

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LOGIC TECHNOLOGY DEVELOPMENT, LLC
Petitioner,

v.

FONTEM HOLDINGS 1 B.V.
Patent Owner.

Case IPR2015-00098
Patent No. 8,375,957

**PATENT OWNER PRELIMINARY RESPONSE TO PETITION FOR
INTER PARTES REVIEW**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	CLAIM CONSTRUCTION	3
A.	“screwthread electrode”	4
B.	“electronic cigarette or cigar”	8
C.	“atomizer”	11
D.	“porous component”	13
E.	“solution storage area”	16
III.	The Petition Fails to Show a Reasonable Likelihood that the Claims of the '957 Patent Are Unpatentable	17
A.	Burden of Proof and Legal Standard for Obviousness.....	18
B.	Ground 1: Claims 1–4, 6–9, 16, and 23–24 are not obvious over Hon, Gilbert, Paterno, Voges, and Whittemore	18
1.	Claim 1	19
a.	Hon does not disclose “a primary screwthread electrode located on the first end of the battery assembly housing” and “a secondary screwthread electrode located on the second end of the atomizer assembly housing,” “the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes.”	22
b.	Paterno is not prior art.....	25
c.	Gilbert does not disclose “a primary screwthread electrode located on the first end of the battery assembly housing” and a “a secondary screwthread electrode located on the second end of the atomizer assembly housing,” “the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes.”	30
d.	Hon and Gilbert, alone or in combination do not disclose a “primary screwthread electrode . . . having a hole through its center” or a “secondary screwthread electrode . . . having a hole through its center.”	37

e.	One skilled in the art would not have combined Hon with Whittemore.....	41
2.	Claim 2	42
3.	Claim 3	42
4.	Claim 4	45
5.	Claim 6	45
6.	Claim 7	45
7.	Claim 8	45
8.	Claim 9	46
9.	Claim 16	46
10.	Claim 23	46
11.	Claim 24	47
C.	Ground 2: Claims 10–12, 14, 15, 17, 18 and 22 are not obvious over Hon, Gilbert, and Whittemore.....	47
1.	Claim 10	48
2.	Claim 11	49
3.	Claim 12	49
4.	Claim 14	49
5.	Claim 15	49
6.	Claim 17	50
7.	Claim 18	50
8.	Claim 22	50
D.	Ground 3: Claim 13 is not obvious over Hon in view of Gilbert, Whittemore and the TechPowerUp article	50
E.	Ground 4: Claim 21 is not obvious over Hon in view of Gilbert, Whittemore, and Connors.....	51
IV.	Conclusion.....	52

TABLE OF AUTHORITIES

CASES

<i>Commerce Bancshares, Inc. v. Intellectual Ventures II LLC</i> , IPR2014-00793 2014, WL 6808305 (PTAB Dec. 1, 2014)	3
<i>Deere & Co. v. Bush Hog, LLC</i> , 703 F.3d 1349 (Fed. Cir. 2012).....	9
<i>KSR v. Teleflex</i> , 550 U.S. 398 (2007).....	2
<i>Otsuka Pharm. Co. v. Sandoz, Inc.</i> , 678 F.3d 1280 (Fed. Cir. 2012).....	3, 25
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (en banc).....	4
<i>Pitney Bowes, Inc. v. Hewlett-Packard Co.</i> , 182 F.3d 1298 (Fed. Cir. 1999).....	9
<i>Poly-America, L.P. v. GSE Lining Tech., Inc.</i> , 383 F.3d 1303 (Fed. Cir. 2004).....	8
<i>Tempo Lighting v. Tivoli</i> , 742 F.3d 973 (Fed. Cir. 2014).....	4

STATUTES

35 U.S.C. § 102.....	27
35 U.S.C. § 103.....	18, 47, 50, 51
35 U.S.C. § 112.....	27
35 U.S.C. § 119.....	26
35 U.S.C. § 314.....	1
35 U.S.C. § 371.....	25

RULES

37 C.F.R. § 42.20.....	18
37 C.F.R. § 42.100.....	3

37 C.F.R. § 42.107	1
37 C.F.R. § 42.108.....	18
OTHER AUTHORITIES	
American Heritage Dictionary (4th ed. 2000)	7
Merriam-Webster’s Collegiate Dictionary (11th ed. 2003).....	7, 12
MPEP 213.06; 1893.03(c).....	25

LIST OF EXHIBITS RELIED UPON HEREIN

Petitioner's Exhibits	
Exhibit	Description
Ex. 1001	U.S. Patent No. 8,375,957 - PCT filed May 15, 2007
Ex. 1002	Declaration of Gregory Buckner, Ph.D.
Ex. 1003	China Patent CN 2719043 – issue date August 24, 2005)
Ex. 1004	Certified English translation of CN 2719043 pursuant to 37 C.F.R. 42.63(b)
Ex. 1005	U.S. publication 2007/0267031 (“Hon ‘031”), which is the U.S. equivalent of CN 2719043
Ex. 1006	CA 2562581, which is the Canadian equivalent of CN 2719043
Ex. 1007	U.S. Patent No. 3,200,819 (“Gilbert”) – issue date August 17, 1965
Ex. 1008	U.S. Patent No. 2,057,353 (“Whittemore”) – issue date October 13, 1936
Ex. 1009	U.S. Patent No. 5,894,841 (“Voges”) – issue date April 20, 1999
Ex. 1010	U.S. Pat. App. Pub. 2008/0257367 (“Paterno”) – filed April 23, 2007
Ex. 1011	EP 0533599A1 (“Connors”) – publication date March 24, 1993
Ex. 1012	Non-patent publication "What is a MOSFET, what does it look like, and how does it work?" dated 5/24/2004, printed from the Internet Archive, i.e., the Wayback machine, which was archived on March 5, 2010 (“TechPowerUp”)
Ex. 1026	‘957 patent file history, July 2, 2013, Certificate of Correction

Patent Owner's Exhibits	
Exhibit	Description
Ex. 2001	Merriam Webster's Collegiate Dictionary (11th ed. 2003) ("Webster's")
Ex. 2002	LOGIC website, http://store.logicecig.com/the-logic-difference/ (last visited Feb. 18, 2015)
Ex. 2003	LOGIC website, http://store.logicecig.com/faqs/#whois (last visited Feb. 18, 2015)
Ex. 2004	Oxford Dictionary Online, http://www.oxforddictionaries.com/us/definition/american_english/electronic-cigarette (last visited Feb. 18, 2015)
Ex. 2005	Dictionary.com, http://dictionary.reference.com/browse/electronic+cigarette (last visited Feb. 18, 2015)
Ex. 2006	IPR2013-00387 Final Decision issued December 24, 2014 ("387 Final Decision")
Ex. 2007	Translation of PCT/CN2007/001576
Ex. 2008	Translation of CN 200620090805.0
Ex. 2009	'957 patent file history, June 4, 2013, Request for Certificate of Correction
Ex. 2010	Claim chart for the claims of the '957 patent
Ex. 2011	The American Heritage Dictionary (4th ed. 2000)

I. INTRODUCTION

Logic Technology Development, LLC (“Petitioner”) filed a Petition for *Inter Partes* Review of claims 1–4, 6–18, and 21–24 of U.S. Patent No. 8,375,957 (the “957 patent”) on October 21, 2014. Paper No. 2. Petitioner does not request *inter partes* review of claims 5, 19 or 20. The Patent Trial and Appeal Board (the “Board”) mailed a Notice of Filing Date Accorded to Petition on November 18, 2014. Paper No. 6.

Pursuant to 37 C.F.R. § 42.107, Fontem Holdings 1 B.V. (“Patent Owner”) submits this Preliminary Patent Owner Response requesting that the petition be denied because the Petitioner has failed to establish “that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition” under 35 U.S.C. § 314(a).

As set forth herein, the prior art, alone or in combination, fails to disclose several claim limitations. Claims 1, 10, and 23 require “a battery assembly housing,” “an atomizer assembly housing,” and a “screwthread electrode” located on an end of each housing, where “the battery assembly and the atomizer assembly [are] connected through the . . . screwthread electrodes.” Petitioner identifies no prior art disclosing a device having a battery assembly housing and an atomizer assembly housing, let alone disclosing screwthread electrodes connecting those two housings.

Instead, Petitioner asserts that one skilled in the art would have first modified the alleged prior art references, and then combined the modified prior art in the claimed manner based on the purported motivation to have a replaceable battery. Petitioner asserts that modifying the prior art as claimed “would enhance commercial opportunities and make the product more desirable by reducing the need to replace the entire device when the battery is depleted.” *E.g.*, Pet. at 29 (Paper No. 2). But, the prior art already includes rechargeable or replaceable batteries such that Petitioner’s purported motivation would not cause one skilled in the art to modify or combine the prior art at all, let alone as claimed.

Petitioner attempts to analogize the ’957 patent claims to those found obvious in *KSR v. Teleflex*, 550 U.S. 398 (2007), stating that the ’957 patent’s claimed combination of the prior art is simpler than the combination of components “found in the six patents that came together ‘like pieces of a puzzle’ which were found obvious” in *KSR*. Pet. at 5 (Paper No. 2). But, unlike the prior art in *KSR*, Petitioner’s alleged prior art is missing the key pieces. Petitioner asks the Board to fill in the completely missing limitations because it “would enhance commercial opportunities and make the product more desirable. . . .” Pet. at 29 (Paper No. 2). But, just because the ’957 patent claims a better, more desirable commercial product, does not mean that those claims are obvious.

