

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

R.J. REYNOLDS VAPOR COMPANY
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.,
Patent Owner.

Case IPR2016-01268
Patent 8,365,742 B2

Before BRIAN J. McNAMARA, JEREMY M. PLENZLER, and
JO-ANNE M. KOKOSKI, *Administrative Patent Judges*.

KOKOSKI, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

R.J. Reynolds Vapor Company (“Petitioner”) filed a Petition (“Pet.”) to institute an *inter partes* review of claims 2 and 3 of U.S. Patent No. 8,365,742 B2 (Ex. 1001, “the ’742 patent”). Paper 2. On January 3, 2017, we instituted an *inter partes* review of claims 2 and 3 based on our determination that the information presented in the Petition demonstrated a reasonable likelihood that Petitioner would prevail in challenging claims 2 and 3 as unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Hon ’043¹ and Whittemore.² Paper 10 (“Dec. on Inst.”). Fontem Holdings 1 B.V. (“Patent Owner”) filed a Patent Owner Response (Paper 24, “PO Resp.”), and an Errata in support of its Patent Owner Response (Paper 27). Petitioner filed a Reply (Paper 30, “Reply”) and an Errata in support of its Reply (Paper 34).

Petitioner supports its Petition with the Declaration of Dr. Robert H. Sturges (Ex. 1015), the Supplemental Declaration of Dr. Robert H. Sturges (Ex. 1020), and the Reply Declaration of Dr. Robert H. Sturges (Ex. 1027). Patent Owner relies on the First and Second Declarations of Richard Meyst (Ex. 2001; Ex. 2015).

On September 14, 2017, we authorized the parties to file supplemental briefing regarding the deposition testimony of Dr. Sturges and Mr. Meyst taken in *R.J. Reynolds Vapor Co. v. Fontem Holdings 1 B.V.*, Case IPR2016-01692 (“the 1692 IPR”). Paper 45. Specifically, Petitioner filed a

¹ Hon ’043, Chinese Patent No. CN 2719043 Y, published Aug. 24, 2005 (Exs. 1002 and 1003 (English translation)). Petitioner provided an affidavit attesting to the accuracy of the translation. Ex. 1019; *see* 37 C.F.R. § 42.63(b).

² Whittemore, US 2,057,353, published Sept. 27, 1935 (Ex. 1004).

Supplemental Brief Regarding Cross-Examination Testimony of Mr. Meyst in the 1692 IPR (Paper 51), and Patent Owner filed Brief Regarding Testimony from Dr. Robert H. Sturges in the 1692 IPR (Paper 52).

Thereafter, Patent Owner filed a Reply to Petitioner's Supplemental Brief (Paper 57), and Petitioner filed a Reply to Patent Owner's Brief (Paper 56).

Patent Owner filed a Motion to Exclude (Paper 37) Exhibits 1005–1008, 1022, and 1027–1032. Petitioner filed an Opposition (Paper 42) and Patent Owner filed a Reply (Paper 47).

An oral hearing was held on October 10, 2017. A transcript of the hearing is included in the record (Paper 62, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not established by a preponderance of the evidence that claims 2 and 3 of the '742 patent are unpatentable.

A. Related Proceedings

The parties indicate that the '742 patent is asserted in numerous cases pending in the Central District of California, including *Fontem Ventures B.V. v. R.J. Reynolds Vapor Company*, Case No. 2:16-cv-02286. Pet. 2–3; Paper 4, 1–5; Paper 6, 2.

B. The '742 Patent (Ex. 1001)

The '742 patent, titled “Electronic Cigarette,” is directed to an aerosol electronic cigarette having a battery assembly, an atomizer assembly, a cigarette bottle assembly, and a hollow, integrally-formed shell. Ex. 1001, Abstract.

