

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

R.J. REYNOLDS VAPOR COMPANY,
Petitioner

v.

HEALTHIER CHOICES MANAGEMENT CORP.,
Patent Owner.

Case IPR2024-01458

U.S. Patent No. 9,538,788

**PETITIONER REPLY TO
PATENT OWNER RESPONSE**

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UPDATED LIST OF PETITIONER EXHIBITS

EXHIBIT NO.	TITLE
1001	U.S. Patent No. 9,538,788 (“the ’788 patent”)
1002	Prosecution History of Application No. 13/999,652 (issued as Patent No. 9,538,788)
1003	Declaration of Kelly Kodama
1004	U.S. Patent No. 3,200,819 to Gilbert
1005	Korean Patent Pub. No. 10-2012-0080287 to Lee
1006	U.S. Patent No. 9,943,107 to Weigensberg, <i>et al.</i>
1007	U.S. Patent Pub. No. 2011/0036346 to Cohen, <i>et al.</i>
1008	Kelly Kodama’s curriculum vitae
1009	U.S. Patent Pub. No. 2013/0298905 to Levin, <i>et al.</i>
1010	U.S. Patent No. 1,934,887 to Robinson
1011	U.S. Patent No. 2,204,312 to Huxter
1012	U.S. Patent No. 2,588,471 to Bauer
1013	U.S. Patent No. 2,694,771 to Cox

1014	U.S. Patent No. 7,458,374 to Hale, <i>et al.</i>
1015	U.S. Patent Pub. No. 2013/0220316 to Oglesby, <i>et al.</i>
1016	Complaint (Dkt 1), <i>Healthier Choices Management Corp. v. R.J. Reynolds Vapor Company</i> , No. 1:23-cv-00813 (M.D.N.C.)
1017	Plaintiff's Opposition to Defendant's Motion to Dismiss (Dkt. 20), <i>Healthier Choices Management Corp. v. R.J. Reynolds Vapor Company</i> , No. 1:23-cv-00813 (M.D.N.C.)
1018	U.S. Provisional Patent Application No. 61/737,847
1019	U.S. Patent No. 2,057,353 to Whittemore
1020	International Pub. No. WO 2009/132793 to Thorens, <i>et al.</i>
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1022	U.S. Patent Pub. No. 2005/0016550 to Katase
1023	U.S. Patent No. 9,408,416 to Monsees, <i>et al.</i>
1024	U.S. Patent No. 7,920,777 to Rabin, <i>et al.</i>
1025	Challenged Claims Chart for U.S. Patent No. 9,538,788
1026	Declaration of Kelly R. Kodama in Support of Petitioner's Reply
1027	Transcript of August 29, 2025 Deposition of Charles A. Garris

