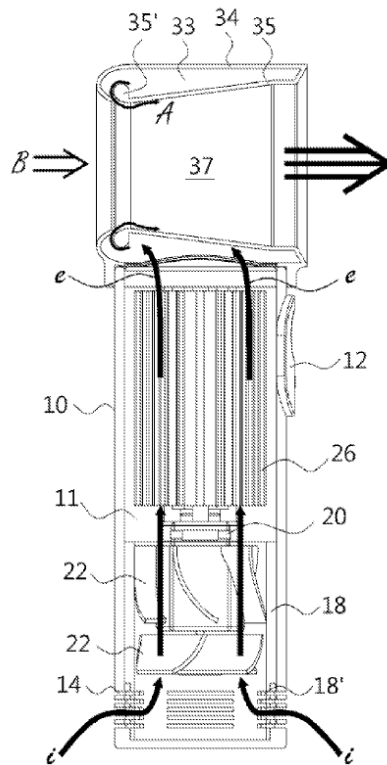


FIG. 5

Figure 5 is an operational state view of the hairdryer that illustrates air current generation. *Id.* ¶ 28. As shown in Figure 5, the hairdryer includes housing 10 with inner space 11 in which parts are installed. *Id.* ¶ 30. Inflow slots 14, located around the circumference of housing 10, provide passage for air introduced from outside the hairdryer. *Id.* ¶ 31. Motor housing 18 is positioned in housing 10 such that “[a]n outer surface of the motor housing 18 may be closely attached to an inner surface of the housing 10.” *Id.* ¶ 33. Inner inflow slots 18’ in motor housing 18 correspond to inflow slots 14 so as to “introduce external air into the motor housing 18.” *Id.* Motor 20, located inside motor housing 18, drives fan 22 to generate air flow through motor housing 18, via inflow slots 14 and inner inflow slots 18’, and into

discharge nozzle 30 (not labeled in Figure 5), which “is disposed on an upper end of the housing 10.” *Id.* ¶¶ 34–36, 39.

2. *Analysis of Claim 26*

Petitioner asserts claim 26 would have been anticipated by Jeong. Pet. 22–33 (citing Exs. 1001, 1003, 1004). We use Petitioner’s notations to identify the claim elements.

a) [26pre] A hair care appliance comprising:

Petitioner asserts that if the preamble is limiting, Jeong discloses its contents. Pet. 22–24. In particular, Petitioner asserts that “Jeong discloses ‘a hair dryer in which an amount of air current generated by a fan rotated by an operation of a motor is increased by a coanda effect to transfer a relatively large amount of air current into user’s hair.’” *Id.* at 22–24 (citing Ex. 1004 ¶ 9, Fig. 1, Abstract; Ex. 1003 ¶¶ 67–68).

b) [26a] a body and a handle

Petitioner asserts that “Jeong discloses a ‘discharge nozzle 30’ (i.e., ‘a body’) that ‘is disposed on an upper end of [a] housing 10,’ which defines a portion of an outer appearance of a hair dryer (i.e., a portion of an outer appearance of a ‘handle’).” Pet. 24 (citing Ex. 1004 ¶¶ 30, 39). Petitioner provides the following copy of Figure 1 of Jeong, annotated to identify, among several items, housing 10 and discharge nozzle 30. *Id.* at 25 (citing Ex. 1004, Fig. 1).