As the Federal Circuit held in *Otsuka Pharm. Co. v. Sandoz, Inc.*, “[t]he inventor’s own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art.” 678 F.3d 1280, 1296 (Fed. Cir. 2012). Indeed, a “rationale that a skilled artisan would have combined the two references ‘in order to obtain the results claimed in the [patent at issue]’ explicitly relies on the invention itself as the reason for the combination.” *Commerce Bancshares, Inc. v. Intellectual Ventures II LLC*, IPR2014-00793, 2014 WL 6808305, Paper 7 at 13 (P.T.A.B. Dec. 1, 2014). Here, Petitioner’s proposed modifications and combinations of the prior art rely on the benefits of the claimed invention, not the disclosure in the prior art. Petitioner’s motivation should be rejected because it is premised on impermissible hindsight based on the claims.

Accordingly, Petitioner has failed to establish that there is a reasonable likelihood that it would prevail with respect to any claim of the ’957 patent, Petitioner’s request for *inter partes* review should be denied.

II. CLAIM CONSTRUCTION

In an *inter partes* review proceeding, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b). Under that standard, primacy is given “to the language of the claims, followed by the specification.

Additionally, the prosecution history, while not literally within the patent document, serves as intrinsic evidence for purposes of claim construction.” *Tempo Lighting v. Tivoli*, 742 F.3d 973, 977 (Fed. Cir. 2014).

Claims are construed from the perspective of one of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). Here, one of ordinary skill in the art has a mechanical or electrical engineering degree, industrial design degree, or a similar technical degree, or equivalent work experience, and 5–10 years of working in the area of electromechanical devices, including medical devices. Petitioner’s expert does not substantively dispute that understanding of one of ordinary skill in the art. Buckner Decl. at ¶¶12–14 (Ex. 1002). The effective filing date of all of the claims in the ’957 patent is the May 16, 2006 filing date of CN 200620090805. Cert. of Correction at 1 (Ex. 1026). Petitioner does not address or dispute the ’957 patent’s effective filing date.

A. “screwthread electrode”

Patent Owner’s Construction	Petitioner’s Construction
projecting helical rib of a screw formed from a conductor for passing electricity	no proposed construction

Claim 1 of the ’957 patent recites in part:

a battery assembly comprising a battery assembly
housing . . .;

a primary *screwthread electrode* located on the first end of the battery assembly housing and having a hole through its center;

an atomizer assembly comprising:

an atomizer assembly housing having a first end and a second end;

* * *

a secondary *screwthread electrode* located on the second end of the atomizer assembly housing and having a hole through its center, the battery assembly and the atomizer assembly connected through the primary and secondary *screwthread electrodes*. . . .

Claims 10 and 23 include similar limitations except do not include screwthread electrodes “having a hole through [their] center.”

To the extent the term “screwthread electrode” needs a construction, it should be construed to mean a “projecting helical rib of a screw formed from a conductor for passing electricity,” the term’s broadest reasonable construction in view of the ’957 patent.

The ’957 patent claims are consistent with that construction. For example, claims 1, 10 and 23 recite that the “the battery assembly and the atomizer assembly [are] connected through the [primary and secondary] *screwthread electrodes*”

confirming that the screwthread electrodes physically and electrically connect the battery assembly housing, which includes the source of electricity, to the atomizer assembly housing, which includes an atomizer that must be powered by electricity.

And, dependent claims 3 and 14 recite “wherein the primary screwthread electrode is an external screwthread electrode and the secondary screwthread electrode is an internal screwthread electrode.” Those claims are also consistent with Patent Owner’s proposed construction and support that “the battery assembly and the atomizer assembly [are] connected through the [primary and secondary] screwthread electrodes.”

The ’957 patent is also consistent with the proposed construction. As shown in Figure 2A, 3, and 5A, below, the ’957 patent discloses that “[a]n external thread electrode (209) is located in one end of the battery assembly, and an internal thread electrode (302) is located in one end of the atomizer assembly. The battery assembly and atomizer assembly are connected through the screwthread electrode into an emulation cigarette.” ’957 patent at 2:63–3:1 (Ex. 1001).

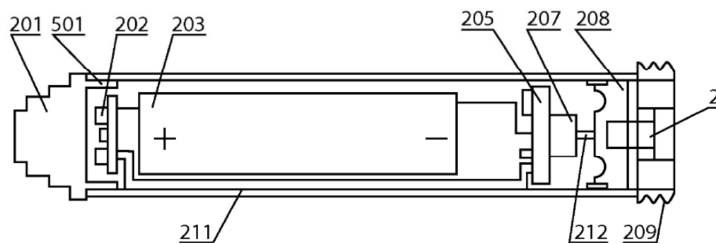


Figure 2A

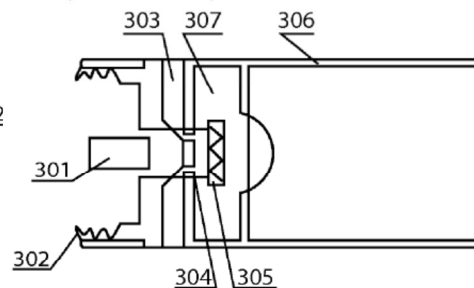


Figure 3

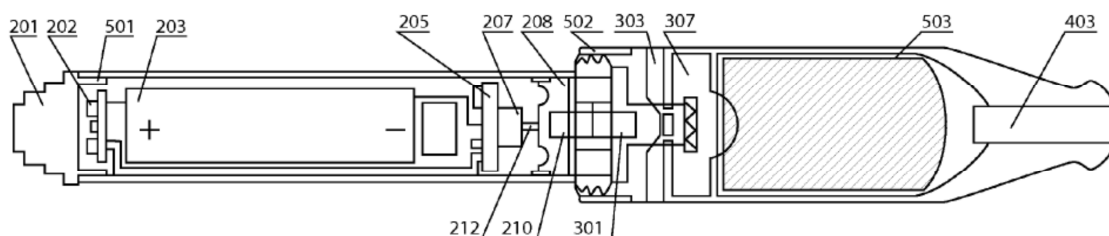


Figure 5A

The extrinsic evidence is also consistent with Patent Owner’s proposed construction. Webster’s defines “screwthread” as “ the projecting helical rib of a screw.” Merriam-Webster’s Collegiate Dictionary 1116 (11th ed. 2003) (Ex. 2001). And, Webster’s defines “electrode” as “1: a conductor used to establish electrical contact with a nonmetallic part of a circuit 2: an element in a semiconductor device (as a transistor) that emits or collects electrons or holes or controls their movements.” *Id.* at 401 (Ex. 2001). Similarly, The American Heritage Dictionary defines “electrode” as “a solid electrical conductor through which electric current enters or leaves an electrolytic cell or other medium.” The American Heritage Dictionary 575 (4th ed. 2000) (Ex. 2011).

In view of the ’957 patent’s description of “screwthread electrodes” and the ordinary meaning of “screwthread” and “electrode,” the broadest reasonable construction of the term is Patent Owner’s proposed construction.

B. “electronic cigarette or cigar”

Patent Owner’s Construction	Petitioner’s Construction
a device that simulates the feel and experience of a cigarette or cigar without burning	no proposed construction

The preamble of every claim of the ’957 patent recites an “electronic cigarette” or “electronic cigarette or cigar.” Patent Owner proposes that the broadest reasonable construction of “electronic cigarette or cigar” is “a device that simulates the feel and experience of a cigarette or cigar using electronics instead of burning.” Petitioner does not propose a claim construction for “electronic cigarette or cigar” and does not assert that the preamble is not limiting. Indeed, Petitioner admits that the claims are directed to “an electronic cigarette that substitutes for real cigarettes and helps smokers to quit smoking.” Pet. at 5, (citations omitted) (Paper No. 2). *See also, id.* at 21.

The phrase “electronic cigarette or cigar” is limiting. The ’957 patent specification is directed to an “electronic cigarette.” ’957 patent at title (Ex. 1001). Because combining the limitations of the claims to form an “electronic cigarette” is a fundamental characteristic of the invention, “electronic cigarette or cigar” should be a requirement of the claims. *Poly-America, L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1310 (Fed. Cir. 2004) (finding preamble phrase “blown-film” was a “fundamental characteristic” and limiting where specification described the

invention as a “blown-film” liner and that phrase was repeated in every claim); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1358 (Fed. Cir. 2012) (holding preamble phrase “rotary cutter deck” was a limitation where specification referred to “the present invention” as “a rotary cutter deck”).

“Electronic cigarette or cigar” is also limiting because it breathes life into other claim limitations. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). All the claims of the ’957 patent require an “electronic cigarette or cigar” having a components for making the electronic cigarette function including a battery assembly housing and atomizer assembly housing. The ’957 patent discloses that the connection of the two housing forms the cigarette or cigar body. Indeed, every embodiment disclosed in the ’957 patent resembles a cigarette. Moreover, claim 12 confirms that relation between the housings reciting that “the second end of the solution assembly is inserted into the first end of the atomizer assembly, thus forming a cigarette or cigar body.”

Patent Owner’s construction is supported by the plain meaning of the term electronic cigarette in the claims, the disclosure in the ’957 patent specification, Petitioner’s use of the term “electronic cigarette” outside of this proceeding, and the extrinsic evidence.

The ’957 patent specification describes the characteristics of an “electronic cigarette.” The ’957 patent discloses a device that substitutes for a cigarette, “[t]he

purpose of this invention is to provide an electronic cigarette that substitutes for real cigarettes . . . ” ’957 patent at 1:42–43 (Ex. 1001). The ’957 patent also criticizes prior art cigarette substitutes, like the “Cigarette Patch” and “Nicotine Chewing Gum,” as not satisfying the smoker’s habit of “repetitively inhaling and exhaling.” ’957 patent at 1:28–38 (Ex. 1001). In view of the ’957 patent specification, an “electronic cigarette” is “a device that simulates the feel and experience of a traditional cigarette using electronics instead of burning.”