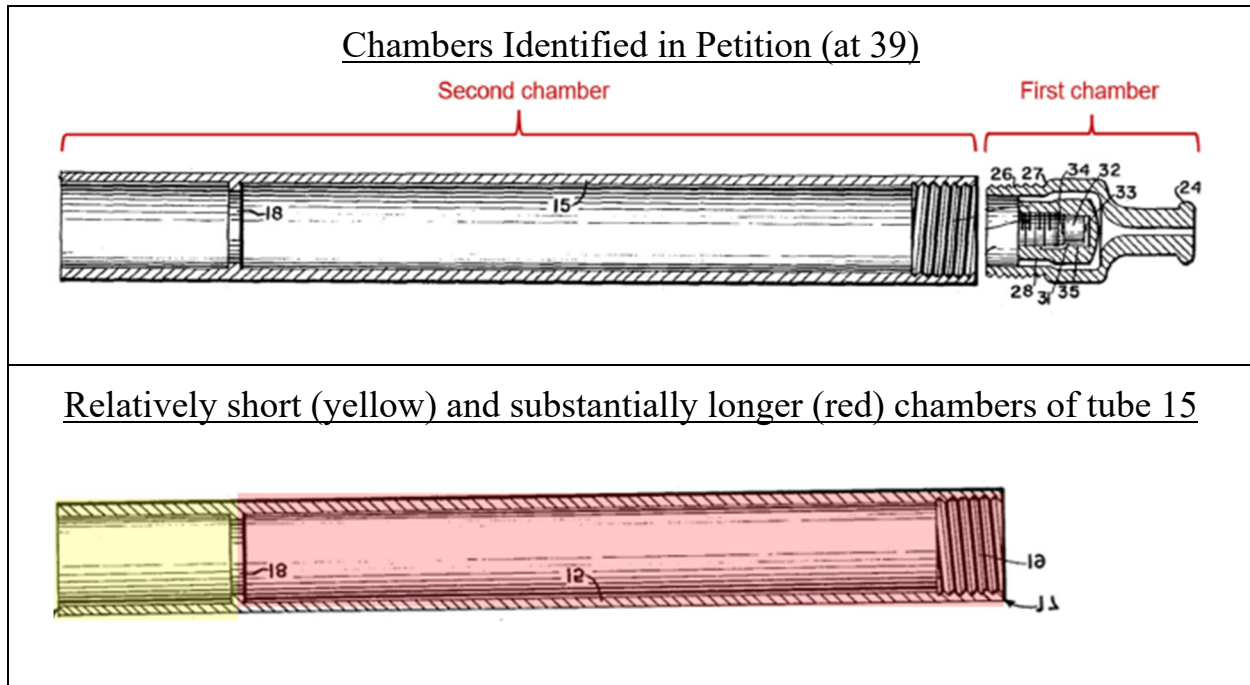
I. INTRODUCTION

The Petition demonstrated that challenged claims 1, 7, 8, and 11 are obvious. Confronted with these showings, HCMC chose deflection over engagement. Its Patent Owner Response (POR) sidesteps key prior-art disclosures and erects strawmen that bear little resemblance to RJRV's actual theories.

Claims 1, 7, 8, and 11 should be canceled.

II. CLAIMS 1, 7, 8, AND 11 ARE OBVIOUS OVER GROUNDS 1A AND 1B**A. Gilbert Discloses “A Fluid Containing Member Located In The Second Chamber”**

The POR (at 18-21) argues that the Petition's identification of the claimed first and second chambers (upper image) in Gilbert is erroneous and inconsistent with Gilbert's identification of “relatively short and substantially longer chambers” of tube 15 (lower image):

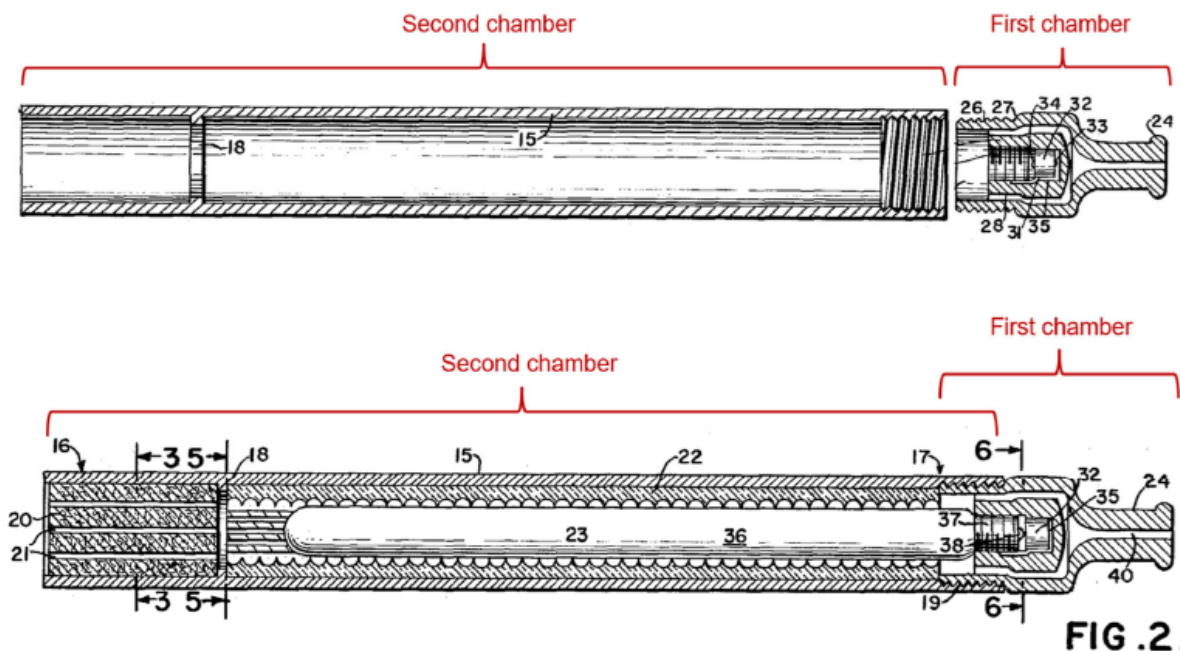


HCMC argues that Gilbert does not disclose the claimed “fluid containing member located in the second chamber” when the first and second chambers are defined in the manner described by Gilbert. *Id.*

But HCMC’s argument—seizing on Gilbert’s labeling of the shorter and longer portions of tube 15 as “chambers”—misses the point. Under the proper inquiry, the focus must be on the ’788 patent claim language “second chamber,” and whether it encompasses the “second chamber” of Gilbert identified in the Petition. The focus is not on the terminology Gilbert uses or what Gilbert may label as a chamber, but instead on what Gilbert discloses. *See In re Clarke*, 809 F. App’x 787, 794 (Fed. Cir. 2020) (“While prior art elements must be arranged in the same manner as the claim, the reference need not satisfy an *ipsissimis verbis* test.”) (citation and internal quotations omitted); *see also* M.P.E.P. 2131 (“identity of

terminology is not required” in prior art reference); *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 31 at 30 (PTAB Oct. 6, 2020).