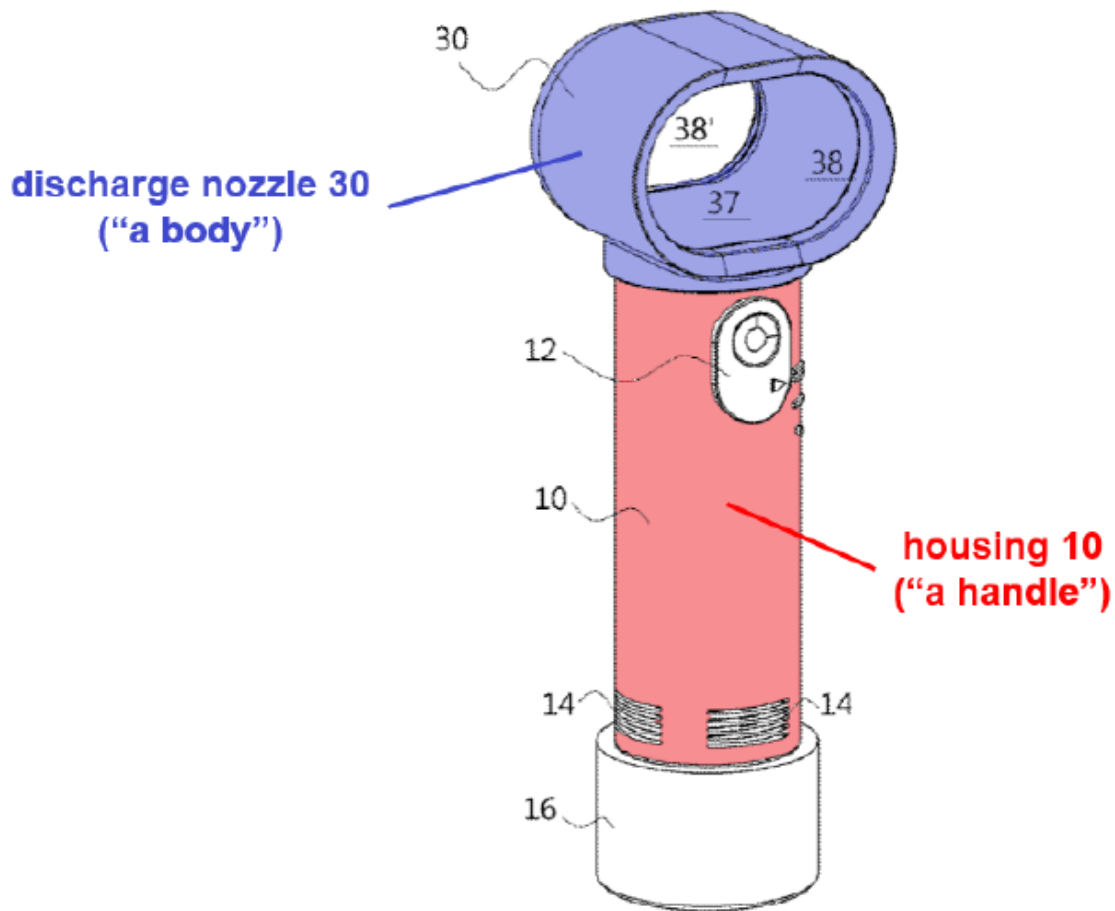


FIG. 1

Figure 1 “is a perspective view of a hairdryer according to an embodiment of the present invention.” Ex. 1004 ¶ 24.

With respect to “a body,” Petitioner asserts

Jeong’s “discharge nozzle 30” includes “a portion through which air is finally discharged from the discharge nozzle 30 [that] may be referred to as a discharge hole 38,” as well as “a portion through which air is introduced into the central passage part 37 [that] may be referred to as a secondary inflow hole 38’.” *Id.*, [0046]. The discharge nozzle “is configured to mix the air passing through the housing 10 with the external air, thereby discharging the mixed air,” which cor[r]esponds to the structure and function as the “body” described in the ’662 patent. *Id.*, [0039]; *see* Ex. 1001, 10:59–61 (“The primary fluid outlet 440

may be internal so the primary fluid flow path 400 merges with the fluid flow path 300 within the body.”); Ex. 1003, ¶¶70–72. Pet. 25–26. Thus, Petitioner concludes that “Jeong discloses ‘a body’ as required by limitation [26a].” *Id.* at 26 (citing Ex. 1003 ¶ 72).

With respect to “a handle,” Petitioner asserts that “Jeong’s housing 10 ‘has a cylindrical shape’ and ‘defines a portion of an outer appearance of a hair dryer.’” Pet. 26 (citing Ex. 1004 ¶ 30). Petitioner asserts further that Jeong’s “housing 10 provides an inner space 11 in which parts [such as a motor and a fan] are installed.” *Id.* (citing Ex. 1004 ¶¶ 30, 33–34) (modification in original). Thus, Petitioner concludes that “Jeong’s housing 10 (and the components contained within the inner space 11, including the motor housing 18) is ‘a handle’ as required by limitation [26a].” *Id.* at 26–27 (citing Ex. 1003 ¶¶ 73–75).

c) [26b] the handle comprising an inner wall and an outer wall

Petitioner asserts that “Jeong’s housing 10 (i.e., ‘the handle’) ‘defines a portion of an outer appearance of a hair dryer,’ i.e., a handle.” Pet. 27 (citing Ex. 1004 ¶ 30). Petitioner asserts further that “‘housing 10 provides an inner space 11,’ within which a ‘motor housing 18 disposed.’” *Id.* (citing Ex. 1004 ¶ 33). Petitioner provides the following copy of Figure 2 of Jeong, annotated to identify, among several items, housing 10 and motor housing 18. *Id.* at 28 (citing Ex. 1004, Fig. 2).