Petitioner also describes “electronic cigarettes” in a manner consistent with Patent Owner’s proposed construction. Petitioner describes its products as follows:

- “LOGIC Ecigs allow up to 400 thick vapor puffs, equivalent to 2 packs of traditional cigarettes.” (LOGIC website, <http://store.logicecig.com/the-logic-difference/>) (last visited Feb. 18, 2015) (Ex. 2002)
- “LOGIC is the leader in Disposable Electronic Cigarettes. It’s a battery-powered device that provides inhaled doses of nicotine or non-nicotine vaporized solution. It’s an alternative to smoking tobacco products such as cigarettes, cigars, or pipes.” (LOGIC website, <http://store.logicecig.com/faqs/#whois>) (last visited Feb. 18, 2015) (Ex. 2003)

And, contemporary dictionaries define “electronic cigarette” in a manner consistent with Patent Owner’s proposed construction. The Oxford Dictionaries Online defines “electronic cigarette” as “[a] cigarette-shaped device containing a nicotine-based liquid that is vaporized and inhaled, used to simulate the experience of smoking tobacco.” Oxford Dictionary Online, http://www.oxforddictionaries.com/us/definition/american_english/electronic-cigarette (last visited Feb. 18, 2015) (Ex. 2004). And Dictionary.com defines “e-cigarette” as “a device used to simulate the experience of smoking, having a cartridge with a heater that vaporizes liquid nicotine instead of burning tobacco.” Dictionary.com, <http://dictionary.reference.com/browse/electronic+cigarette> (last visited Feb. 18, 2015) (Ex. 2005).

In view of the specification’s description of an “electronic cigarette or cigar” and evidence of how that term is understood in the relevant art, the Board should adopt Patent Owner’s proposed construction.

C. “atomizer”

Patent Owner’s Construction	Petitioner’s Construction
a component that converts liquid into aerosol or vapor	no proposed construction

Claims 1, 10, and 23 recite “an *atomizer*, . . . with the atomizer including a heater coil wound around a porous component.” The broadest reasonable

interpretation of “atomizer” is “a component that converts liquid into aerosol or vapor.”

The '957 patent explains that the atomizer converts liquid into aerosol or vapor. The '957 patent recites that “[t]he air-liquid mixture sprays onto the heating body (305), gets vaporized, and is quickly absorbed into the airflow and condensed into aerosol, which passes through the air intake hole (503) and suction nozzle (403) to form white mist type aerosol.” '957 patent at 4:13–17; 5:26–31 (Ex. 1001). The '957 patent further discloses that “the aerosol may be regarded as liquid drops suspended in the air.” '957 patent at 1:44–45 (Ex. 1001).

The extrinsic evidence is also consistent with the '957 patent's disclosure of “atomizer.” Webster's defines “atomize” as “2: to reduce to minute particles or to a fine spray.” Merriam-Webster's Collegiate Dictionary 78 (11th ed. 2003) (Ex. 2001). And, Webster's defines “atomizer” as “an instrument for atomizing usu. a perfume, disinfectant, or medicament.” *Id.*

Petitioner does not provide any construction for the term “atomizer.” Patent Owner's proposed construction is relevant to distinguish the alleged atomizer in the Gilbert reference. Petitioner asserts that Gilbert's light bulb having a screw plug that fits into a socket and used in Gilbert to warm “moist and flavored air” is an atomizer such that Gilbert discloses a screwthread electrode on an atomizer

assembly housing. But as set forth herein, Gilbert’s light bulb does not “atomize” anything. It simply warms air before it is inhaled.

D. “porous component”

Patent Owner’s Construction	Petitioner’s Construction
a material that is full of interconnected pores into which liquid or gas is absorbed or diffused	a component of the atomizer assembly in the electronic cigarette that includes pores and is permeable to liquid, such as cigarette solution from the cigarette solution area

Independent claims 1, 10 and 23 require “the atomizer including a heater coil wound around a *porous component*.” And, dependent claims 9 and 11 require that “the *porous component* that the heater coil is wound around comprising a fiber material.”

The ’957 patent uses the phrase “porous component” to describe “a material that is full of interconnected pores into which liquid or gas is absorbed or diffused.” The ’957 patent recites that the “atomizer (307) may be a capillary impregnation atomizer as FIGS. 8 and 9 show, or a spray atomizer as FIGS. 10 and 11 show.” ’957 patent at 3:45–47 (Ex. 1001). Figure 8, right, shows an example of an “atomizer [307] including a heater coil wound around a porous component.” The ’957 patent further discloses that “[t]he fiber (402) inside the cigarette liquid bottle (401) contains cigarette liquid, which

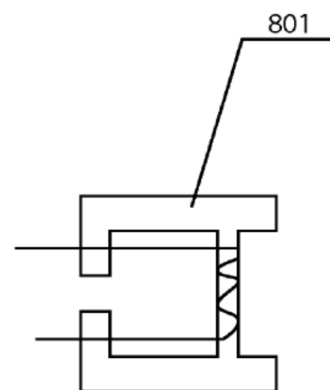


Figure 8

soaks the micro-porous ceramics (801) inside the atomizer through the fiber (402).” ’957 patent at 4:6–9 (Ex. 1001).

The ’957 patent explains that “[b]esides the micro-porous ceramics, the liquid supply material of the atomizer (307) may also be foamed ceramics, micro-porous glass, foamed metal, stainless steel fiber felt, terylene fiber, nylon fiber, nitrile fiber, aramid fiber or hard porous plastics.” ’957 patent at 4:25–29 (Ex. 1001). Those examples all support Patent Owner’s proposed construction of “a material that is full of interconnected pores into which liquid or gas is absorbed or diffused.” The porous component that the heating coil is “wound around” must be able to soak up the liquid, not simply have holes so that the liquid can pass.

Petitioner’s construction would, however, include a material, whether that material is “porous” or not, so long as the material has holes in it and can pass liquid. For example, under Petitioner’s proposed construction, a metal sheet, which is not a porous material, would be considered a porous component if holes are drilled into it such that liquid could pass. But, a metal sheet with holes could not perform the function of the “porous component” in the claims as it cannot soak up the liquid as disclosed in the ’957 patent. To the contrary, there would be no reason to include “a heater coil wound around” a metal sheet with holes because that metal sheet would not perform the function of the porous component as disclosed.

Petitioner makes no attempt to explain why its proposed construction is appropriate in view of the '957 patent claims or specification. Instead, Petitioner relies on the decision by the Board in IPR2013-00387 (“the '387 IPR”) regarding U.S. Patent No. 8,156,944 as supporting its proposed construction of “porous component.” Pet. at 16–17 (Paper No. 2). On Dec. 24, 2014, the Board issued a final decision in the '387 IPR adopting the same construction for porous component proposed by Petitioner. '387 IPR Final Decision at 13 (Ex. 2006). Petitioner asserts that the claim construction of “porous component” from the '387 IPR should apply here because the patent at issue in the '387 IPR and the '957 patent at issue here both claim priority to the same Chinese priority application, even though their respective disclosures are not the same. Nevertheless, Petitioner concludes that the '957 patent’s disclosure is consistent with the construction adopted for “porous component” in the '387 IPR without explanation or reasoning for its claim construction. Pet. at 17 (Paper No. 2).

Petitioner’s claim construction should be rejected because it is inconsistent with the claims and disclosure in the '957 patent. The broadest reasonable construction for the term “porous component” is “a material that is full of interconnected pores into which liquid or gas is absorbed or diffused.”

E. “solution storage area”

Patent Owner’s Construction	Petitioner’s Construction
no construction necessary, or in the alternative, area for storing solution	a contained volume such as a cigarette liquid bottle or container

The term “solution storage area” needs no construction. It is simply the “area for storing solution” in the claimed electronic cigarette. Petitioner’s construction appears to be consistent with Patent Owner’s in that the “solution storage area” is “a contained volume,” *i.e.*, an area for storing solution.

Petitioner’s construction further provides non-limiting examples of “solution storage areas,” namely, bottles or containers. Patent Owner does not dispute that the term “solution storage area” includes, but is not limited to, containers and bottles.

But, the ’957 patent expressly discloses that fiber within the electronic cigarette can contain the solution. Specifically, the ’957 patent discloses that “[t]he *fiber (402) containing cigarette liquid* is located on one end of the cigarette liquid bottle. . . .” ’957 patent at 3:50–51 (emphasis added) (Ex. 1001). In that embodiment the “solution storage area” is the space filled with fiber, which contains the liquid. To the extent Petitioner’s construction excludes that embodiment and is limited to containers or bottles, that construction should be

rejected because it is not the broadest reasonable construction for a “solution storage area.”

III. THE PETITION FAILS TO SHOW A REASONABLE LIKELIHOOD THAT THE CLAIMS OF THE '957 PATENT ARE UNPATENTABLE

Petitioner proposes four grounds for unpatentability for various claims in the '957 patent. Specifically, Petitioner asserts that:

Ground 1. Hon (CN 2719043 (Ex. 1003), English translation (Ex. 1004) and its U.S. equivalent 2007/0267031 (Ex. 1005), and Canadian equivalent CA 2562581 (Ex. 1006)) in view of Paterno (US 2008/0257367 (Ex. 1010)),¹ Gilbert (US 3,200,819 (Ex. 1007)), Voges (US 5,894,841 (Ex. 1009)) and Whittemore (US 2,057,353 (Ex. 1008)) render obvious claims 1–4, 6–9, 16 and 23–24;

Ground 2. Hon in view of Gilbert and Whittemore render obvious claims 10–12, 14, 15, 17, 18, and 22;

Ground 3. Hon in view of Gilbert, Whittemore, and the “TechPowerUp” article (Ex. 1012) renders obvious claim 13;

¹ Petitioner does not identify Paterno in its summary of grounds for rejection but relies on the reference in the Petition.