Here, although Gilbert does not use the word “chamber” (or “second chamber”) in referring to the entirety of tube 15, a POSA would have understood it to be a “chamber,” as claimed:



Pet., 38-39. The '788 patent includes no lexicography or disclaimer with respect to the term “chamber,” and so it is given its plain and ordinary meaning. *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). As Dr. Garriss testified at deposition, the plain and ordinary meaning of “chamber” in the context of the '788 patent is an enclosure. EX1027, 29:7-11. Gilbert’s external tube 15 is a cylindrical enclosure having an open interior for enclosing components of the e-

cigarette. EX1026, ¶¶9-13; *see also* EX1027, 31:9-16. Gilbert’s tube 15 is therefore a “chamber,” as claimed in the ’788 patent.

Further, HCMC’s comparison of Gilbert’s “relatively short and substantially longer chambers” to the first and second chambers identified in the Petition is not even valid. Claim 1 recites an “electronic cigarette”¹ comprising “a casing” with “a first chamber and a second chamber.” The “casing” of Gilbert’s electronic cigarette identified in the Petition (at 38) is shown below:

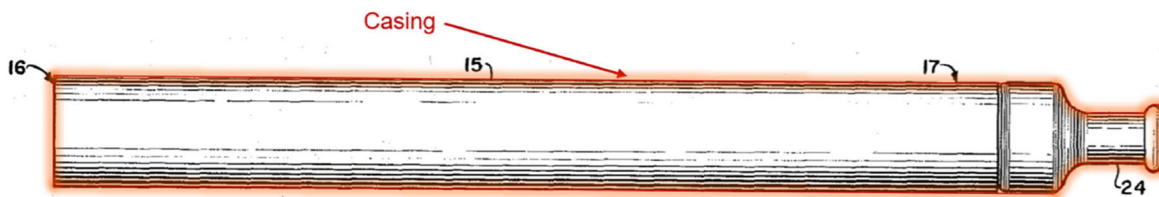


FIG. 1.

Gilbert’s shorter and longer chambers are not first and second chambers of the casing identified in the Petition and do not, together, constitute an electronic cigarette—rather, they are chambers of the tube 15, which is just one portion of the identified casing. EX1004, 1:62-70.

¹ The POR does not challenge the Petition’s showing that the preamble, reciting “[a]n electronic cigarette,” is satisfied by Gilbert, either alone or in view of Cohen. Pet., 35-38; EX1003, ¶¶79-83. The POR also does not challenge the combination of Gilbert and Cohen set forth in the Petition. *Id.*

B. Gilbert’s Hollow Shank Discloses “A Sealing Element Forming A Partition Between The First And Second Chambers”

HCMC argues that Gilbert’s hollow shank 25 does not disclose the claimed “sealing element,” as argued in the Petition (at 45-46). HCMC is wrong for several reasons.

First, HCMC misreads the claim language. Claim 1 requires “a sealing element forming a partition between the first and second chambers,” *not* a sealing element or partition that “divide[s] the bulb from the battery.” POR, 20. The hollow shank 25 is a sealing element that forms a partition between the two chambers of Gilbert’s casing, exactly as claimed. Pet., 45-46. Because the claim does not require the sealing element to form a partition between the bulb and battery, HCMC’s argument that the inclusion of the claimed “sealing element” in Gilbert would prevent the bulb and battery from making contact is wrong.

Second, the sealing element of Gilbert identified in the Petition (hollow shank 25) *does not* prevent the bulb from contacting the battery. The hollow shank 25 partitions the first chamber from the second chamber, but the bulb’s base extends through the sealing element to make contact with the battery 32 as seen in the annotated drawing above (Pet., 46) and as described in Gilbert. EX1004, 2:48-50.

Third, to the extent HCMC suggests that the “sealing element” must form a complete physical barrier that isolates the first and second chambers from one

another, this is wrong because Applicant disclaimed this requirement during prosecution. As originally filed, claim 1 recited “a sealing element forming a partition between the first and second chambers, the sealing element structured to prevent a fluid from passing from the second chamber into the first chamber” (EX1002, 24), but the second clause was subsequently deleted in response to an Office Action (*id.*, 174). The doctrine of prosecution-history disclaimer precludes HCMC from recapturing this limitation surrendered via amendment.

Fourth, Dr. Garris asserts that Gilbert’s “bulb cannot be disposed of in separate chambers” (EX2001, ¶78), as proposed in the Petition with the bulb extending between the two chambers to make contact with the battery 32. But as Dr. Garris conceded, the claim language does not require the heating assembly with bulb to be located *exclusively* in the second chamber. EX1027, 67:7-15. Nor does the specification, which includes no lexicography or disclaimer requiring the heating assembly to be located entirely in the second chamber. *See also* EX1001, 2:16-59, 8:36-56 (described embodiments are mere “exemplars”).