Petitioner provides the following copy of Figure 3 of Jeong, annotated to identify, among several items, motor housing 18. Pet. 29 (citing Ex. 1004, Fig. 3).

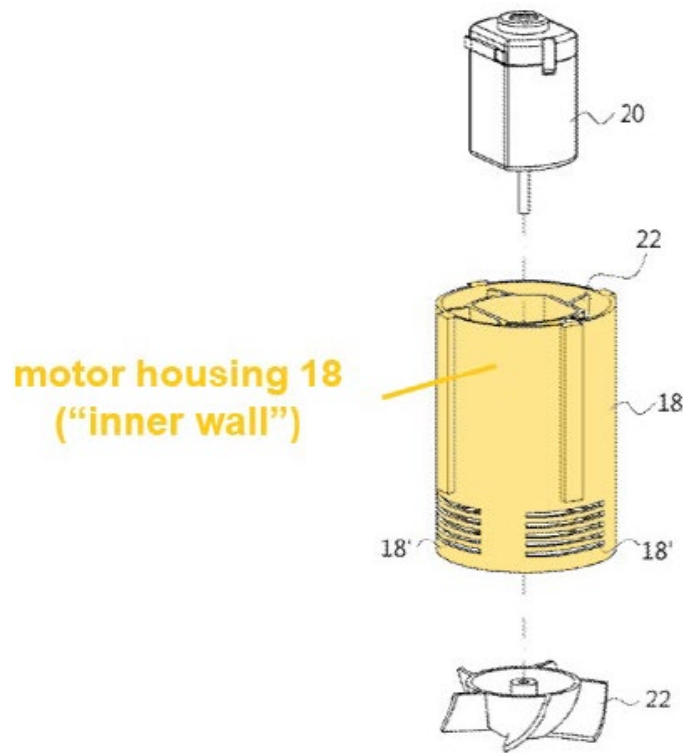


FIG. 3

Figure 3 “is an exploded perspective view of a motor and a fan according to an embodiment of the present invention.” Ex. 1004 ¶ 26. According to Petitioner, “Jeong explains that ‘[a]n outer surface of the motor housing 18 may be closely attached to an inner surface of the housing 10’” and “motor housing 18 may be ‘firmly fixed to the inside of the housing 10.’” Pet. 29 (citing Ex. 1004 ¶¶ 33, 37). Thus, Petitioner concludes that “Jeong discloses ‘the handle comprising an inner wall and an outer wall’ as required by element [26b].” *Id.* (citing Ex. 1003 ¶ 77).

- d) [26c] wherein the inner wall is disposed radially inwardly from the outer wall and defines a primary fluid flow path that extends from a primary fluid inlet into the appliance

Petitioner asserts that “Jeong’s motor housing 18 (i.e., ‘the inner wall’) defines a primary fluid flow path that extends from a primary fluid inlet into the appliance.” Pet. 31 (citing Ex. 1003 ¶ 80). According to Petitioner,

Jeong explains that “[a] plurality of inflow slots 14” (i.e., “a primary fluid inlet into the appliance”) are “defined in a lower portion of the housing 10.” Ex. 1004, [0031]. The “inflow slots 14 may serve as passage through which air is introduced inward from the outside of the housing 10.” *Id.* Moreover, “[i]n the motor housing 18, inner inflow slots 18’ are defined in positions corresponding to those of the inflow slots 14 to introduce external air into the motor housing 18.” *Id.*, [0033].

Id. at 31–32. Petitioner provides the following copy of Figure 5 of Jeong, annotated to identify, among several items, housing 10 and motor housing 18. Pet. 33 (citing Ex. 1004, Fig. 5).