Ground 4. Hon in view of Gilbert, Whittemore, and Connors (EP 0533599 (Ex. 1011)) renders obvious claim 21.

See Pet. at 3–5 (Paper No. 2).

Petitioner fails to show a reasonable likelihood that any of the claims of the '957 patent are unpatentable because of the deficiencies set forth below. Accordingly, the Board should deny *inter partes* review for any claim.

A. Burden of Proof and Legal Standard for Obviousness

As the moving party, the Petitioner “has the burden of proof to establish that it is entitled to the requested relief.” 37 C.F.R. § 42.20(c). “*Inter partes* review shall not be instituted for a ground of unpatentability unless the Board decides that the petition supporting the ground would demonstrate that it is a reasonable likelihood that at least one of the claims challenged in the petition is unpatentable.” 37 C.F.R. § 42.108(c).

B. Ground 1: Claims 1–4, 6–9, 16, and 23–24 are not obvious over Hon, Gilbert, Paterno, Voges, and Whittemore.

The Petitioner requests that claims 1–4, 6–9, 16, and 23–24 be cancelled as unpatentable under 35 U.S.C. § 103 over seven references, namely, Hon, which includes three references that the Petition treats as interchangeable, in view of Gilbert, Paterno, Voges, and Whittemore. Pet. at 4 (Paper No. 2). For the reasons outlined below, Petitioner has not met its burden of proof on this Ground.

1. Claim 1

Claim 1 recites, in part:

a battery assembly comprising a battery assembly housing having a first end and a second end, with a battery, a micro-controller unit (MCU) and a sensor electrically connected to a circuit board within the battery assembly housing;

a primary screwthread electrode located on the first end of the battery assembly housing and having a hole through its center;

an atomizer assembly comprising:

an atomizer assembly housing having a first end and a second end;

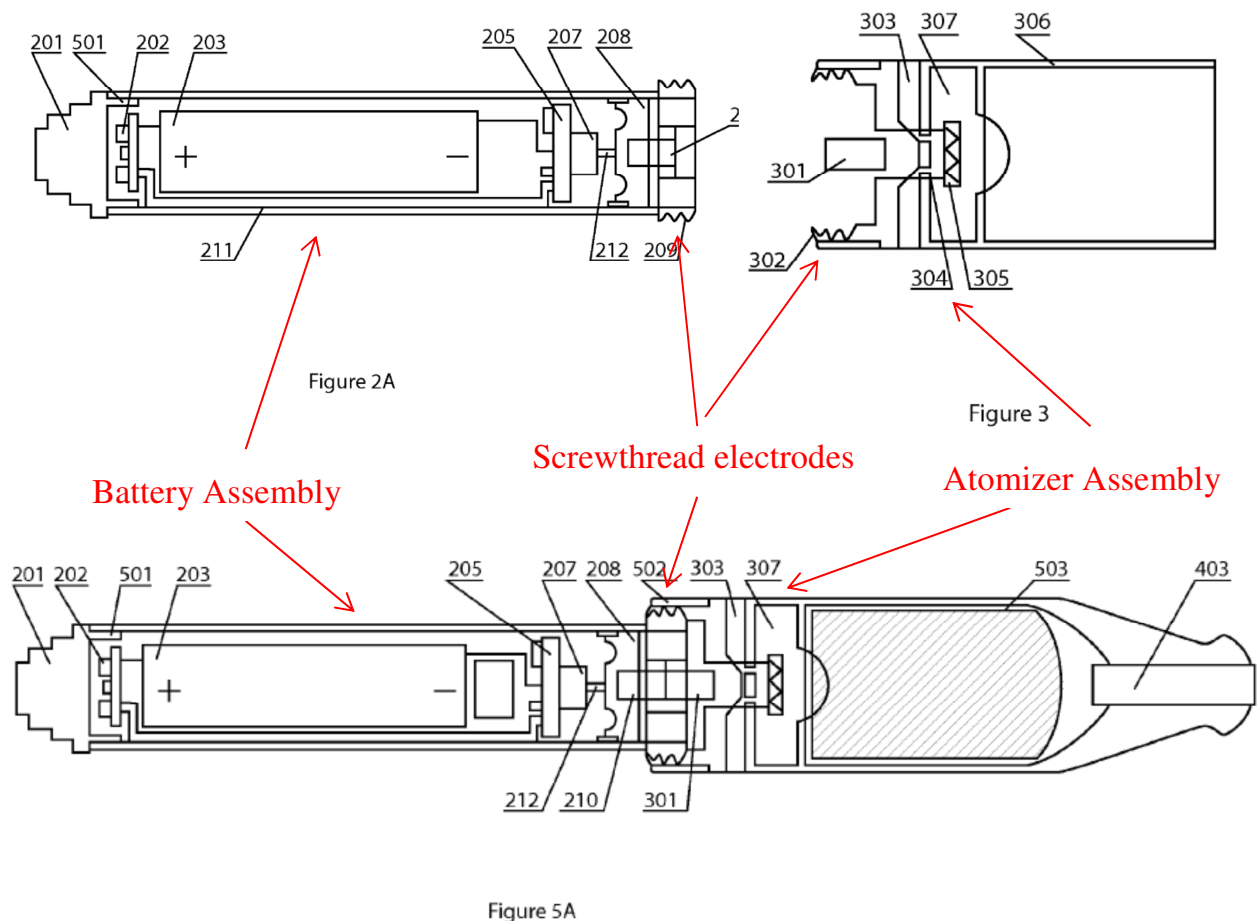
an atomizer, and a solution storage area in the atomizer assembly housing;

a secondary screwthread electrode located on the second end of the atomizer assembly housing and having a hole through its center, the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes

The combination of those limitations requires an electronic cigarette having at least two pieces “connected through the primary and secondary screwthread

electrodes.” One piece includes a “battery assembly” having a “battery, a micro-controller unit (MCU) and a sensor electrically connected to a circuit board within [a] battery assembly housing.” And another piece includes an “atomizer assembly” having “an atomizer, and a solution storage area in the atomizer assembly housing.”

Figures 2A, 3, and 5A of the '957 patent, below (annotations added), show an electronic cigarette having that claimed configuration.



The '957 patent explains that “[a]n external thread electrode (209) is located in one end of the battery assembly, and an internal thread electrode (302) is located in one end of the atomizer assembly. The battery assembly and atomizer assembly are connected through the screwthread electrode into an emulation cigarette.” ’957 patent at 2:63–3:1 (Ex. 1001). And, as depicted in the above figures and as expressly recited in the claims, the screwthread electrodes “are located on the . . . end of the [battery/atomizer] assembly housing.”

By requiring a “battery assembly” that is “connected” to an “atomizer assembly” through “a primary screwthread electrode” and “a secondary screwthread electrode,” the “battery assembly housing” can be separated from the “atomizer assembly housing.” Thus, for example, the “battery assembly housing can then be recharged without removing the battery as shown in in Figure 6, below. Or, the “battery assembly housing” can be attached to a new “atomizer assembly housing” having a full

“solution storage area” or a new atomizer. Or, the “atomizer assembly housing” can be attached to a new “battery assembly housing” having a fully charged battery.

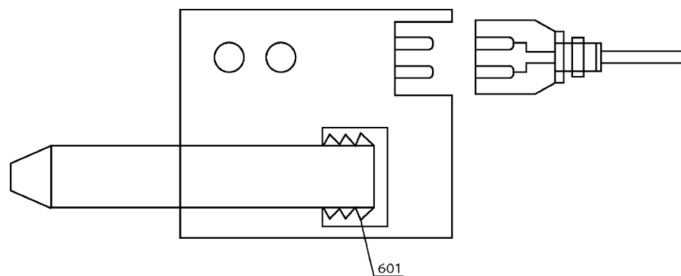


Figure 6

Petitioner presents no art disclosing a device having separate housings for a battery assembly and an atomizer assembly, let alone prior art disclosing screwthread electrodes on the housings connecting a battery assembly to an atomizer assembly. In fact, no art cited in Ground 1 discloses two screwthread electrodes that connect with each other.

Instead, Petitioner and its expert simply allege that such a configuration is obvious because electronic cigarettes and rechargeable batteries were known. But, for the reasons set forth herein, Petitioner has failed to demonstrate that there is a reasonable likelihood that the Petitioner would prevail with respect to any claim of the '957 patent.

- a. **Hon does not disclose “a primary screwthread electrode located on the first end of the battery assembly housing” and “a secondary screwthread electrode located on the second end of the atomizer assembly housing,” “the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes.”**

Petitioner admits that its primary prior art reference, Hon, does not disclose a “battery assembly housing. . .; a primary screwthread electrode located on the first end of the battery assembly housing and having a hole through its center; . . . an atomizer assembly housing. . .; a secondary screwthread electrode located on the second end of the atomizer assembly housing and having a hole through its

center, the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes.” *See* Pet. at 21–22 (Paper No. 2).

Instead, Petitioner asserts that it is obvious to modify Hon to have such a separate battery assembly housing “so as to allow the battery assembly to be disconnected from the rest of the device to allow recharging of a rechargeable battery in the battery assembly housing.” Pet. at 23 (Paper No. 2). Petitioner cites its expert’s report as supporting that conclusion, but the expert simply parrots the same conclusion with no explanation. Buckner Decl. at ¶ 73 (Ex. 1002).

At most, Petitioner’s purported motivation simply suggests that there must be some way to recharge the battery. But, that motivation does not disclose or suggest that one skilled in the art would modify Hon to have separate housings as claimed because Hon, itself, discloses a “rechargeable battery (2).” Hon at ¶ 28 (Ex. 1005). One skilled in the art would understand that that Hon’s battery (2) can be removed through the opening shown in Figure 1, below, so that it can be recharged. There is no need to further modify Hon based on Petitioner’s purported motivation of allowing recharging of a rechargeable battery.