In fact, Gilbert’s arrangement is similar to Figure 2 of the ’788 patent, which includes a cathode wire 90 that “passes through the first seal 50,” extending between the first chamber 20 and second chamber 25 to electrically connect the battery 35 to the heating assembly 220 (*id.*, 6:4-14):

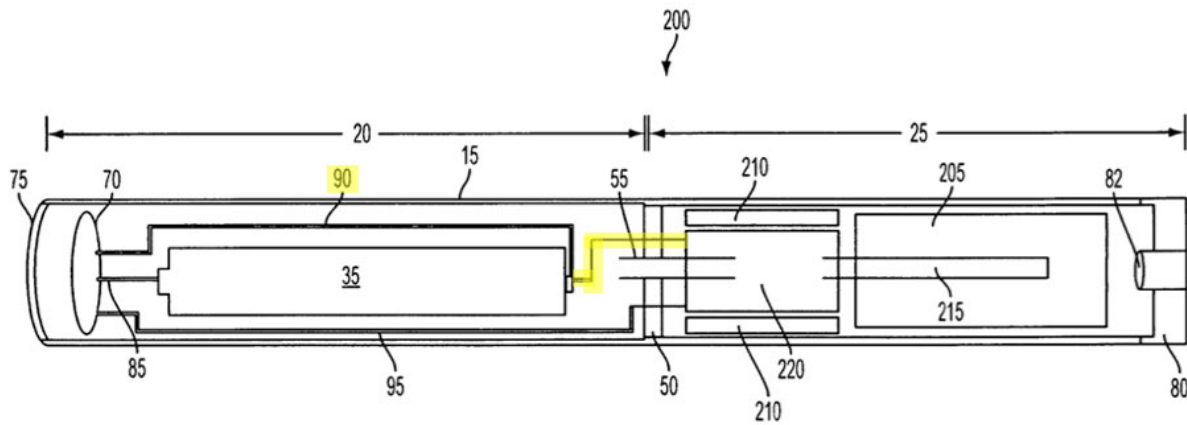


FIG. 2

Id., Fig. 2 (color added).

Likewise, in Gilbert, a small portion of the heating assembly—primarily socket 30—extends into the first chamber to facilitate electrical connection between the bulb's heating element and the battery:

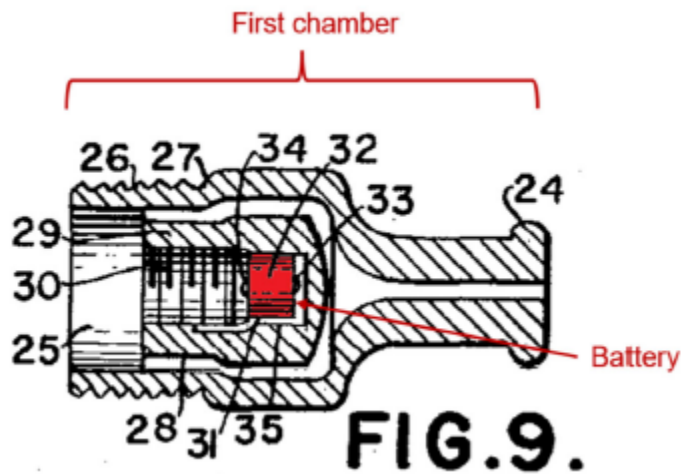
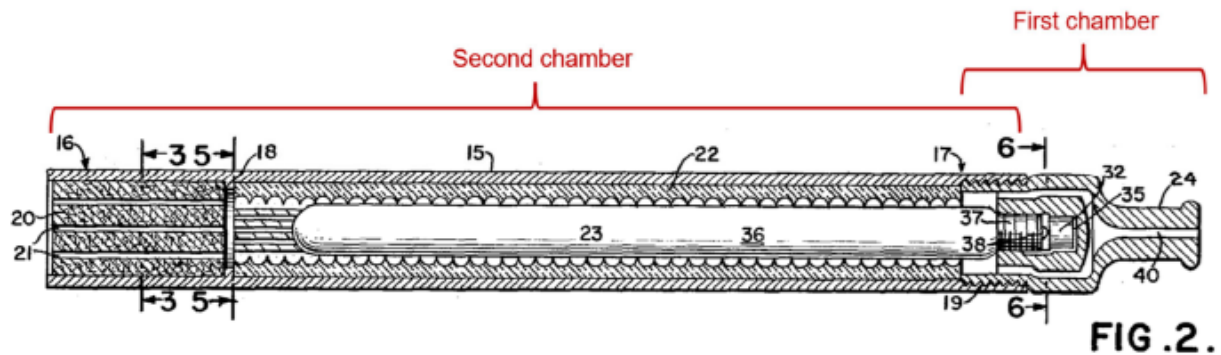


FIG. 9.