Figure 1 of the '742 patent is reproduced below:

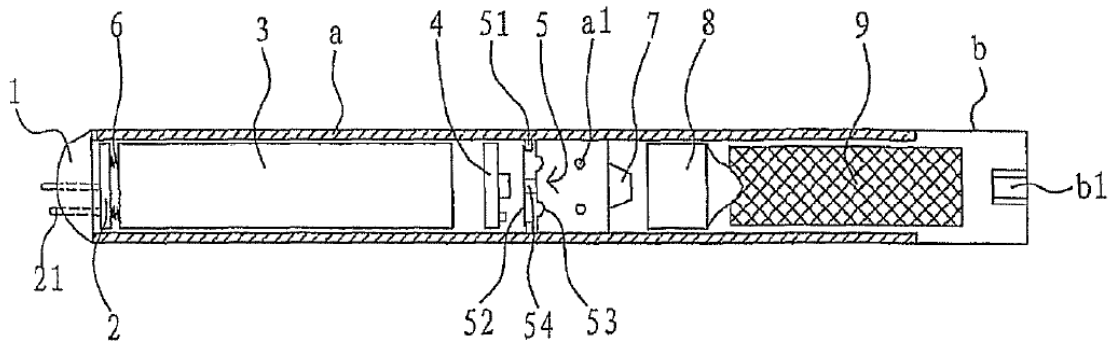


Figure 1

Figure 1 is a side section view of an electronic cigarette. *Id.* at 1:45. Hollow, integrally-formed shell “a” includes a battery assembly, atomizer assembly, and cigarette bottle assembly. *Id.* at 2:30–33. The battery assembly connects to the atomizer assembly in shell “a,” and the detachable cigarette body assembly (which fits with the atomizer assembly) is located in one end of shell “a.” *Id.* at 2:33–37. Shell “a” also includes through-air-inlets a1. *Id.* at 2:37–38. The battery assembly includes operating indicator 1, battery 3, electronic circuit board 4, and airflow sensor 5. *Id.* at 2:39–45. The atomizer assembly is atomizer 8, which includes a porous component and a heating rod. *Id.* at 3:6–8. The cigarette bottle assembly includes hollow cigarette shell holder “b,” and perforated component for liquid storage 9. *Id.* at 3:49–51. Air channel b1 is located in the center on the surface of one end of cigarette shell holder “b,” and extends inward. *Id.* at 3:59–62.

Figures 17 and 18 of the '742 patent are reproduced below:

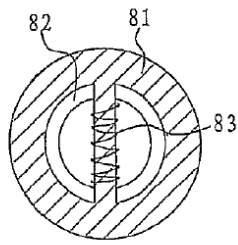


Figure 17

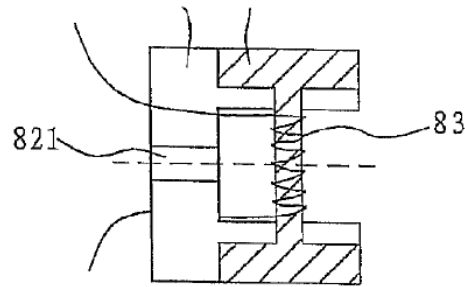


Figure 18

Figure 17 is a diagram of the axial structure of one embodiment of atomizer 8, and Figure 18 is a side-section view the atomizer shown in Figure 17. *Id.* at 2:11–14. Atomizer 8 includes frame 82, porous component 81 set on frame 82, and heating wire 83 wound on porous component 81. *Id.* at 5:42–46. Frame 82 has run-through hole 821, and porous component 81 is wound with heating wire 83 in that part that is on the side in the axial direction of run-through hole 821. *Id.* at 5:46–49. One end of porous component 81 fits with the cigarette bottle assembly. *Id.* at 5:49–50.

Claims 2 and 3 are independent claims, and are reproduced below:

2. An electronic cigarette, comprising:

a battery assembly and an atomizer assembly within a housing with the battery assembly electrically connected to the atomizer assembly;

a liquid storage component in the housing;

with the housing having one or more through-air-inlets;

the atomizer assembly including a porous component supported by a frame having a run-through hole;

a heating wire wound on a part of the porous component in the path of air flowing through the run-through hole; and

the porous component substantially surrounded by the liquid storage component.

Ex. 1001, 6:27–38.

3. An electronic cigarette, comprising:
 - a battery assembly and an atomizer assembly within a housing with the battery assembly electrically connected to the atomizer assembly;
 - with the housing having one or more through-air-inlets and an outlet;
 - the atomizer assembly includes a frame having a run through hole, and a porous component between the frame and the outlet;
 - a heating wire wound on a part of the porous component which is substantially aligned with the run-through hole; and
 - with the porous component in contact with a liquid supply in the housing.