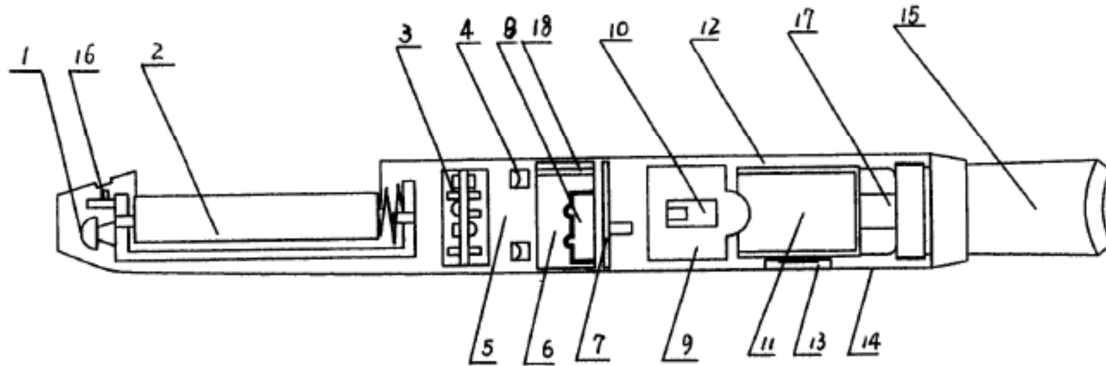


图 1

Regardless, even if the purported motivation of having a rechargeable battery did cause one skilled in the art to modify Hon by breaking apart Hon's device to have separate housing assemblies, that motivation would not result in the claimed invention. Claim 1 further requires "a battery, a micro-controller unit (MCU) and a sensor electrically connected to a circuit board within the battery assembly housing." Petitioner's motivation to have a rechargeable battery does not disclose or suggest a separate "battery housing assembly" attached with a screwthread electrode on the housing, where the battery housing assembly includes "a micro-controller unit (MCU) and a sensor electrically connected to a circuit board within the battery assembly housing" as required by claim 1.

Petitioner's only evidence regarding which components go in the "battery assembly housing" is its expert's statement. But, Petitioner's expert provides no reason why some components are in one housing assembly and others are in another housing assembly. Instead Petitioner's expert simply uses impermissible

hindsight by relying on the claims to decide which component goes where. But, such hindsight cannot form a basis for obviousness. *Otsuka Pharm. Co. v. Sandoz, Inc.*, 678 F.3d at 1296.

In summary, Petitioner's purported motivation of allowing recharging of a rechargeable battery would not have motivated one skilled in the art to have redesigned the already rechargeable battery of Hon to further include both a "battery assembly housing," with additional components, and an "atomizer assembly housing," or to further connect those two housings by screwthread electrodes on the housings.

Accordingly, Petitioner has failed to demonstrate that there is a reasonable likelihood that the Petitioner would prevail with respect to claim 1 of the '957 patent.

b. Paterno is not prior art.

"In an international application entering the national stage under 35 U.S.C. 371, the claim for priority must be made and a certified copy of the foreign application must be filed within the time limit set forth in the PCT and the Regulations under the PCT." 37 C.F.R. § 1.55. The PCT and the Regulations under the PCT, require that the priority claim and the filing of a certified copy of the foreign application must be made at the time of filing the international application or within 16 months thereof. Manual of Patent Examining Procedure

(MPEP) § 213.06; § 1893.03(c). Here, the '957 patent met all the requirements of these regulations.

Here, the '957 patent issued on February 19, 2013 from the national stage of PCT Application No. PCT/CN2007/001576, which was filed on May 15, 2007. '957 patent at cover page (Ex. 1001). On June 4, 2013, the patent applicant requested a certificate of correction to indicate that the '957 patent was entitled to a priority claim under 35 U.S.C. § 119(a) to Chinese Patent Application No. 200620090805 which was filed on May 16, 2006, because a priority claim to that Chinese application was previously perfected in accordance with PCT and USPTO rules and regulations. Request for Cert. of Correction at 1 (Ex. 2009). On July 2, 2013, the USPTO issued a certificate of correction confirming the priority claim. Cert. of Correction at 1 (Ex. 1026).

Exhibit 2010 identifies support for each claim limitation of each claim of the '957 patent (Ex. 1001), in the '957 patent (Ex. 1001), in a translation of PCT Application No. PCT/CN2007/001576 (Ex. 2007), and in a translation of the Chinese Patent Application No. 200620090805 (Ex. 2008). In fact, the PCT application and Chinese priority application are substantially the same. *Compare* Ex. 2007 with Ex. 2008.

Accordingly, because the '957 patent is entitled to a priority claim to Chinese Patent Application No. 200620090805, and that Chinese patent

application provides 35 U.S.C. § 112 support for each claim limitation of the '957 patent, the '957 patent is entitled to a priority date of May 16, 2006.

Paterno is not prior art to the '957 patent. While Petitioner does not identify Paterno in its summary of Ground 1 (Pet. at 4), Petitioner and its expert rely on Paterno for Ground 1 as disclosing a “primary screwthread electrode located on the first end of the battery assembly housing.” Pet. at 27–28 (Paper No. 2). Paterno was filed on April 23, 2007 and includes no priority claim. Paterno at cover page (Ex. 1010). Paterno was first published on October 23, 2008. *Id.* Because the '957 patent is entitled to an effective filing date of May 16, 2006 that is prior to Paterno’s filing date of April 23, 2007, Paterno is not prior art to the '957 patent under any subsection of 35 U.S.C. § 102. Petitioner does not explain why it believes that Paterno is prior art.

Even if considered prior art, Paterno simply teaches that a battery can be removable to be recharged or can be recharged while remaining in the device by “placement of the device in contact or proximity to a docking device” Buckner Decl. at ¶ 87 (Ex. 1002). In fact, the entirety of Paterno’s disclosure cited to and relied upon by Petitioner is as follows:

Power source 5 may be a replaceable or rechargeable battery, inserted against battery spring 6. Where rechargeable, the battery may be removed for recharging or, optionally, be

recharged while remaining in the device by placement of the device in contact or proximity to a docking device (not shown).

Pet. at 28 (Paper No. 2); Buckner Decl. at ¶ 87 (Ex. 1002) (both citing Paterno at ¶ 17 (Ex. 1010)).

That passage says nothing about two portions of the device being separable by screwthread electrodes. Not surprisingly, Petitioner and its expert do not explain how or why Paterno discloses screwthread electrodes in any configuration, let alone as claimed. Instead, without explanation Petitioner and its expert repeat a statement by the examiner made during prosecution regarding a previous version of the claims and prior to the examiner determining that the claims were, in fact, patentable over every reference relied upon by Petitioner in Ground 1, namely Hon, Paterno, Gilbert, Voges, and Whittemore.

Petitioner asserts that one skilled in the art would have combined Hon and Paterno because “the combination uses a known techniques of having a device separable at the battery/atomizer junction to improve the device and the results are predictable.” Pet. at 28 (Paper No. 2). Petitioner further asserts that “[using] separable battery and atomizer assemblies to allow the battery to be recharged would enhance commercial opportunities and make the product more desirable by reducing the need to replace the entire device when the battery is depleted.” Pet. at 28 (Paper No. 2.) But, Petitioner has presented no evidence that “having a device

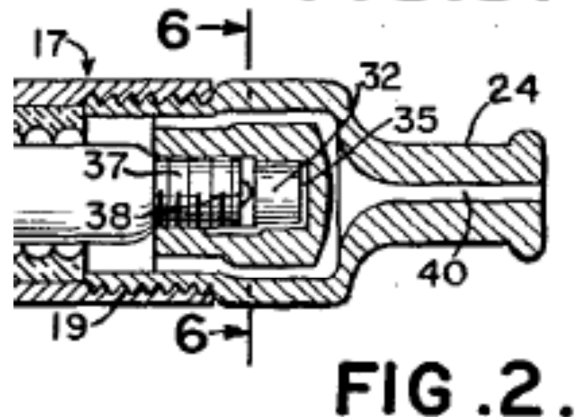
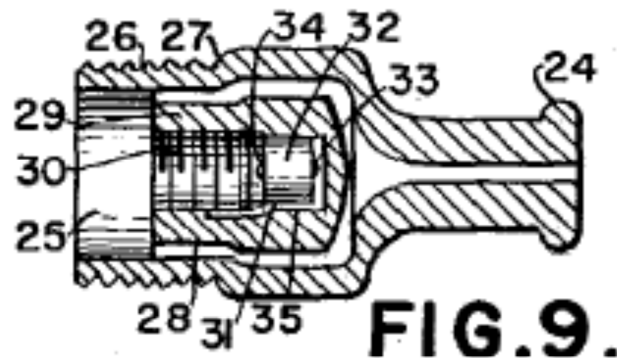
separable at the battery/atomizer junction” is a known technique. In fact, neither Hon nor Paterno disclose “a device separable at the battery/atomizer junction.” That disclosure is from the ’957 patent itself. Petitioner’s alleged motivation to combine is impermissible 20/20 hindsight based on the ’957 patent’s claims and disclosure and should be rejected.

Moreover, Petitioner’s purported motivation or the combination of allowing “the battery to be recharged [without] the need to replace the entire device when the battery is depleted” would not motivate one skilled in the art to make the proposed combination because both Hon and Paterno already allow the battery to be recharged without the need to replace the entire device when the battery is depleted. As set forth above, Hon discloses a “rechargeable battery (2).” Hon at ¶ 28 (Ex. 1005). Similarly, Paterno describes a rechargeable device. Paterno at ¶ 17 (Ex. 1010). There is simply no need to modify either Hon or Paterno based upon Petitioner’s purported motivation.