Pet., 39-40.

At deposition, Dr. Garris argued that claim limitation [1f] (reciting, *inter alia*, “a tube element”) supports his interpretation. EX1027, 67:16-68:18. But this limitation says nothing about the heating assembly or its bulb needing to be located entirely in the second chamber, and the second distal end of the tube element can still be “affixed to the bulb” notwithstanding portions of the heating assembly being respectively located in both chambers. EX1026, ¶¶14-16.

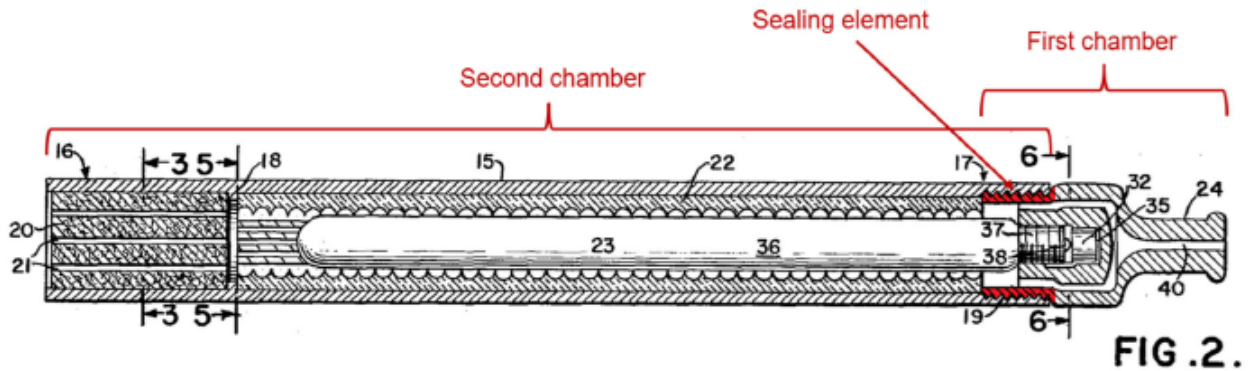
Dr. Garris also argued that having the “heating element in the first chamber ... would tend to heat up the battery and all of the electronics and it wouldn’t make any sense.” EX1027, 68:19-24. Initially, claim 1 does not require any “electronics” in the first chamber, so the purported problem of heating such electronics is unfounded. And Gilbert shows that having a portion of the heating assembly in the first chamber does not necessarily cause problematic heating of the battery. EX1026, ¶17. As explained above, only a small portion of Gilbert’s

heating assembly (primarily socket 30) is present in the mouthpiece, and Gilbert's battery 32 is not adversely affected by this. EX1026, ¶17.

Fifth, HCMC argues that Gilbert's "substantially longer chamber is designed and otherwise configured to receive the bulb 36 ... and battery 32." POR, 20-21. This is wrong because Gilbert's "substantially longer chamber" does not receive the battery 32. The battery 32 is always depicted and described as being located in the mouthpiece, not the substantially longer chamber of the tube 15. Pet., 39; *see also* EX1004, 2:41-48. At deposition, Dr. Garris conceded this. EX1027, 48:3-6.

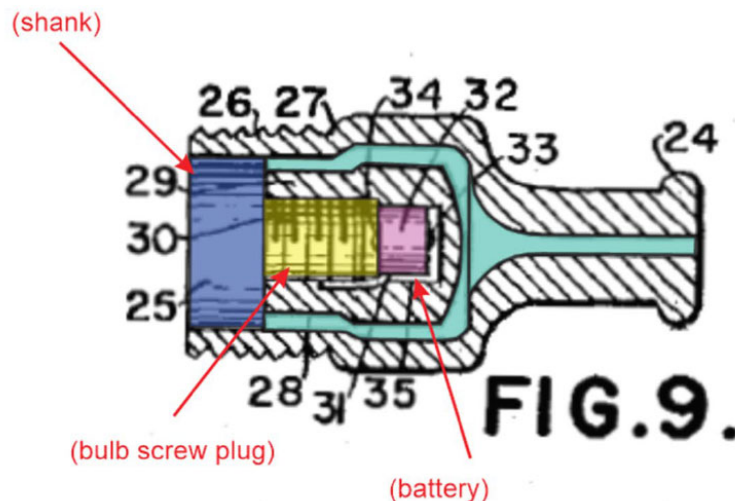
Finally, Dr. Garris argues that "[i]f a POSA were to accept that the shank 25 in Gilbert's device is the [claimed 'sealing element'], the chambers would be partitioned in a manner that they'd be radially concentric." EX2001, ¶79. This argument does not appear in the POR, and so the Board should disregard it. Even if considered, however, the argument fails because the claims have no restriction against some portions of the chambers being radially concentric, and Dr. Garris provides no explanation as to why such an arrangement would run afoul of the claims. EX2001, ¶79. Dr. Garris also does not explain why the chambers allegedly would have been partitioned in a radially concentric manner assuming the shank 25 to be the sealing element. *Id.* His terse assertion does not engage with the Petition's showing (at 45-46) that "hollow shank 25 with threads 26 and

shoulder 27 acts as [the claimed] sealing element,” with the sealing element colored red and indicated via annotation:



Id., 46.