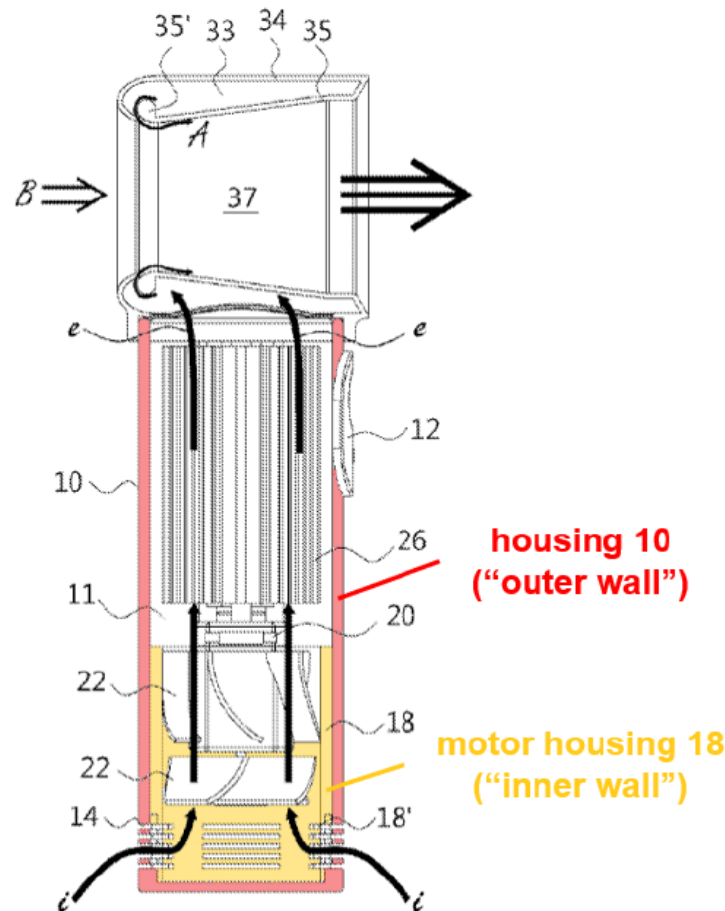


FIG. 5

Figure 5 “is an operation state view illustrating an air current generation process according to an embodiment of the present invention.” Ex. 1004 ¶ 28. Petitioner contends that “Jeong’s Figure 5 depicts ‘an air current generation process’ wherein the ‘motor 20 may be driven to rotate the fan 22, thereby suctioning air into the housing 10.’” Pet. 33 (citing Ex. 1004 ¶¶ 28, 52, Fig. 5).

According to Petitioner,

Jeong explains that “[t]he inner space 11 corresponding to the inside of the inflow slot 14 of the housing 10 may have a relatively low pressure by the air current,” thus “air may be introduced as shown by an arrow i of FIG. 5 through the inflow slot 14 and the inner inflow slot 18’ from the

outside of the housing 10.”

Id. at 33–34 (citing Ex. 1004 ¶ 52). Thus, Petitioner concludes that Jeong discloses the subject matter of element [26c]. *Id.* at 34 (citing Ex. 1003 ¶ 81).

e) [26d] wherein the outer wall is an external surface of the handle

Petitioner asserts that, as discussed above with respect to element [26a], “Jeong’s housing 10 (and components contained within the inner space 11 therein) (i.e., ‘the handle’) ‘defines a portion of an outer appearance of a hair dryer.’” Pet. 34 (citing Ex. 1004 ¶ 30, Figs. 1, 2, 5). Thus, Petitioner concludes that “Jeong discloses ‘wherein the outer wall is an external surface of the handle’ as required by element [26d].” *Id.* at 37 (citing Ex. 1003 ¶ 83).

f) [26e] wherein the primary fluid flow path from the primary fluid inlet to a primary fluid outlet from the body is non linear.

Petitioner asserts

As explained above with respect to element [26c], “air may be introduced as shown by an arrow i of FIG. 5 through the inflow slot 14 and the inner inflow slot 18’ from the outside of the housing 10.” Ex. 1004, [0052]. Accordingly, the “inflow slot 14” (and the “inner inflow slot 18”) comprises a “primary fluid inlet.” Ex. 1003, ¶85. Likewise, and as explained above with respect to element [26a], Jeong’s “discharge nozzle 30” (i.e., “the body”) includes “a portion through which air is finally discharged from the discharge nozzle 30 [that] may be referred to as a discharge hole 38” (i.e., “a primary fluid outlet from the body”). *Id.*, [0046].

Pet. 38.

Petitioner provides the following copy of Figure 5 of Jeong, annotated to identify, among several items, housing 10 and motor housing 18. Pet. 40 (citing Ex. 1004, Fig. 5).