Accordingly, Paterno is not prior art, and even if considered, does not disclose having a portion of the device separable from another portion of the device so that the battery can be recharged or that those two portions of a device can be connected physically and electrically by screwthread electrodes.

- c. **Gilbert does not disclose “a primary screwthread electrode located on the first end of the battery assembly housing” and a “a secondary screwthread electrode located on the second end of the atomizer assembly housing,” “the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes.”**

First, Gilbert does not disclose “a primary screwthread electrode located on the first end of the battery assembly housing” as recited in claim 1. Petitioner appears to allege that Gilbert’s mouthpiece 24, or at least the hollow shank 25 of mouthpiece 24, is the claimed “battery assembly housing.” Pet. at 37 (Paper No. 2). But, while the hollow shank 25 of Gilbert’s mouthpiece 24 does include external threads 26 which mate with the internal threads 19 of tube 15, the external threads 26 do not conduct electricity and thus cannot meet the limitation “a primary screwthread electrode located on the first end of the battery assembly housing.” Indeed, Petitioner does not allege that the external threads 26 meet that claim limitation.



Instead, Petitioner asserts that Gilbert’s socket 30 is the claimed “primary screwthread electrode located on the

first end of the battery assembly housing.” Pet. at 29, 35 (Paper No. 2). But, Gilbert’s socket 30 is not “formed from a conductor for passing electricity” and as such does not conduct electricity. As shown in Figure 2 and 9 of Gilbert right, the back end of the bulb 36 has a screw plug 37 that screws into the socket 30. A contact strip 35 is between the inner contact 33 of the battery 32 and the socket 30. Gilbert at 2:41–45 (Ex. 1007).

Gilbert further discloses that “[w]hen the bulb 36 is assembled to the socket 30 its tip end 38 will engage the inner battery contact 33 and complete the circuit through the filament of the bulb 36 by the contact strip.” Gilbert at 2:70–3:2 (Ex. 1007). Consequently, the socket 30 is not an electrode. If the socket 30 in Gilbert was an electrically conductive material, there would be no need for the contact strip 35.

Moreover, Gilbert’s socket 30 is not “on the first end of the battery assembly housing” as claimed. As shown in Figure 9, above, socket 30 is internal to the alleged battery assembly housing, not on its first end. The socket 30 is designed to hold replaceable batteries in place when the screw plug 37 of light bulb 36 is screwed into the socket. The socket and screw do not connect a “battery assembly housing” with an “atomizer assembly housing” as claimed.

Similarly, Gilbert does not disclose “a secondary screwthread electrode located on the second end of the atomizer assembly housing” as required by claim

1. Petitioner appears to allege that Gilbert's tube 15 is the claimed "atomizer assembly housing." Pet. at 37 (Paper No. 2). But, while Gilbert's tube 15 does include an inner end portion 17 with internal threads 19, those internal threads 19 do not conduct electricity and thus cannot meet the limitation "a secondary screwthread electrode located on the second end of the atomizer assembly housing." Indeed, Petitioner does not allege that the internal threads 19 meet that claim limitation.

Instead, Petitioner alleges that Gilbert's screw plug 37 is the claimed "secondary screwthread electrode located on the second end of the atomizer assembly housing." Pet. at 35–37 (Paper No. 2). But, while Gilbert's screw plug 37 conducts electricity, it is not "on the second end of the atomizer assembly housing" as claimed. Instead, screw plug 37 is on the end of bulb 36 and is, at best, internal to the alleged atomizer assembly housing.

Moreover, as set forth above, "atomizer" as claimed means "a component that converts liquid into aerosol or vapor." In contrast, Gilbert's light bulb 36 used for heating the moist and flavored air does not atomize that air and is not an atomizer as claimed. Thus, contrary to Petitioner's assertions otherwise (Pet. at 37 (Paper No. 2)), Gilbert does not disclose the claimed "atomizer assembly," "atomizer" or "atomizer assembly housing."

Specifically, Gilbert relates to a “smokeless non-tobacco cigarette” that does not include an “atomizer” to atomize a liquid solution. Gilbert at title (Ex. 1007). Instead, Gilbert discloses a device that will produce “warm, moist and flavored air,” not atomized liquid particles. Gilbert at 1:21 (Ex. 1007). Referring to Figure 2, below, at one end Gilbert includes a “cartridge 20” that can include a moisture holding substance such as a sponge. Gilbert at 3:23–24 (Ex. 1007). The sponge can hold a “harmless flavored chemical compound” such as “slightly mentholated water” or “a solution which would simulate artificially the flavor of Scotch whiskey.” Gilbert at 3:27–31 (Ex. 1007).

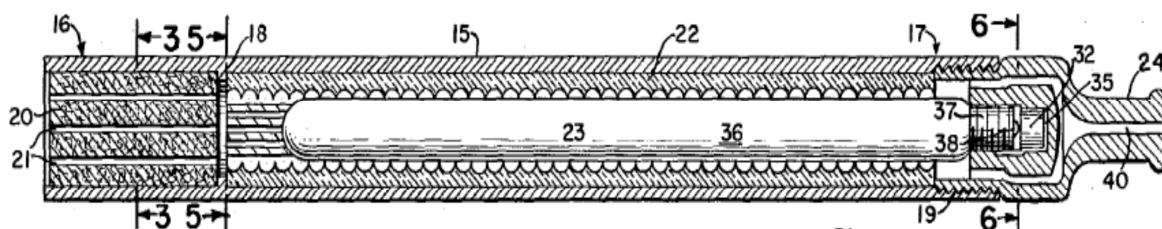


FIG. 2.

Gilbert’s flavor cartridge 20 produces “moist and flavored air” that can then be warmed and inhaled by a user. Gilbert discloses that by “inhalation through the mouthpiece 24, air from the ambient atmosphere is drawn in through the passages 21 of the cartridge 20 which has been impregnated with suitable flavoring material which is picked up by the inhaled air” Gilbert at 3:10–14 (Ex. 1007). Gilbert goes on to describe that “such air then passes into the heating chamber and is caused to flow around the heating bulb 36” Gilbert at 3:14–15 (Ex. 1007).

Then, “the heated and flavored air finally passes through the mouthpiece 24 into the mouth” Gilbert at 3:15–17 (Ex. 1007). In other words, in contrast to the ’957 patent, Gilbert’s device does not atomize its liquid flavoring. That fundamental difference in operation between Gilbert and the ’957 patent results in fundamental differences between the ’957 patent claims and Gilbert.

Petitioner’s motivation to combine Hon with Gilbert should be rejected because it is impermissible 20/20 hindsight. First, Petitioner asserts that one skilled in the art would have combined Hon and Gilbert because “the combination uses a known technique of having a device separable at the battery/atomizer junction to improve the device and the results are predictable.” Pet. at 29 (Paper No. 2). Petitioner further asserts that “[using] separable battery and atomizer assemblies to allow the battery to be recharged would enhance commercial opportunities and make the product more desirable by reducing the need to replace the entire device when the battery is depleted.” Pet. at 29, 30 (Paper No. 2.)

But, Petitioner has presented no evidence that “having a device separable at the battery/atomizer junction” is a known technique. In fact, neither Hon nor Gilbert disclose “a device separable at the battery/atomizer junction” via mating screwthread electrodes. As set forth above, Hon’s device is not separable, and Gilbert’s device does not include an atomizer. And, neither device includes screwthread electrodes on the end of an assembly housing as required by the

claims. All of that disclosure is from the '957 patent claims. Petitioner's alleged motivation to combine is impermissible 20/20 hindsight based on the '957 patent's claims and disclosure and should be rejected.

Moreover, Petitioner's purported motivation or the combination of allowing "the battery to be recharged [without] the need to replace the entire device when the battery is depleted" would not motivate one skilled in the art to make the proposed combination because both Hon and Gilbert already allow the battery to be recharged or replaced without the need to replace the entire device when the battery is depleted. As set forth above, Hon discloses a "rechargeable battery (2)." Hon at ¶ 28 (Ex. 1005). Similarly, Gilbert describes a replaceable battery that is accessible by screwthreads on the housing. Gilbert at 2:41–42 (Ex. 1007) ("a battery cavity 31 for detachably receiving a battery 32"). There is simply no need to modify either Hon or Gilbert based upon Petitioner's purported motivation of having a replaceable or rechargeable battery that result in a device with screwthread electrodes connecting two assembly housings. Both references already have replaceable or rechargeable batteries without such a configuration. Simply put, Petitioner has provided no motivation to combine Hon and Gilbert as claimed.

Finally, Petitioner alleges that Gilbert's light bulb 36 is the alleged atomizer such that tube 15 is the atomizer assembly housing and screw plug 37 is the screw

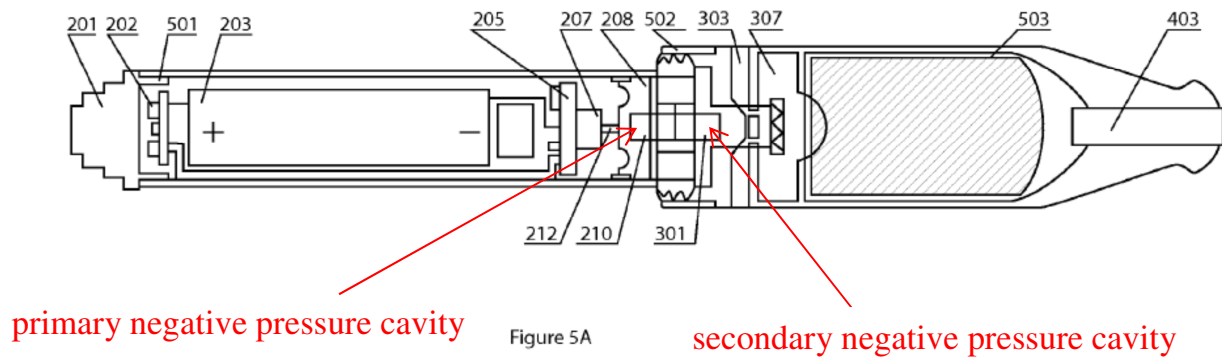
thread electrode. Pet. at 29 (Paper No. 2). But, as set forth above Gilbert's light bulb 36 is not an "atomizer" because it only warms air prior to inhalation, it does not atomize anything. Regardless, even assuming that Gilbert's light bulb 36 is the alleged atomizer such that the tube 15 is the claimed atomizer assembly housing, the screw plug 37 of that light bulb 36 mates with a socket 30, which is not a screwthread electrode. Both the screw plug 37 and socket 30 are internal to the device, not on a housing assembly.