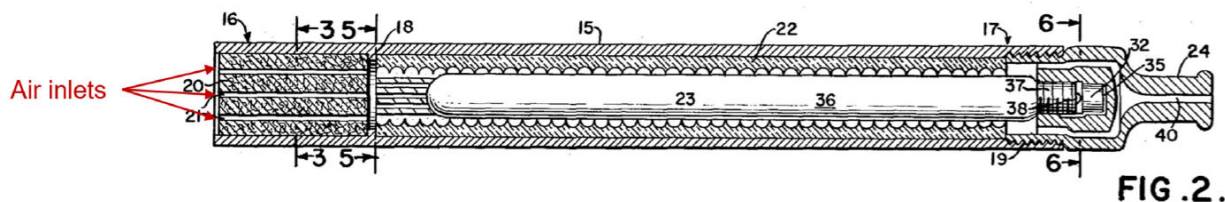
Dr. Garriss’s argument disregards the Petition’s annotated “sealing element” and attacks a strawman. EX2001, ¶¶77-79. He labels a portion of his annotated Figure 9 colored dark blue as the “shank” and argues that the chambers would be partitioned in the manner depicted, with the first chamber colored “purple” and the second chamber colored “aqua” (*id.*, ¶¶77-79):



But the Petition never equated the dark blue portion with the claimed “sealing element,” and the Petition never argued that the first and second chambers are both located in the mouthpiece. Pet. 38-39, 45-46.

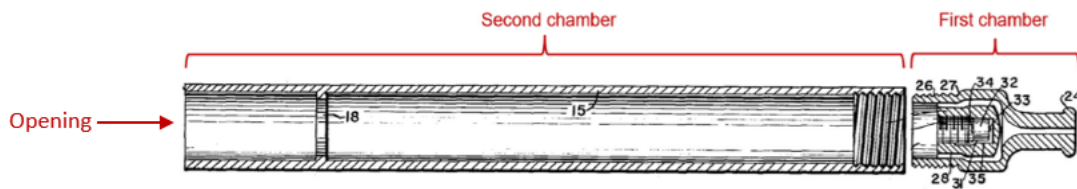
C. Gilbert Discloses “An Air Inlet Provided On An External Wall Of The Casing”

For limitation [1h], reciting “an air inlet provided on an external wall of the casing,” the Petition (at 46-47) cited column 3, lines 9-18 of Gilbert, which states in part: “air from the ambient atmosphere is drawn in through the passages 21 [*i.e.*, air inlets] of the cartridge 20.” The Petition also provided an annotated image identifying the air inlets of cartridge 20 (not an air inlet of Gilbert’s casing), consistent with Gilbert’s textual description:



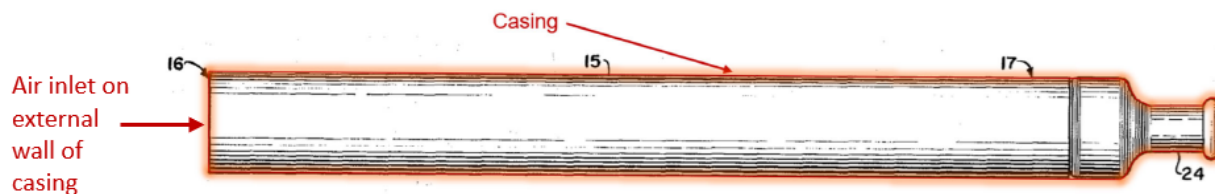
The Board understood RJRV to be equating the air inlets of cartridge 20 with the claimed “air inlet provided on an external wall of the casing,” noting its concerns regarding limitation [1h]: “In view of Gilbert’s disclosure that its flavor cartridge is a separate unit of the cigarette and not part of the outer end portion of its external tube, the airflow passages in the flavor cartridge are not provided on the end portion of Gilbert’s external tube.” DI, 18-19; POR, 22-23.

Respectfully, this was not RJRV's argument. In the Petition, for example, RJRV argued that "[w]hen the user inhales through the mouthpiece 24, air is drawn into the passages 21 of the cartridge 20 ... and then passes into the heating chamber and around the heating bulb" (Pet., 20); in other words, the Petition pointed to ambient air being drawn into the interior of the device via the opening formed at the end of the external tube:



Id., 39 (“Opening” annotation added).

The Petition was citing this opening of the tube (*i.e.*, the claimed “casing,” highlighted in red below) as disclosing the claimed “air inlet”:



Id., 38 (“Air inlet” annotation added).