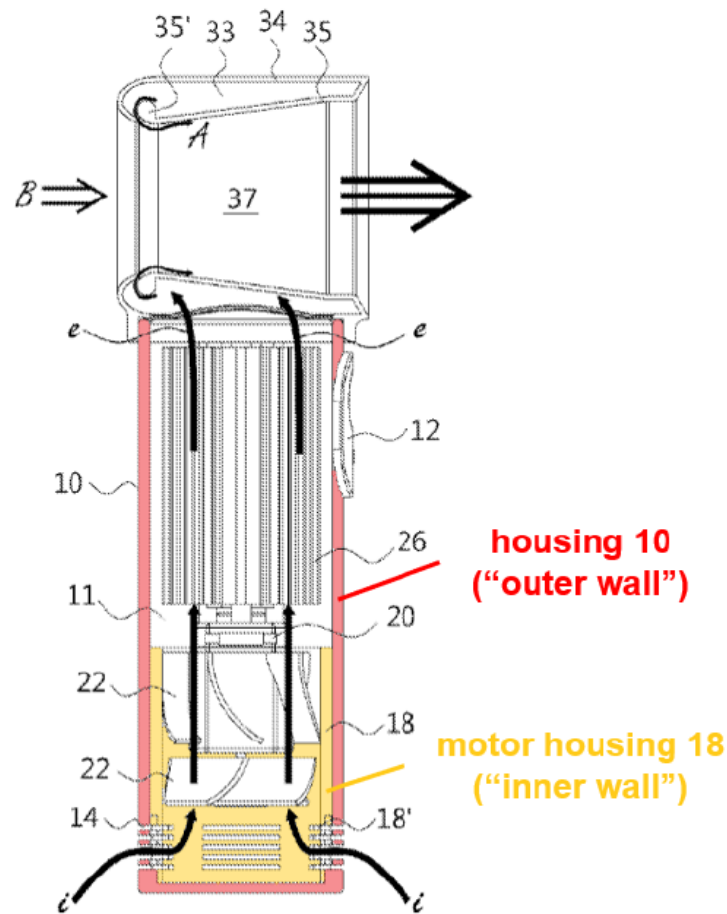


FIG. 5

Figure 5 “is an operation state view illustrating an air current generation process according to an embodiment of the present invention.” Ex. 1004

¶ 28. Petitioner asserts

[a]s shown by the black arrows, which indicate the direction of air flow, “[t]he air introduced into the housing 10 passes through the outside of the fan 22 and the motor 20 to pass between the heating plates of the heater 28.” [Ex. 1004 ¶ 53]. Next, “[t]he air passing through the heater 28 passes through the coupling ring part 32 to flow into the inner passage 33 as shown by an arrow e of FIG. 5,” and “[t]he air introduced into the inner passage 33 is transferred into the whole region of the inner passage 33 having the ring shape and then is discharged from the inner passage 33 through the discharge slit 36.” *Id.*, [0054].

Pet. 41. Petitioner further asserts

“[t]he air discharged through the discharge slit 36 flows along the coanda surface 35' as shown by an arrow A of FIG. 5.” *Id.*, [0055]. External air that is “introduced into the central passage part 32 through the secondary inflow hole 38['][□] and the air discharged through the discharge slit 36 are mixed with each other while passing through the section of the central passage part 32 corresponding to the diffusion surface 35'.” *Id.*, [0056]. Finally, “the air is discharged through the discharge hole [38] and is transferred into the user's hair.” *Id.*

Id. (modifications in original)(footnote omitted).

Petitioner provides another following copy of Figure 5 of Jeong, annotated to depict the change in flow direction of the primary fluid flow path. Pet. 43 (citing Ex. 1004, Fig. 5).