As such, Gilbert's screw plug 37 and socket 30 do not connect one housing assembly to another housing assembly. Instead, Gilbert discloses that the "the bulb 36 will be mounted in the socket 30 while the mouthpiece 24 is detached from the tube 15. . . ." Gilbert at 2:61–63 (Ex. 1007). Then, "the bulb 36 may be introduced into the insert 22 as the mouthpiece 24 is put into place and rotated to effect attachment of the mouthpiece to the outer tube 15." Gilbert at 2:63–66 (Ex. 1007). Thus, Gilbert's screw plug 37 cannot connect tube 15 to the remainder of the device. As set forth above, that connection is made through internal threads 19 and external threads 26, not by screw plug 37 and socket 30.

- d. **Hon and Gilbert, alone or in combination do not disclose a “primary screwthread electrode . . . having a hole through its center” or a “secondary screwthread electrode . . . having a hole through its center.”**

Claim 1 of '957 patent requires the primary and secondary screwthread electrodes to have a hole through their center. The '957 patent explains that “the external thread electrode (209) [has] a hole drilled in the center.” '957 patent at 3:27–29 (Ex. 1001). The '957 patent further states that “[t]he internal thread electrode (302) [has] a hole drilled in the center.” '957 patent at 3:42–44 (Ex. 1001).

The '957 patent explains that the hole through the center of the primary screwthread electrode forms a primary negative pressure cavity 210 ('957 patent at 3:15–18 (Ex. 1001)), and the hole through the center of the secondary screwthread electrode forms a secondary negative pressure cavity 301 ('957 patent at 3:36–38 (Ex. 1001)). When the two screwthread electrodes are “connected” as claimed, the two negative pressure cavities, *i.e.*, the holes, are also connected as shown in Figure 5A, below (annotations added).

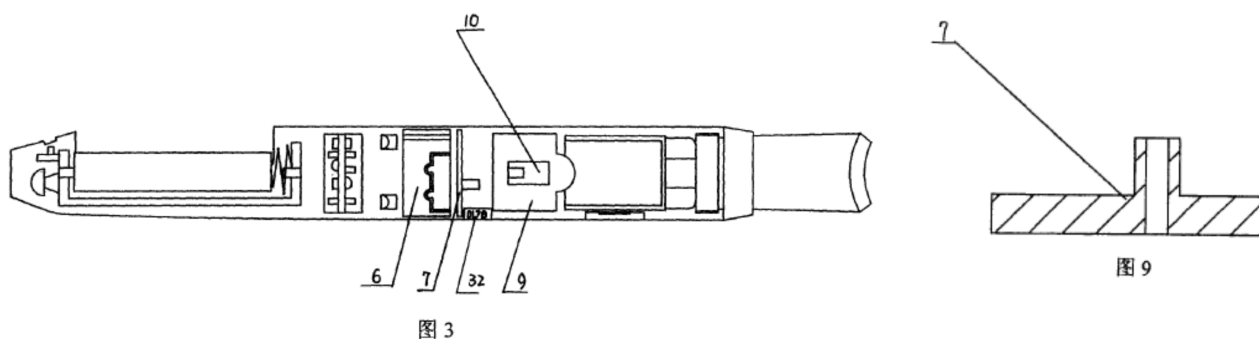


A “sensor (207) is connected with the silica gel corrugated membrane (208) through the switch spring (212).” ’957 patent at 3:18–20 (Ex. 1001). “When the user slightly sucks the suction nozzle (403), the negative pressure forms on the silica gel corrugated membrane (208) through the air intake hole (503) and the primary and secondary negative pressure cavities (210, 301), and the silica gel corrugated membrane (208), under the action of suction pressure difference, distorts to drive the switch spring (212) and sensor (207)” ’957 patent at 3:61–67 (Ex. 1001). In other words, the claimed “holes” through their center of each screwthread electrode that form the negative pressure cavities are included so that the pressure difference created by the user’s suction is communicated to the sensor. And, that sensor must be “within the battery assembly housing” as claimed.

Petitioner does not assert that any of its cited references disclose a screwthread electrode with a hole through its center. Instead, Petitioner asserts that Hon discloses a “vapor-liquid separator 7” that has a hole “approximately through

the center of the battery assembly housing into the atomizer assembly housing.” Pet. at 30 (Paper No. 2). But, Hon discloses no such housings. As set forth above, those housings are a fiction of Petitioner’s impermissible 20/20 hindsight.

Moreover, Hon’s vapor-liquid separator is a simple mechanical device that can be made of plastic or silicon rubber, which are insulators, not conductive materials. Hon at ¶ 9 (Ex. 1005). And, as shown in Figures 3 and 9, below, the hole in the vapor-liquid separator 7 is not “through its center,” as claimed.



Regardless, Petitioner does not even allege or provide any reason why one skilled in the art would have included screwthread electrodes in place of Hon’s vapor-liquid separator. Petitioner simply states that Hon includes the vapor-liquid separator with a hole, and that the vapor-liquid separator allows air to flow from the inlet to the outlet. Pet. at 30–31 (Paper No. 2).

Even if Petitioner’s alleged motivation to have a rechargeable or replaceable battery would motivate one skilled in the art to modify Hon to include the separate housings and connect them with screwthread electrodes instead of simply having a

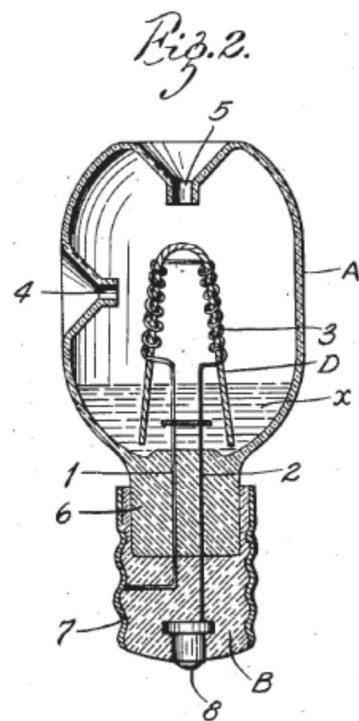
removable rechargeable battery as already disclosed in Hon, Petitioner does not explain how the need for a rechargeable battery motivates one skilled in the art to include screwthread electrodes in place of the vapor-liquid separator 7, let alone to include holes in the screwthread electrodes' centers. Petitioner's allegation that the claimed "holes" are obvious is impermissible 20/20 hindsight based on the '957 patent's claims and disclosure.

Moreover, Petitioner does not and cannot allege that Gilbert's alleged screwthread electrodes, socket 30 and screw plug 37, could include a hole in their center because Gilbert would not function if modified in that manner. Gilbert discloses that airflow goes around the socket 30 and screw plug 37. Gilbert at 3:9–17 (Ex. 1007). Petitioner does not allege or provide any reason why one skilled in the art would have modified Gilbert's socket 30 and screw plug 37 to include a hole through the center. To the contrary, one skilled in the art would not have made such a modification because Gilbert's screw plug 37 is on a vacuum tube or bulb, "similar to a light bulb." Gilbert at 2:45, 49 (Ex. 1007). One skilled in the art would understand that a vacuum tube or bulb would not function if its screw plug had a "hole through its center" as claimed.

e. One skilled in the art would not have combined Hon with Whittemore

Claim 1 requires “the atomizer including a heater coil wound around a porous component.” Petitioner’s rely on Whittemore as disclosing a heater coil wound around a porous component. Pet. at 40–42 (Paper No. 2). However, one skilled in the art would not have combined Whittemore with Hon because the combination would not work for its intended purpose.

As shown in Figure 2, right, Whittemore cannot simulate the experience of smoking a traditional cigarette because it can only be operated in an upright manner (*i.e.*, a vertically oriented manner) otherwise the medicament would empty out of orifice 4 or outlet 5 and the medicament would not contact the wick D. Because Hon is used horizontally to simulate the experience of smoking a traditional cigarette, the combination of Whittemore’s configuration with Hon would not function. Indeed, Petitioner does not address how the combination would be made in view of Whittemore’s required vertical orientation.



Moreover, there is no motivation to combine Hon and Whittemore.

Petitioner concludes that combining Whittemore with Hon would “increase[e] the

efficiency of atomization” because Whittemore’s configuration improves heat transfer to the wick. Pet. at 42 (Paper No. 2). But, Petitioner provides no evidence of the purported increased heat transfer or improved efficiency of atomization.

And yet again, Petitioner asserts that the modifying the prior art as claimed would “enhance commercial opportunities and make the product more desirable. . . .” Pet. at 42 (Paper No. 2). But, as set forth above, just because the ’957 patent claims an improved product, does not mean that its claims are obvious.