Id. at 6:39–52.

II. ANALYSIS

A. *Claim Interpretation*

We interpret claims of an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [the claims] appear[.]” 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

In the Petition, Petitioner proposes constructions for the terms “frame” and “porous component substantially surrounded by the liquid storage component.” Pet. 11–12. In the Decision on Institution, we determined that, based on the record at the time, no claim term required express construction.

Dec. on Inst. 8. In the Patent Owner Response, Patent Owner proposes a construction for the term “supported on.” PO Resp. 8–11. Because we decide this case on issues unrelated to any of these claim terms, we need not construe them herein.

B. Level of Ordinary Skill in the Art

Petitioner and Patent Owner each propose a particular level of ordinary skill in the art. Pet. 11; PO Resp. 7–8. In light of the evidence before us, we find that the references themselves represent the level of ordinary skill in the art, and that we need not explicate it further. *See Okajima v. Bourdeau*, 261 F.3d 12350, 1355 (Fed. Cir. 2001) (the level of ordinary skill in the art usually is evidenced by the references themselves); *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (finding that the Board of Patent Appeals and Interferences did not err in concluding that the level of ordinary skill in the art was best determined by the references of record).

C. Obviousness over Hon '043 and Whittemore

Petitioner asserts that claims 2 and 3 would have been obvious under 35 U.S.C. § 103 over the combined teachings of Hon '043 and Whittemore. Pet. 17–37; Reply 8–28. To prevail on its patentability challenge, Petitioner must establish facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). 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 to a person having ordinary skill in the art to which the subject matter pertains. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). A party that petitions the Board for a determination of

obviousness must show that “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Procter & Gamble Co. v. Teva Pharm. USA, Inc.*, 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)).

1. Overview of Hon '043

Hon '043 is directed to an electronic atomization cigarette. Ex. 1003,

5. Figure 1 of Hon '043 is reproduced below:

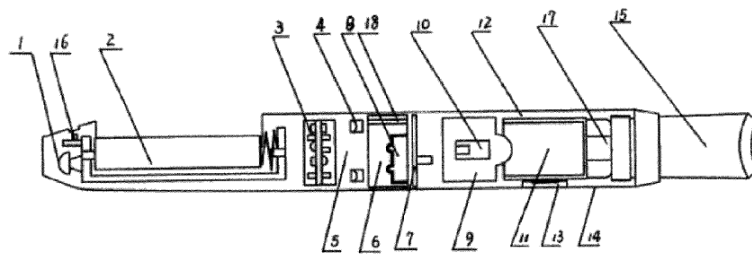


FIG. 1

Figure 1 is a schematic diagram of the structure of an electronic cigarette that includes air inlet 4, normal pressure cavity 5, sensor 6, vapor-liquid separator 7, atomizer 9, liquid-supplying bottle 11, and mouthpiece 15 within shell 16. *Id.* at 8–9.

Figure 6 of Hon '043 is reproduced below.

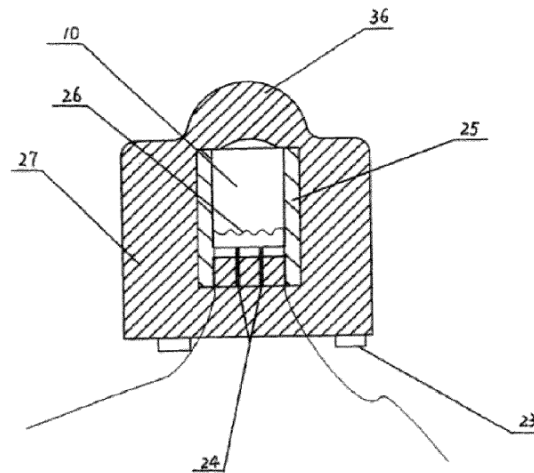


FIG. 6

Figure 6 is a structural diagram of an atomizer, which includes atomization cavity 10, long stream ejection hole 24, atomization cavity wall 25, heating element 26, porous body 27, and bulge 36. *Id.* at 9. Hon '043 states that “atomization cavity wall 25 is surrounded with the porous body 27, which can be made of foam nickel, stainless steel fiber felt, high molecule polymer foam and foam ceramic,” and that “atomization cavity wall 25 can be made of aluminum oxide or ceramic.” *Id.*