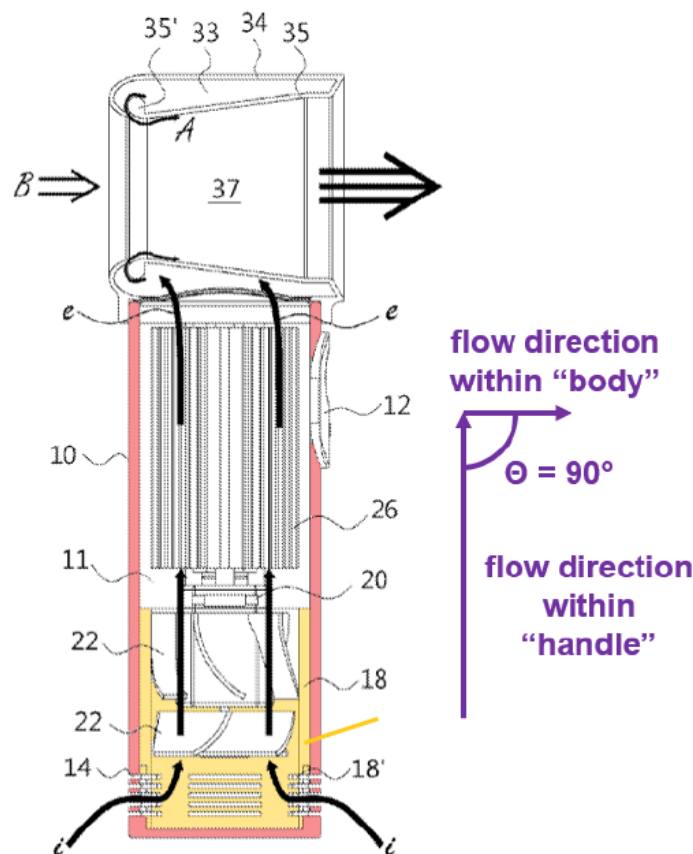


Figure 5 “is an operation state view illustrating an air current generation process according to an embodiment of the present invention.” Ex. 1004 ¶ 28. With reference to Figure 5, Petitioner contends that “Jeong’s primary fluid flow path (i.e., the airflow path through the housing 10 and motor housing 18, the discharge slit 36, and the discharge hole 38) changes by approximately 90 degrees.” Pet. 42 (citing Ex. 1004, Fig. 5). Thus, Petitioner concludes that Jeong discloses the subject matter required by element [26d]. *Id.* at 43 (citing Ex. 1003 ¶¶ 86–87).

3. Patent Owner’s Contentions regarding Claim 26

Patent Owner contends that Petitioner’s ground of unpatentability based on Jeong is deficient. *See* Prelim. Resp. 11–13. Patent Owner argues that, when properly construed, Jeong fails to disclose “the claimed ‘inner wall’” because “Jeong’s motor housing 18 does not extend from the plurality of inflow slots 14 to the discharge nozzle 30.” Prelim. Resp. 12–13.

4. Discussion of Claim 26

Having considered the conflicting positions of the parties, we conclude that, at this stage of the proceeding, Petitioner has shown a reasonable likelihood that it would prevail in challenging the patentability of independent claim 26. In our view, Petitioner’s analysis, on this record, adequately identifies where all the elements of claim 26 are found in the prior art.

Patent Owner argues Jeong fails to disclose “the claimed ‘inner wall,’ that is ‘the wall located on the inside of the handle that extends the full length of the handle from the primary fluid inlet to the body of the

appliance.” Prelim. Resp. 12. More particularly, Patent Owner asserts that Jeong fails to disclose the “inner wall” because

Jeong’s motor housing 18 does not extend from the plurality of inflow slots 14 to the discharge nozzle 30. Instead, Jeong’s motor housing 18 that Petitioners assert is the claimed “inner wall” only extends from the plurality of inflow slots 14 about half-way up housing 10, which Petitioners assert is the claimed “handle,” and does not make any contact with the discharge nozzle 30 that Petitioners assert is the claimed “body.”

Id. at 13.

As set forth above, on the current record we do not construe the claim as requiring an “inner wall” that “extends the entirety of the handle from the primary fluid inlet to the body of the appliance.” *See* Section II.C.1.

Instead, based on the current record, and consistent with this understanding, we find Petitioner has shown sufficiently that Jeong’s “motor housing 18, which is within inner space 11 of the handle, comprises an ‘inner wall.’”

Pet. 28 (citing Ex. 1003 ¶ 77).

We find Petitioner’s arguments and evidence in support thereof sufficient at this stage of the proceeding for the reasons explained by Petitioner. *See* Pet. 19–43. Accordingly, based on the arguments and evidence on the record before us, we determine, for purposes of this Decision, Petitioner has established a reasonable likelihood that independent claim 26 is anticipated by Jeong.

5. *Claim 27: The appliance of claim 26, wherein the primary fluid flows within the handle in a first direction and within the body in a second direction.*

Petitioner asserts that “[a]s explained above with respect to element [26e], Jeong’s primary fluid flow path (i.e., the airflow path through the housing 10 and motor housing 18, the discharge slit 36, and the discharge

hole 38) changes by approximately 90 degrees.” Pet. 44–45 (citing Ex. 1004, Fig. 5). Thus, Petitioner concludes that Jeong discloses the subject matter required by claim 27. *Id.* at 45 (citing Ex. 1003 ¶ 89).

