

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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R.J. REYNOLDS VAPOR COMPANY  
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.,  
Patent Owner.

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Case IPR2016-01268  
Patent 8,365,742 B2

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

KOKOSKI, *Administrative Patent Judge*.

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

## 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 (“the ’742 patent,” Ex. 1001). Paper 2. Fontem Holdings 1 B.V. (“Patent Owner”) filed a Preliminary Response (“Prelim. Resp.”). Paper 8. We have jurisdiction under 35 U.S.C. § 314.

Upon consideration of the Petition and Preliminary Response, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to the unpatentability of claims 2 and 3 of the ’742 patent. Accordingly, we institute an *inter partes* review of those claims.

### 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. The ’742 patent was previously the subject of IPR2015-00859 (“the 859 IPR,” institution denied on September 9, 2015) and IPR2015-01587 (terminated on December 14, 2015 at the joint request of the parties before an institution decision was entered) (Pet. 3; Paper 4, 7), and also currently is the subject of IPR2016-01532, filed by Petitioner on August 5, 2016, and IPR2016-01303, filed by Nu Mark LLC on June 28, 2016 (Paper 4, 7; Paper 7, 1).

### 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. According to the ’742 patent, prior art devices had various

disadvantages, including low atomizing efficiency, being structurally complicated, and not providing ideal aerosol effects. *Id.* at 1:21–24.

Figure 1 of the '742 patent is reproduced below:

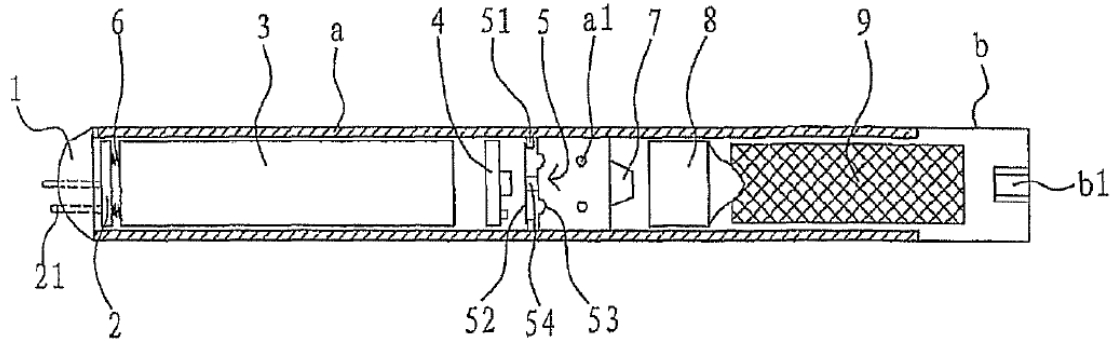


Figure 1

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 5, 6, and 7 of the '742 patent are reproduced below:

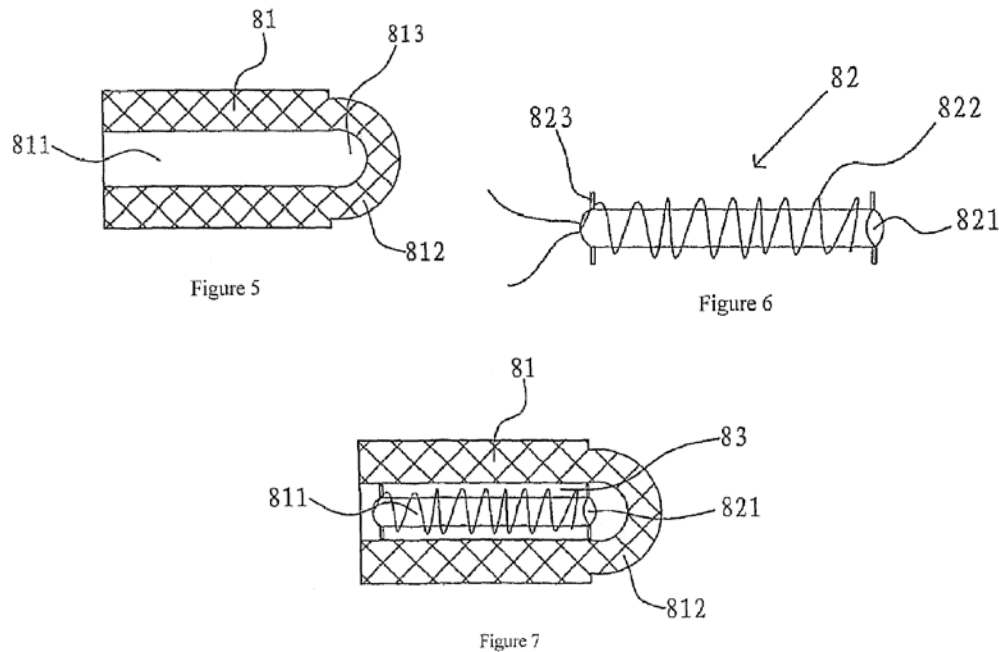


Figure 5 is a side-section view of the porous component of atomizer 8, Figure 6 is a diagram of the structure of a heating rod in atomizer 8, and Figure 7 is a side-section view of atomizer 8. *Id.* at 1:53–59. Atomizer 8 includes porous component 81 and heating rod 82. *Id.* at 3:6–8. Heating rod 82 includes heating wire 822 wound on the wall of cylinder 821. *Id.* at 3:28–30. Porous component 81 contains run-through atomizing chamber 811. *Id.* at 3:8–9. Heating rod 82 enters run-through atomizing chamber 811, and the space between heating rod 82 and the interior wall of run-through atomizing chamber 811 creates negative pressure cavity 83. *Id.* at 3:11–15. One end of porous component 81 fits with the cigarette bottle

assembly, with protuberance 812 at the other end connecting to atomizing chamber 811 with run-through hole 813. *Id.* at 3:16–19.

*C. Challenged Claims*

Petitioner challenges claims 2 and 3 of the '742 patent, which 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.

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.

*D. The Prior Art*

Petitioner relies on the following prior art references:

Reference	Patent	Date	Exhibit No.
Whittemore	US 2,057,353	Sept. 27, 1935	1004
Hon '043	Chinese Patent No. CN 2719043 Y	Aug. 24, 2005	1002 and 1003 (English translation) <sup>1</sup>

*E. The Asserted Ground of Unpatentability*

Petitioner challenges the patentability of claims 2 and 3 of the '742 patent on the following ground:

References	Basis	Claims Challenged
Hon '043 and Whittemore	§ 103	2, 3

## II. ANALYSIS

*A. 35 U.S.C. § 325(d)*

Institution of *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a); 37 C.F.R. § 42.108. Our discretion on whether to institute is

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<sup>1</sup> Hon '043 is a Chinese patent, and Petitioner provided an English-language translation, as required by 37 C.F.R. § 42.63(b). Our citations are to that translation, which we assume for purposes of this Decision is accurate. However, although the translation of Hon '043 is accompanied by a translator's certificate attesting to the accuracy of the translation (Ex. 1003, 19), the certificate is not an "affidavit" as required by 37 C.F.R. § 42.63(b) and as defined by 37 C.F.R. §§ 1.68 and 42.2. Specifically, the translator's certificate does not warn the translator "that willful false statements and the like are punishable by fine or imprisonment, or both." 37 C.F.R. § 1.68. Petitioner must file, as a new exhibit, a satisfactory affidavit attesting to the accuracy of the translation within ten business days of this Decision.

guided by 35 U.S.C. § 325(d), which states that “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.”

Patent Owner requests that the Board exercise its discretion under § 325(d) and decline to institute *inter partes* review of the '742 patent because the ground presented in the Petition presents the same prior art and arguments rejected in the Institution Decision in the 859 IPR. Prelim. Resp. 7–13. Patent Owner notes that § 325(d) has been used to deny a petition “in part because ‘[a]llowing similar, serial challenges to the same patent, by the same petitioner, risks harassment of patent owners and frustration of Congress’s intent in enacting the Leahy-Smith America Invents Act,’” and argues that “[t]he same reasoning should apply even if the Petitioner is different.” *Id.* at 7 (quoting *Arista Networks v. Cisco Systems, Inc.*, Case No. IPR2015-01710, 2016 WL 1083023 at \*5 (PTAB Feb. 16, 2016)).