Hon '043 teaches that “[w]hen a smoker smokes, the mouthpiece 15 is under negative pressure, the air pressure difference or high speed stream between the normal pressure cavity 5 and the negative pressure cavity 8 will cause the sensor 6 to output an actuating signal,” which causes the cigarette to begin operating. *Id.* at 10. Air enters normal pressure cavity 5 through air inlet 4, proceeds through the through hole in vapor-liquid separator 7, and flows into atomization cavity 10 in atomizer 9. *Id.* The nicotine solution in porous body 27 is driven by the high speed stream passing through the ejection hole into atomization cavity 10 in the form of a droplet, where it “is

subjected to the ultrasonic atomization by the first piezoelectric element 23 and is further atomized by the heating element 26.” *Id.* at 10–11. After atomization, large-diameter droplets stick to the wall and are reabsorbed by porous body 27 via overflow hole 29, and small-diameter droplets form aerosols that are sucked out via aerosol passage 12, gas vent 17, and mouthpiece 15. *Id.* at 11.

2. Overview of Whittemore

Whittemore is directed to vaporizing units for a therapeutic apparatus. Ex. 1004, 1:1–2. Whittemore Figure 2 is reproduced below:

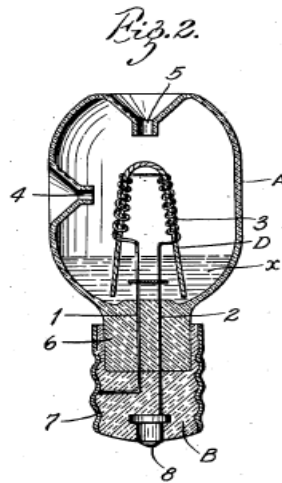


Figure 2 is an enlarged sectional view of a therapeutic apparatus with a vaporizing unit as taught by Whittemore. *Id.* at 1:15–16. Vaporizing vessel A is a hollow glass container that holds liquid medicament x. *Id.* at 1:19–23. Conductors 1 and 2 are combined with heating element 3 such that, when conductors 1 and 2 are energized, heating element 3 is heated. *Id.* at 1:24–27. Wick D is combined with heating element 3 so that a portion of wick D is always in contact, or in approximate contact, with heating element 3, and a portion of wick D is also in contact with liquid medicament x. *Id.* at 1:53–2:5.

According to Whittemore, medicament x is carried on wick D by capillary action to a point where it will be vaporized by the heat from heating element 3. *Id.* at 2:5–8. Whittemore states that “wick D consists of a thread, string or strand of some suitable wick material doubled intermediate its ends so as to form a substantially inverted V-shaped device whose side portions are encased in and surrounded by coiled or looped portions” of heating element 3, and “the lower ends or free ends of the side pieces of the wick projecting downwardly into the medicament and terminating at or in close proximity to the closed bottom 6 of the vessel.” *Id.* at 2:9–18.

3. *Motivation to Combine Hon '043 and Whittemore*

Petitioner contends that a person having ordinary skill in the art (“PHOSITA”) “would have readily understood the inefficiencies associated with the heating element configuration disclosed in Hon '043.” Pet. 18. In support of this contention, Dr. Sturges testifies that

[a]s the PHOSITA would have understood, Hon '043 is a relatively inefficient way for heating the nicotine droplets ejected from porous body 27. As the PHOSITA would have understood, the liquid nicotine droplets are expelled into the atomization chamber 10, and heated by heating element 26. The PHOSITA would have also understood that there are air gaps between the nicotine droplets in the atomization chamber 10 and the heating element 26. Air is a very good insulator, i.e., a poor heat transfer material, and thus Hon '043's heating element needs to be at a higher temperature in order to vaporize the nicotine liquid droplets than if the droplets were in direct contact with the heating element. This is clear when one considers the difference between touching a hot object directly and only coming close to it.

Ex. 1015 ¶ 56. Petitioner further contends that “the PHOSITA would have recognized” that Whittemore's configuration of a heating wire wound on a

porous wick “is thermally more efficient, because the liquid (which is contained in the porous wick) comes into direct contact with the heating element.” Pet. 19. Thus, according to Petitioner, “the proposed combination is a simple substitution of one known element (Whittemore’s wick/heating wire configuration) for another (Hon ’043’s heating element) to obtain predictable results,” i.e., more efficient heating, lower heating temperatures, and improved battery life. *Id.* (citing Ex. 1015 ¶¶ 59–62).