Furthermore, Mr. Kodama's declaration in support of the Petition distinguished between (i) the air inlets of the cartridge 20, and (ii) the external wall of the casing through which the air inlets would open, referring to them separately. EX1003, ¶97; EX1026, ¶20. Per Mr. Kodama's testimony, the three annotated air

inlets are not “an air inlet provided on an external wall of the casing”—they are air inlets of the cartridge 20 that “open to the ambient air through the external wall of the casing,” *i.e.*, *through an opening (air inlet) of the casing’s external wall*.

Without providing an impermissible new argument, Mr. Kodama clarifies that he was citing the large opening at the leftmost end of tube 15—*i.e.*, the opening through which external, ambient air enters into an interior portion of the tube 15—as disclosing the claimed “air inlet provided on an external wall of the casing.” EX1026, ¶¶18-21. At deposition, Dr. Garris conceded that the term “air inlet” should be interpreted broadly as any “opening that allows air to come into the e-cigarette,” and that the patent imposes no restrictions on the air inlet’s size. EX1027, 35:19-36:4. He further conceded that Gilbert’s casing includes an “opening at the outer end portion 16 of tube 15” through which air enters “into the interior of tube 15.” *Id.*, 52:17-22. The large opening at the leftmost outer end portion 16 of Gilbert’s tube 15 therefore discloses the claimed “air inlet” under the term’s plain and ordinary meaning articulated by Dr. Garris. EX1026, ¶22. In fact, Gilbert’s device *must* include the claimed “air inlet” to operate correctly. *Id.*, ¶¶21, 23.

HCMC argues that Gilbert does not include the claimed “air inlet” because such an air inlet would “allow the tumbling air around the heat source to escape and/or not heat up.” POR, 22. But since Gilbert’s air inlet is upstream (from an

airflow perspective) of the heat source where tumbling air is heated, this obviates the supposed air-escape problem asserted by HCMC. EX1026, ¶¶23; EX1027, 77:6-15.

D. Gilbert Discloses “Wherein The Bulb Heats Fluid Introduced To And Coming In Contact With The Bulb Through The Fluid Passageway”

RJRV established that Gilbert discloses limitation [1i], reciting “wherein the bulb heats fluid introduced to and coming in contact with the bulb.” The Petition (at 14, 20, 40-41, 47) cited, among other disclosure, column 1, lines 23-29 of Gilbert, which discloses “circulating the fluid around the heating element in a turbulent manner to suitably raise the temperature of the inhalant [sic] mixture.” Mr. Kodama likewise cited this portion of Gilbert (EX1003, ¶¶48, 88, 98-99), testifying that it discloses “the bulb heats fluid introduced to and coming in contact with the bulb.” *Id.* .

HCMC argues that Gilbert fails to disclose limitation [1i] but does not address the column 1, lines 23-29 of Gilbert. POR, 23-25. And the POR does not address (much less refute) Mr. Kodama’s testimony that this disclosure shows that Gilbert’s “bulb heats fluid introduced to and coming in contact with the bulb.” *Id.* Dr. Garriss likewise does not address or attempt to refute Mr. Kodama’s testimony. *See* EX2001, ¶¶87-92. Accordingly, by failing to address column 1, lines 23-29 of Gilbert and Mr. Kodama’s testimony thereon, HCMC has conceded the point and

waived any contrary arguments. Paper 8 (Scheduling Order) at 10; *see also Bayer Cropscience LP v. Corteva Agriscience LLC*, IPR2023-01037, Paper 43 at 73-74 (PTAB Dec. 17, 2024).

Despite this concession, HCMC argues that Gilbert’s disclosure is outside the scope of the claims. POR, 23-25. The POR argues that “a **mixture** of atmospheric air with the suitable flavoring **is what flows into the heating chamber** to be heated up by the bulb.” *Id.* at 24 (HCMC’s emphasis). According to HCMC, this is allegedly “different than element [1i],” which “requires that the **fluid from the fluid containing member** in the second chamber **make contact with the bulb.**” *Id.* (HCMC’s emphasis).

HCMC’s argument fails, however, because it attempts to distinguish Gilbert based on features that are not present in the claims. HCMC’s position appears to be that the claimed “fluid” cannot combine with air before coming in contact with the bulb through the fluid passageway, such that Gilbert fails to disclose limitation [1i]. *Id.* But this negative limitation is not present in the claims. The specification likewise includes no lexicography or disclaimer justifying HCMC’s claim interpretation, and nothing in the prosecution history limits the claims in the manner proposed by HCMC.

Moreover, HCMC’s own expert disagrees with its argument. At deposition, Dr. Garriss testified that in the ’788 patent, “there isn’t exactly an impingement of

the fluid onto the [heating] element. [The fluid is] basically sucked in and immediately mixed with the surrounding air” before coming in contact with the bulb. EX1027, 38:19-25. Dr. Garris further testified that in the ’788 patent, air “surrounds the heating element and mixes with the fluid coming out of the fiber element.” *Id.*, 38:14-18. Thus, Gilbert is no different than the ’788 patent—in both, inhaled air mixes with fluid, and the air/fluid mixture is then heated by the bulb.