Patent Owner does not specifically address claim 27.

We find Petitioner’s arguments and evidence in support thereof sufficient at this stage of the proceeding for the reasons explained by Petitioner. *See* Pet. 44–45. Accordingly, based on the arguments and evidence on the record before us, we determine, for purposes of this Decision, Petitioner has established a reasonable likelihood that dependent claim 27 is anticipated by Jeong.

6. *Claim 28: The appliance of claim 26, wherein the primary fluid flow in the body is substantially orthogonal to the primary fluid flow in the handle.*

Petitioner asserts that “[a]s explained above with respect to element [26e], Jeong’s primary fluid flow path (i.e., the airflow path through the housing 10 and motor housing 18, the discharge slit 36, and the discharge hole 38) changes by approximately 90 degrees.” Pet. 46–47 (citing Ex. 1004, Fig. 5). Petitioner takes the position that “[b]ecause the angle between Jeong’s airflow path is approximately 90 degrees (i.e., the directions are perpendicular), it is ‘substantially orthogonal’ as required by this claim.” *Id.* at 48–49. Thus, Petitioner concludes that Jeong discloses the subject matter required by claim 28. *Id.* at 48 (citing Ex. 1003 ¶¶ 91–92).

In response, Patent Owner asserts that Petitioner has not shown sufficiently that “Jeong discloses that ‘the primary fluid flow in the body is substantially orthogonal to the primary fluid flow in the handle.’” Prelim. Resp. 14. According to Patent Owner, the Petition is deficient because

“Petitioners’ analysis lacks any explanation as to the direction of the primary fluid flow path *in the body*, which is fatal given that Claim 28 requires that “the primary fluid flow *in the body* is substantially orthogonal to the primary fluid flow in the handle.” *Id.* at 16 (citing Ex. 1001, 20:16–18).

On this record, we find Petitioner has shown sufficiently that Jeong discloses that “the primary fluid flow in the body is substantially orthogonal to the primary fluid flow in the handle,” as recited by claim 28. Patent Owner reproduces the following copy of Figure 1 of Jeong, annotated by Petitioner to identify, among several items, housing 10 and discharge nozzle 30. Prelim. Resp. 15 (citing Pet. 25 (citing Ex. 1004, Fig. 1)).

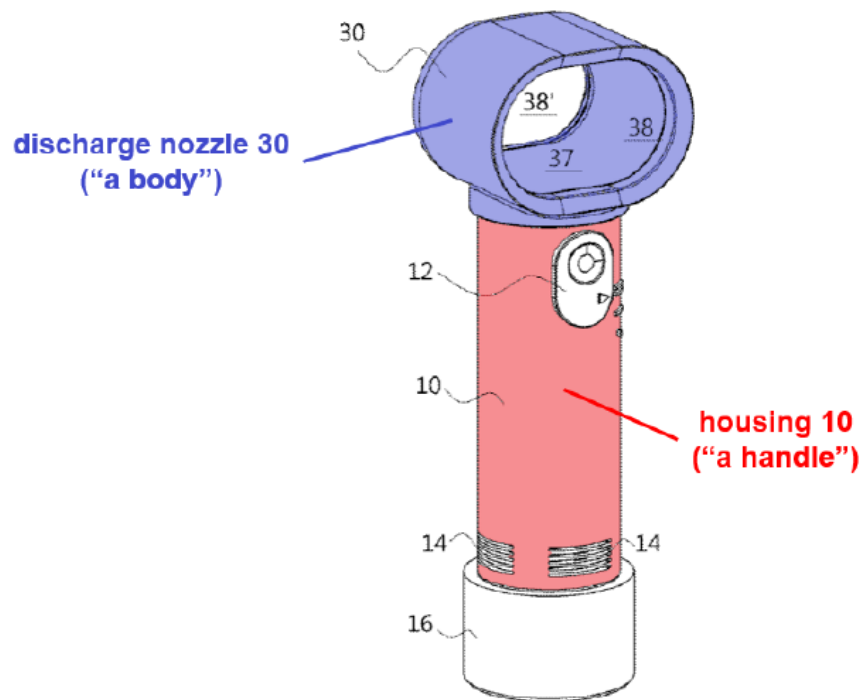


FIG. 1

Figure 1 “is a perspective view of a hairdryer according to an embodiment of the present invention.” Ex. 1004 ¶ 24. With reference to the annotated Figure 1, Patent Owner argues the Petition fails to disclose the argued

limitation because “Petitioners have not identified central passage part 37 as the claimed ‘body.’” Prelim. Resp. 15. More particularly, Patent Owner argues that

because Petitioners have only asserted that discharge nozzle 30 is the claimed “body” and have not explained why the flow outside of discharge nozzle 30 can be considered in determining whether “the primary fluid flow *in the body* is substantially orthogonal to the primary fluid flow in the handle,” Petitioners have not met their burden as to [c]laim 28.