Patent Owner argues that “thermal efficiency would not have motivated a skilled person to combine Hon ’043 with Whittemore” because they “have different modes of operation, and in at least some ways, Hon ’043 is more thermally efficient.” PO Resp. 46. In particular, Patent Owner argues that atomizing droplets ejected from the ejection hole with the heater may “be more thermally efficient than Whittemore because Hon ’043 only heats droplets of liquid, whereas Whittemore heats the ‘bulk’ liquid without the prior benefit of forming droplets via the ejection holes.” *Id.* Patent Owner also argues that “[a] simple substitution as Petitioner proposes would be to remove the entire atomizer in Hon ’043 and replace it with Whittemore’s wire-wrapped wick dipped directly into liquid-supplying bottle 11,” such that “liquid would be transported directly from Hon ’043’s liquid-supplying bottle 11 via Whittemore’s wick D to Whittemore’s filament 3 for vaporization.” *Id.* at 51–52. According to Patent Owner, “[t]here would be no reason (other than hindsight) to retain Hon ’043’s porous body 27 ‘arranged outside around’ atomization cavity wall 25, the bulge 36 for ‘achieving capillary infiltration,’ ejection holes 24 and 30, overflow holes 29, or piezoelectric elements 25 [*sic*] and 35.” *Id.* (citing Ex. 1003, 7, 9–11; Ex. 2015 ¶¶ 95–97).

The Supreme Court requires an expansive and flexible approach to determining whether a patented invention would have been obvious at the time it was made. *See KSR*, 550 U.S. at 415. The existence of a reason for a person having ordinary skill in the art to modify a prior art reference is a question of fact. *See In re Constr. Equip. Co.*, 665 F.3d 1254, 1255 (Fed. Cir. 2011). In an obviousness analysis, some kind of reason must be shown as to why a person having ordinary skill in the art would have thought of combining or modifying the prior art to achieve the patented invention. *See Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1374 (Fed. Cir. 2008). A reason to combine or modify the prior art may be found explicitly or implicitly in market forces, design incentives, the “interrelated teachings of multiple patents,” “any need or problem known in the field of endeavor at the time of invention and addressed by the patent,” and “the background knowledge, creativity, and common sense of the person of ordinary skill.” *Perfect Web Techs., Inc. v. Info USA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) (quoting *KSR*, 550 U.S. at 418–21).

Here, Petitioner proposes a combination of references that purports to show the claimed invention would have been obvious on the basis of thermodynamics. In particular, Petitioner states that “simple thermodynamics would have motivated the person having ordinary skill in the art . . . to modify Hon ’043 as taught by Whittemore.” Pet. 7. From the general proposition that metal is a more efficient conductor of heat than flowing gas because air is a relatively poor heat transfer material, Petitioner concludes that air gaps between “heating wire 26 of Hon ’043 and the liquid nicotine droplets expelled into the atomization chamber 10 create a relatively inefficient environment for heating the nicotine solution, and thus

wire 26 would need to be operated at relatively high temperatures, which would require more battery power.” *Id.* at 7–8.

As Patent Owner notes, Petitioner’s arguments regarding the alleged inefficiencies of the Hon ’043 atomizer are based on Dr. Sturges’s hypothesis “that ‘a very small percentage’ of the droplets ejected from the ejection holes will contact the heating element.” PO Resp. 48 (citing Ex. 2016, 61:20–22). In this regard, Dr. Sturges testified at his deposition that only “[a] small amount” of the airstream exiting Hon ’043’s ejection holes may be directed at the heater

[b]ecause the air would naturally begin to disperse as it left the ejection holes, and so a small fraction of that dispersed stream may find its way into the vicinity of the wire. But there is a natural tendency for a slipstream to occur, in which case most of the entrained droplets would just pass over wire 26 without even touching it.

Ex. 2016, 61:8–19. Petitioner, however, does not provide adequate explanation as to why a person having ordinary skill in the art would think that to be the case. In reaching that determination, we credit Mr. Meyst’s testimony over that of Dr. Sturges.