Although the arguments in the Petition are similar to those asserted by VMR Products LLC in the 859 IPR, the permissive language of § 325(d) does not prohibit instituting *inter partes* review based on prior art or arguments previously presented to the Office. While we are mindful of the burden on Patent Owner and the Office to rehear the same or substantially the same prior art or arguments previously presented to the Office, we are persuaded, for the reasons that follow, that Petitioner’s arguments have merit. Moreover, Patent Owner has not demonstrated that the Petition constitutes harassment or is part of a pattern of filing serial petitions against the '742 patent. Therefore, considering the totality of the circumstances, we

do not exercise our authority to decline an *inter partes* review of the '742 patent under § 325(d).

*B. 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).

Petitioner proposes constructions for the terms “frame” and “porous component substantially surrounded by the liquid storage component.” Pet. 11–12. Patent Owner states that it disagrees with Petitioner’s proposed constructions, “[b]ut because those constructions are not relevant to” the Preliminary Response, it “does not dispute those construction[s] here.” Prelim. Resp. 13. For purposes of this Decision, based on the record before us, we determine that none of the claim terms requires an explicit construction.

*C. Obviousness over Hon ’043 and Whittemore*

Petitioner contends that claims 2 and 3 would have been obvious under 35 U.S.C. § 103 over the combination of Hon ’043 and Whittemore. Pet. 17–36. Petitioner relies on the Declaration of Dr. Robert H. Sturges (Ex. 1015) in support of its contentions. *Id.* Patent Owner disagrees with Petitioner’s contentions, and relies on the Declaration of Richard Meyst (Ex. 2001).



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:

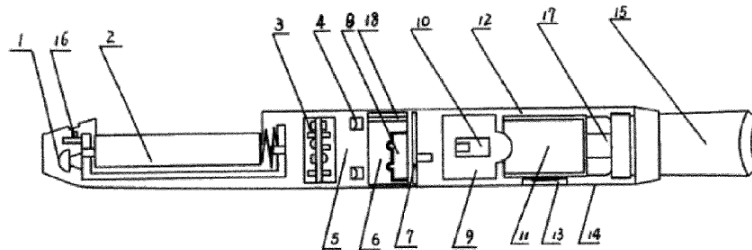


FIG. 1

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.

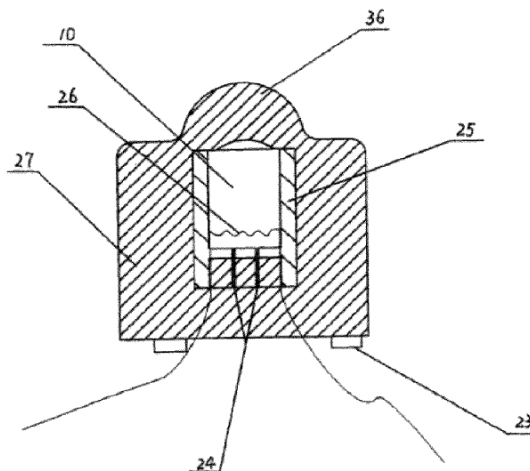


FIG. 6

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:

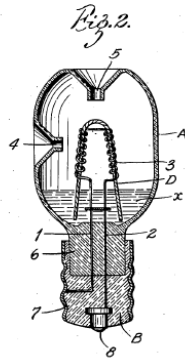


Figure 2 is an enlarged sectional view of a therapeutic apparatus with a vaporizing unit as taught by Whittemore. *Id.* at 1:15–16. Vaporizing vessel A is a hollow glass container that holds liquid medicament x. *Id.* at 1:19–23. Conductors 1 and 2 are combined with heating element 3 such that, when 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. *Analysis*

Petitioner contends that “Hon ’043 discloses every element of claims 2 and 3 of the ’742 patent, except that Hon ’043’s heating wire is not wound on a porous component,” and “a heating wire wound on a porous wick is disclosed by Whittemore.” Pet. 7. For example, Petitioner contends that Hon ’043 describes “the atomizer assembly including a porous component supported by a frame having a run-through hole” limitation of claim 2 because “the PHOSITA [person having ordinary skill in the art] would have understood that atomization cavity wall 25 provides support for porous body 27.” *Id.* at 15. Petitioner contends that “porous body 27 is attached to cavity wall 25 either by a friction fit or with a bonding material to prevent axial displacement of the porous body under the shear forces at the interface of cavity wall 25 and porous body 27” when porous body 27 is inserted into solution storage body 28 of liquid supplying bottle 11, “the leading edge of the cavity wall 25 provides further support for the porous body in the area of bulge 36,” and “cavity wall 25 also provides radial support when pressure increases in the low pressure area surrounding atomizer 9, such as when the user deliberately or accidentally blows in the mouthpiece 15.” *Id.* at 15–16 (citing Ex. 1015 ¶¶ 45–50).