2. Claim 2

Claim 2 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

3. Claim 3

Claim 3 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

Claim 1 requires “a primary screwthread electrode located on the first end of the battery assembly housing” and a “a secondary screwthread electrode located on the second end of the atomizer assembly housing.” Claim 3 further requires that “the primary screwthread electrode is an external screwthread electrode and the secondary screwthread electrode is an internal screwthread electrode.” Accordingly, claim 3 requires an external screwthread electrode on the battery

assembly housing and an internal screwthread electrode on the atomizer assembly housing.

As set forth above with respect to claim 1, Gilbert's socket is not a screwthread electrode such that Gilbert does not disclose a primary screwthread electrode. And, even if the socket 30 is considered to be a screwthread electrode, as shown in Figure 2, below, the alleged "primary screwthread electrode" on the alleged battery assembly housing of Gilbert, Gilbert's socket 30, includes internal screwthreads, and the alleged "secondary screwthread electrode" on the alleged atomizer assembly housing, Gilbert's screw plug 37, includes external screwthreads, the opposite of what is claimed.

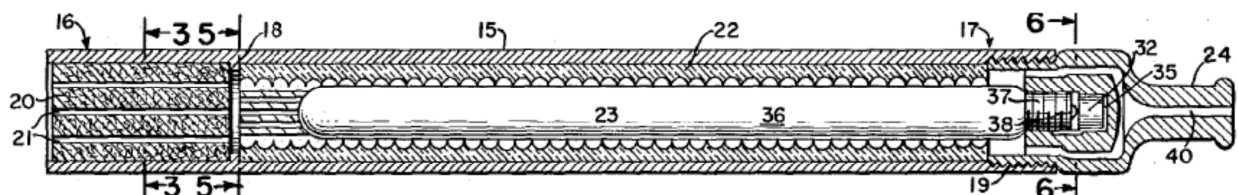
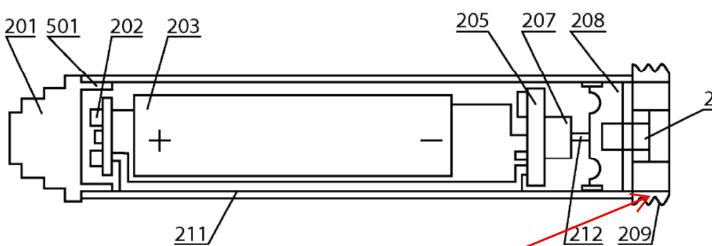


FIG. 2.

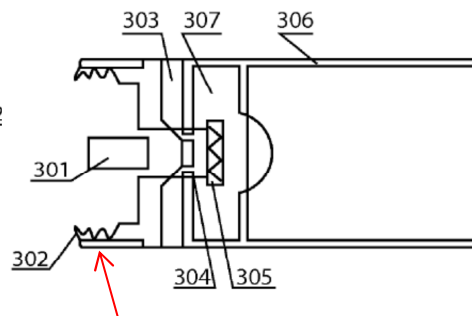
So, Petitioner first asserts that the terms internal and external in the phrases "internal screwthread electrode" and "external screwthread electrode" modify electrode and not screwthread, using the analogy of a "black car seat." Pet. at 47 (Paper No. 2). Petitioner thus asserts that the claim simply requires an internal electrode and an external electrode, but does not restrict the location of the screwthreads.

Nonsense. While the phrase “black car seat” does not appear anywhere in the ’957 patent, the phrases “internal” and “external” thread electrodes do. In contrast to a “black car seat,” the ’957 patent discloses that an “internal thread electrode 302” has an internal screwthread as shown in Figure 3, below, and that an “external thread electrode 209” has an external screwthread as shown in Figure 2A, below. Petitioner’s strained reading of the claim should be rejected.



external thread electrode

Figure 2A



internal thread electrode

Figure 3

Petitioner next asserts that it is a design choice and is obvious to reverse Gilbert’s configuration “to allow the battery assembly to be removed from the electronic cigarette and screwed into a battery charger assembly.” Pet. at 48 (Paper No. 2). In other words, Petitioner asserts that it is an obvious design choice to reinvent the light bulb by modifying screw plug 36 into a socket without any motivation for doing so, other than that is what claim 3 of the ’957 patent recites. Petitioner does not explain how this configuration would function or why one skilled in the art would have made the proposed design change. Moreover,

Gilbert's socket 30 is designed to receive and hold a battery. Gilbert at 2:40–44 (Ex. 1007). If Gilbert's socket 30 was replaced by a screw plug, the battery could not be removed and replaced as required by Gilbert. Curiously, the need to replace or recharge a battery is the alleged reason to combine Gilbert and Hon and Petitioner's proposed modification of Gilbert would eliminate that function. To modify Gilbert as claimed would require a complete redesign, not just a simple design choice.

4. Claim 4

Claim 4 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

5. Claim 6

Claim 6 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

6. Claim 7

Claim 7 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

7. Claim 8

Claim 8 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

8. Claim 9

Claim 9 depends from claim 1 and is patentable over the cited references at least for the reasons set forth above with respect to claim 1.

9. Claim 16

Claim 16 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10, which will be discussed further below in conjunction with Ground 2.

10. Claim 23

Similar to claim 1, above, claim 23 requires:

battery assembly including a battery assembly housing having a front end and a back end, with a battery, a micro-controller unit (MCU) and a sensor electrically connected to a circuit board within the battery assembly housing;

a first screwthread electrode located on the back end of the battery assembly housing;

an atomizer assembly comprising:

an atomizer assembly housing having a front end and a back end;

an atomizer, and a solution storage area in the atomizer assembly housing;

a second screwthread electrode located on the front end of the atomizer assembly housing, the battery assembly and the atomizer assembly connected through the first and second screwthread electrodes; and

with the atomizer including a heater coil wound around a porous component.

In contrast to claim 1, claim 23 does not require that the first and second screwthread electrodes have “a hole through [their] center[s].”

Petitioner relies on the same reasoning set forth above with respect to claim 1 as the basis for cancellation of claim 23. But, for the reasons set forth above with respect to claim 1, claim 23 is patentable over the cited references.

11. Claim 24

Claim 24 depends from claim 23 and is patentable over the cited references at least for the reasons set forth above with respect to claim 23.

C. Ground 2: Claims 10–12, 14, 15, 17, 18 and 22 are not obvious over Hon, Gilbert, and Whittemore

Petitioner requests that claims 10–12, 14, 15, 17, 18 and 22 be cancelled as unpatentable under 35 U.S.C. § 103 over Hon in view of Gilbert and Whittemore. Pet. at 4 (Paper No. 2). For the reasons outlined below, Petitioner has not met its burden of proof on this Ground.

1. Claim 10

Similar to claim 1 above, claim 10 requires:

a battery assembly housing having a first end and second end;

a battery connected to a circuit board within the battery assembly housing;

a primary screwthread electrode located on the first end of the battery assembly housing;

an atomizer assembly comprising:

an atomizer assembly housing having a first end and a second end;

a secondary screwthread electrode located on the second end of the atomizer assembly housing with the battery assembly and the atomizer assembly connected through the primary and secondary screwthread electrodes;

an atomizer in the atomizer assembly housing, with atomizer including a heater coil wound around a porous component . . .

In contrast to claim 1, claim 10 does not require that the primary and secondary screwthread electrodes have “a hole through [their] center[s].”

Petitioner relies on the same reasoning set forth above with respect to claim 1 as the basis for cancellation of claim 10. But, for the reasons set forth above with respect to claim 1, claim 10 is patentable over the cited references.

2. Claim 11

Claim 11 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

3. Claim 12

Claim 12 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

4. Claim 14

Claim 14 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

Like claim 3, claim 14 further recites “wherein the primary screwthread electrode is an external screwthread electrode and the secondary screwthread electrode is an internal screwthread electrode.” Accordingly, claim 14 is patentable over the cited references at least for the same reasons set forth above with respect to claim 3.

5. Claim 15

Claim 15 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

6. Claim 17

Claim 17 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

7. Claim 18

Claim 18 depends from claim 17, which depends from claim 10. Claim 18 is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

8. Claim 22

Claim 22 depends from claim 10 and is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

Claim 22 further requires “at least one of the primary and the secondary screwthread electrodes having a hole through its center.” Claim 22 is patentable over the cited reference at least for the same reasons set forth above with respect to the limitation of claim 1 reciting that the primary and secondary screwthread electrodes have “a hole through [their] center.”

D. Ground 3: Claim 13 is not obvious over Hon in view of Gilbert, Whittemore and the TechPowerUp article.

The Petitioner requests that claim 13 be cancelled as unpatentable under 35 U.S.C. § 103 over Hon in view of Gilbert, Whittemore and the TechPowerUp article. Pet. at 4 (Paper No. 2). Claim 13 depends from claim 10. Petitioner does

not assert that the TechPowerUp article discloses any limitation of claim 10. Accordingly, the TechPowerUp article does not remedy any deficiency of Hon, Gilbert and Whittemore with respect to claim 10. Thus, claim 13 is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

E. Ground 4: Claim 21 is not obvious over Hon in view of Gilbert, Whittemore, and Connors

The Petitioner requests that claim 21 be cancelled as unpatentable under 35 U.S.C. § 103 over Hon in view of Gilbert, Whittemore, and Connors. Pet. at 4 (Paper No. 2). Claim 21 depends from claim 10. Petitioner does not assert that Connors discloses any limitation of claim 10. Accordingly, Connors does not remedy any deficiency of Hon, Gilbert or Whittemore with respect to claim 10 such that claim 21 is patentable over the cited references at least for the reasons set forth above with respect to claim 10.

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IV. CONCLUSION

Therefore, for the reasons discussed above, Patent Owner requests that the Board deny the Petition for *Inter Partes* Review of the '957 patent.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of this Patent Owner Preliminary Response to Petition for *Inter Partes* Review has been served via electronic mail and U.S. mail upon the following counsel of record for Petitioner Logic Technology Development, LLC on February 18, 2015:

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