For example, Mr. Meyst identified a number of factors that would affect the determination of the percentage of entrained droplets that contact the wire in the Hon ’043 atomizer. Mr. Meyst states that,

[w]hile it is true that some liquid droplets will not touch the heater, there is no way to know what percentage will come into direct contact without knowing a number of other factors, such as the heater’s dimensions, the cavity’s dimensions, the size of the ejection holes, and the spray pattern. A person of ordinary skill would have understood these factors, and would have made selections that would result in most of the liquid coming into direct contact with the heating element. For example, Hon ’043 discloses that the ejection holes may be “long” or “[]short,” may

employ a “slot structure” or a “circular hole structure” ranging from 0.1 mm to 1.3 mm, and that “single” or “multiple” holes may be used. A skilled person could have calculated or used commercially available Computational Fluid Dynamics software such as FLUENT to model the path of droplets ejected from the ejection holes and focus them at the heating element.

Ex. 2015 ¶ 98 (internal citations omitted). Dr. Sturges, however, stated at his deposition that he did not do any calculations to determine how factors such as the speed and pressure of the airstream, and the rate of change of the pressure of the airstream as it travels through the ejection holes and into the atomization chamber, would affect the dispersion of the droplets ejected from the ejection holes towards the heating wire in Hon ’043. Ex. 2016, 64:5–66:4. In light of the variables that can affect how the droplets could disperse upon ejection from the ejection holes, Petitioner has not explained adequately why a person having ordinary skill in the art would understand that only a small amount of droplets would contact Hon ’043’s heating wire and that the atomization described in Hon ’043 is inefficient.

Moreover, Petitioner and Dr. Sturges do not identify objective evidence to support Dr. Sturges’s conclusion that the thermal efficiency of Hon ’043 needed improvement. As an initial matter, we note that Petitioner does not direct us to, nor do we discern, any statements in Hon ’043 or Whittemore with respect to the efficiency—or inefficiency—of atomization within the described articles. Dr. Sturges identifies one page from a thermodynamics textbook listing heat coefficients for convection and conduction (Ex. 1015 ¶ 57 (citing Ex. 1016, 3)), but does not identify any other evidence in the prior art or otherwise that identifies atomization inefficiency as a generally known problem in the field, or that specifically discusses the efficiency of atomization within electronic cigarettes. While it

is true that, when a claimed invention involves a combination of elements, “any need or problem known in the relevant field of endeavor at the time of the invention can provide a reason to combine,” that need or problem must nevertheless be identified sufficiently. *Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 977 (Fed. Cir. 2014).

Petitioner’s arguments and Dr. Sturges’s testimony with respect to the modification of Hon ’043 leave an analytical gap that does not sufficiently apprise us of why one of ordinary skill in the art would have modified Hon ’043 with Whittemore’s wire-wrapped wick. Petitioner’s and Dr. Sturges’s assertions that a person having ordinary skill in the art would be motivated to modify Hon ’043 based on “simple thermodynamics” do not adequately address why a person having ordinary skill would have wanted to provide more efficient heating in the Hon ’043 electronic cigarette.

In an obviousness determination, we must avoid analyzing the prior art through the prism of hindsight. Instead, we must “cast the mind back to the time the invention was made” and “occupy the mind of one skilled in the art who is presented with only the references, and who is normally guided by then-accepted wisdom in the art.” *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983); *see also Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1368 (Fed. Cir. 2012) (quoting *Innogenetics*, 512 F.3d at 1374 n.3 (“We must still be careful not to allow hindsight reconstruction of the references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention.”)). Here, Petitioner attempts to imbue one of ordinary skill in the art with knowledge of the claimed invention, when no prior art reference, references of record, or other evidence conveys or

suggests that knowledge. Petitioner's proposed rationale relies upon general and conclusory statements from Dr. Sturges regarding thermal dynamics that are not sufficiently supported in the record, and instead appear to be based on impermissible use of hindsight after review of the '742 patent, rather than on a supported reason to modify the heating configuration in Hon '043's atomizer. *See KSR*, 550 U.S. at 421 (stating that the fact finder must be aware "of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning"). In order to establish a motivation to combine the references, Petitioner needed to explain sufficiently what would have led a person of ordinary skill in the art at the time of the invention to consider modifying the Hon '043 atomizer to include a "heating wire wound on a part of the porous component" as recited in claims 2 and 3. Petitioner failed to provide such an explanation.