In support of Petitioner’s contentions, Dr. Sturges states that “shear forces could be particularly significant when the porous body and the solution storage body 28 are made from materials that have similar and relatively high rigidity.” Ex. 1015 ¶ 45. Dr. Sturges further states that, “should the user blow into the mouthpiece by mistake, the pressure in the space around the atomizer could rise to as much as 2 pounds per square inch or more,” which “could cause the porous body 27 to impinge upon

and/or destroy the atomization cavity 10 but for the support provided by atomization cavity wall 25.” *Id.* ¶ 48.

Patent Owner argues that because “cavity wall 25 is entirely inside of porous body 27, the cavity wall 25 cannot support or hold up the porous body 27.” Prelim. Resp. 15. Patent Owner argues that, contrary to Petitioner’s contentions, “Hon ’043 says nothing about the cavity wall 25 being attached to the porous body, about preventing axial displacement, or shear forces,” and does not say anything “about a friction fit or a bonding material.” *Id.* at 16. Patent Owner further argues that “Hon ’043 makes no mention of the leading edge of the cavity wall 25,” “the cavity wall providing radial support to the porous body 27, or any indication that the porous body requires any radial support.” *Id.* In support of Patent Owner’s arguments, Mr. Meyst states that “providing a friction fit would complicate making the device described in Hon ’043 because a friction fit requires precise mechanical tolerances on the mating components, and a pressing step to fit them together.” Ex. 2001 ¶ 36. Mr. Meyst further states that a bonding material “would interfere with the reabsorption by forming a barrier between the atomization cavity wall [25] and the porous body 27 which would block overflow hole 29.” *Id.* ¶ 38.

For purposes of deciding whether to institute an *inter partes* review, we must view any issues of material fact created by testimonial evidence in the light most favorable to Petitioner. 37 C.F.R. § 42.108(c). Thus, only for purposes of this Decision, we must resolve the dispute between Dr. Sturges and Mr. Meyst regarding whether atomization cavity wall 25 supports porous body 27 in Petitioner’s favor. Consequently, we are persuaded, on

the present record, that Petitioner has established that Hon '043 describes “a porous component supported by a frame” as required by claim 2.

Petitioner further contends that a person having ordinary skill in the art “would have readily understood the inefficiencies associated with the heating element configuration disclosed in Hon '043,” and would also “have recognized that the configuration disclosed in Whittemore (i.e., 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. 18–19 (citing Ex. 1015 ¶¶ 58–62). Petitioner contends that “in the Whittemore configuration, the heating element can be run at lower temperatures as compared to the configuration in Hon '043, where there are air gaps between the nicotine droplets and the heating element,” and, therefore, “less energy is required to vaporize the liquid.” *Id.* at 19. According to Petitioner, “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.” *Id.* We are persuaded, based on the current record, that Petitioner has provided sufficient reasoning with rational underpinning to support a reason to combine Hon '043 and Whittemore.

For these reasons, we determine that the record before us establishes a reasonable likelihood that Petitioner would prevail in showing that the subject matter of claim 2 would have been obvious over the combined teachings of Hon '043 and Whittemore. We also have considered the arguments and evidence with respect to claim 3, and are persuaded on the present record that Petitioner has established a reasonable likelihood that it would prevail as to claim 3 as well. *See* Pet. 31–36.

### III. CONCLUSION

Based on the arguments in the Petition and Preliminary Response, and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail on its challenge that claims 2 and 3 of the '742 patent are unpatentable.

At this stage of the proceeding, the Board has not made a final determination as to the construction of any claim term or the patentability of claims 2 and 3.

### IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to claims 2 and 3 of the '742 patent with respect to the following ground:

Whether claims 2 and 3 are unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Hon '043 and Whittemore;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision;

FURTHER ORDERED that Petitioner shall file as an exhibit, within ten business days of this Decision, an affidavit attesting that Exhibit 1003 is an accurate translation of Hon '043, in compliance with 37 C.F.R. § 42.63(b); and

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FURTHER ORDERED that no ground other than that specifically granted above is authorized for *inter partes* review as to the claims of the '742 patent.

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