Id. at 15–16. We acknowledge Patent Owner’s concern regarding Petitioner’s approach; however, we find that with support from its declarant, Dr. Nosenchuck, Petitioner has sufficiently explained—at this preliminary stage and for the purposes of institution—that discharge hole 38 is part of body 30, and as such, Jeong discloses that “the primary fluid flow in the body is substantially orthogonal to the primary fluid flow in the handle,” as recited by claim 28. Pet. 46–48 (citing Ex. 1003 ¶¶ 90–92).

Based on the arguments and evidence on the record before us, we determine, for purposes of this Decision, Petitioner has established a reasonable likelihood that dependent claim 28 is anticipated by Jeong.

7. Conclusion for Ground 1

After considering the information presented in the Petition and the Preliminary Response, we determine that Petitioner establishes a reasonable likelihood of prevailing on its challenge to at least one of claims 26–28 of the ’662 patent.

E. Additional Grounds 2–5

Petitioner additionally contends that claims 26–28 would have been anticipated by Yoshida (Ground 2) and Jeffs (Ground 3), and would have also been obvious over Jeffs and Jeong (Ground 4), and Jeffs and Yoshida

(Ground 5). Pet. 48–92. Patent Owner disputes Petitioner’s contentions as to these additional grounds. *See* Prelim. Resp. 16–34. Because we have determined above that, at this stage of the proceeding and on the present record, the information presented in the Petition and Preliminary Response shows that there is a reasonable likelihood that Petitioner will prevail with respect to at least one claim based on the alleged anticipation by Jeong, we need not address Petitioner’s additional challenges at this time. *See* 35 U.S.C. § 314(a).

In this regard, we note that Patent Owner’s arguments in opposition to Grounds 2 and 3 substantially mirror the arguments raised by Patent Owner with respect to Ground 1, i.e., that neither Yoshida nor Jeffs discloses an “inner wall” that “that extends the full length of the handle from the primary fluid inlet to the body of the appliance.” Prelim. Resp. 16–18, 26–27. We find that these arguments are not sufficiently supported and not persuasive for substantially the same reasons addressed above in regard to the alleged anticipation by Jeong based on our construction of the term “inner wall.” *See* § II.C.1.

With respect to Petitioner’s Grounds that rely on Jeffs, Patent Owner also argues that the preamble of claim 26 is limiting (Prelim. Resp. 8–10), and as such, Grounds 3–5 are deficient (*id.* at 23–34) because Jeffs fails to disclose the “hair care appliance” recited by the preamble which “provides the antecedent basis for ‘the appliance’ in the body of Claim 26” (*id.* at 8). And, with respect to Grounds 4 and 5, Patent Owner argues that “Petitioners fail to show that it would have been obvious to combine Jeffs with Jeong or Yoshida as a hair care appliance.” *Id.* at 31–34. Thus, Patent Owner’s arguments with respect to Grounds 3–5 turn primarily on whether the

preamble of claim 26 should be construed as a limitation. Patent Owner will have an opportunity to identify what structural element is not present in the body of claim 26 that would necessitate the preamble to be construed as a limitation.

III. CONCLUSION

We conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that Petitioner would prevail in challenging at least one of claims 26–28 of the ’662 patent as unpatentable. Accordingly, we institute an IPR as to all challenged claims and all the grounds raised in the Petition. *See SAS Inst.*, 138 S. Ct. at 1359–60 (holding that a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (stating that the decision whether to institute *inter partes* review requires “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Our determination in this Decision is not a final determination on either the patentability of any challenged claims or the construction of any claim term. The factual findings set forth in this Decision are preliminary and provided for the sole purpose of deciding whether to institute a review. Any final findings will be based on the full trial record, including any information presented by Patent Owner in a timely filed response to the Petition. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the

evidence at trial”) (quoting 35 U.S.C. § 314(a) and comparing *id.* with § 316(e)).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review of claims 26–28 of the ’662 patent is instituted on all of the grounds asserted in the Petition; and

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

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Patent 9,414,662 B2

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