We are similarly unpersuaded by Petitioner's argument that "the proposed combination is the simple substitution of one known element (Whittemore's wick/heating wire configuration) for another (Hon '043's heating element) to obtain predictable results." Pet. 19. In particular, we credit Patent Owner's contention, supported by testimony from Mr. Meyst, that "[a] simple substitution as Petitioner proposes would be to remove the entire atomizer in Hon '043 and replace it with Whittemore's wire-wrapped wick dipped directly into liquid-supplying bottle 11." PO Resp. 51–52.

Mr. Meyst explains:

In Hon '043 the porous body 27 moves liquid from the solution storage body for vaporization. "The solution storage porous body 28 in the liquid-supplying bottle 11 will be in contact with the bulge 36 on the atomizer 9, thereby achieving the capillary infiltration liquid-supplying." Hon '043 (Ex. 1003) at 11. In Whittemore the wick D performs this function. Substituting the

wick/heating wire configuration of Whittemore for the heating wire 26 of Hon '043 results in a redundant design having both the porous body 27 of Hon '043 and the wick D of Whittemore. On the other hand, if the porous body 27 and the heating wire 26 of Hon '043 are removed in making the modification, then the atomizer of Hon '043 is entirely discarded and replaced with something else having little relation to the atomizer disclosed in Hon '043.

Ex. 2016 ¶ 95 (citing Ex. 2001 ¶¶ 56–57).

Petitioner's response to Patent Owner's contention, however, fails to explain adequately why the proposed "simple substitution" would add Whittemore's wick and retain Hon '043's porous body, when, as Mr. Meyst notes, Whittemore's wick performs the same function as the porous body in Hon '043. Instead, Petitioner reiterates that "the PHOSITA would not have considered replacing Hon '043's entire atomizer an improvement," and argues that "the simplest and most straightforward substitution and one that does not involve a major design change would be simply to substitute Whittemore's wire wrapped wick for the heating wire of Hon [']043." Reply 26. Likewise, Dr. Sturges's testimony in support of Petitioner's argument does not provide any reasoning for retaining Hon '043's porous body other than that it "would be the simplest and most straightforward approach." Ex. 1027 ¶ 51.

Because neither Petitioner nor Dr. Sturges explains sufficiently why one would substitute only Whittemore's wick—and not the wire wrapped wick dipped directly into the liquid supply as taught by Whittemore—into Hon '043's atomizer, Petitioner does not establish that replacing Hon '043's heating wire with Whittemore's wire wrapped wick as proposed is a simple substitution that would have been obvious to a person having ordinary skill in the art.

Petitioner must demonstrate obviousness by a preponderance of the evidence. 35 U.S.C. § 316(e); *see also Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). After considering the parties’ arguments and evidence, however, we are not persuaded that Petitioner has made a sufficient showing that a person having ordinary skill in the art would have combined the teachings in the manner contended by Petitioner. Accordingly, we find that Petitioner has not shown by a preponderance of the evidence that independent claims 2 and 3 of the ’742 patent are unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Hon ’043 and Whittemore.

III. CONCLUSION

For the reasons given, we are not persuaded that Petitioner has shown by a preponderance of the evidence that claims 2 and 3 of the ’742 patent would have been obvious over the combined teachings of Hon ’043 and Whittemore.

IV. PATENT OWNER’S MOTION TO EXCLUDE

Patent Owner moves to exclude (1) Exhibits 1005–1008 and 1022, and (2) the Sturges Reply Declaration (Ex. 1027) and Exhibits 1028–1032 that support the Sturges Reply Declaration. Paper 37, 1. We do not reach the merits of Patent Owner’s Motion to Exclude because our Decision does not rely on Exhibits 1005–1008 and 1022, and, as explained above, even if we consider the disputed Sturges Reply Declaration and evidence, Petitioner

has not shown by a preponderance of the evidence that claims 2 and 3 are unpatentable. Accordingly, we dismiss Patent Owner's Motion to Exclude as moot.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that Petitioner has not shown by a preponderance of the evidence that claims 2 and 3 of the '742 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 37) is *dismissed*; and

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

IPR2016-01268
Patent 8,365,742 B2

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