HCMC also argues that in Gilbert, “[i]t is through convection ... that the uniformity of heat is transferred to the flavored air passing through the device.” POR, 6 (HCMC’s emphasis). This is wrong. EX1026, ¶¶26-27. As Mr. Kodama explains, Gilbert’s fluid is heated via a combination of conduction and convection heating. *Id.*

Finally, the claims do not require the claimed “fluid” to be vaporized or aerosolized by the bulb. Accordingly, even assuming that “Gilbert does not vaporize a fluid at all” (POR at 19), this is irrelevant and does not distinguish the claims.

III. CLAIMS 1, 7, 8, AND 11 ARE OBVIOUS OVER GROUNDS 2A AND 2B

The Petition showed that it would have been obvious to modify Lee to include a bulb heater like that of Gilbert or Levin. The combination amounts to nothing more than replacing Lee’s heating element 133 with a bulb heater

(EX1003, ¶123), and a POSA's motivations for making this combination are clear. Pet., 55-59; EX1003, ¶¶114-123. Grounds 2a and 2b thus present a classic case of obviousness: It is a mere swapping of one heater for another, well within a POSA's skill (*id.*, ¶123), and a predictable use of Gilbert's heater according to its established function to address a known problem.

A. Obviousness In View Of Lee And Gilbert

1. A POSA Would Have Been Motivated To Replace Lee's Heating Element With A Bulb Structure Like That Of Gilbert

HCMC argues that RJRV and Mr. Kodama offer only "conclusory statements" in support of the Lee-Gilbert combination (POR at 28-29), but this is false.

First, Mr. Kodama explained the potential inhalation risks and metallic taste issues known to a POSA at the time of the alleged invention, both of which resulted from liquid directly contacting the heating wire, as was conventional in e-cigarettes as of the purported 2013 priority date. EX1003, ¶¶117-118. Mr. Kodama explained that it therefore would have been desirable to heat liquid without having the liquid directly contact the wire, and "[a] POSITA would have naturally explored the use of heat-conducting materials that were safe when heated to temperatures required for vaporization." *Id.* Further, Mr. Kodama explained, "an obvious material would have been glass, as it is inert, and combined with a

heating element has a familiar construction to a light bulb.” *Id.* HCMC and Dr. Garris do not contest the substance of Mr. Kodama’s testimony and thus concede it is correct, waiving any contrary arguments.

Rather than address the substance, the POR argues (at 35-39) that the three sources cited in paragraph 118 of Mr. Kodama’s declaration “do not amount to prior art.” This misses the point. Mr. Kodama did not cite the sources as invalidating prior art, instead using them to show the state of the art at the relevant time, as is permissible. *See Plant Genetic Sys., N.V. v. DeKalb Genetics Corp.*, 315 F.3d 1335, 1344 (Fed. Cir. 2003).

Moreover, the three sources are cited merely as exemplary support for Mr. Kodama’s testimony based on nearly 37 years of relevant experience, including direct, hands-on experience in designing electronic cigarettes like those at issue here. EX1003, ¶¶5-11; EX1026, ¶¶17, 28. Based on his experience, for instance, Mr. Kodama testified about a specific situation that could possibly give rise to metallic taste issues, that of a “dry hit,” which occurred “when insufficient amounts of nicotine liquid were in contact with the heating element.” EX1003, ¶117. Given his extensive experience in the field, Mr. Kodama’s testimony stands on its own and is correct, as evidenced at least by Dr. Garris’s failure to offer any contrary testimony.

Instead, Dr. Garris argues that a POSA would have explored different heating wires in Lee to “improve the efficiency of [Lee’s] device.” EX2001, ¶97. Dr. Garris’s argument is apparently based on the fact that the three sources do not describe using a bulb heater. But Mr. Kodama cited these sources as showing that “users were concerned with possible inhalation risks and metallic taste issues with the use of metal wire heating elements” before 2017. EX1003, ¶118. He did not cite them as showing a POSA’s motivation to use a heater bulb to overcome these issues. Nor did he cite them for disclosure of a heater bulb; Gilbert and Levin disclose that. Moreover, whether a POSA would have explored other heating wires in Lee to “improve ... efficiency” (EX2001, ¶97) does not negate a POSA’s motivation to prevent the possible inhalation risks and metallic taste issue by avoiding direct fluid-to-wire contact.

Second, Mr. Kodama testified that “a POSITA would have been motivated to implement a heating element covered by a glass bulb to increase the life of the heating element and prevent failure of the device” (EX1003, ¶119), citing paragraph [0004] of Levin as evidence corroborating his testimony. Dr. Garris does not address the cited portion of Levin, and his assertion that Mr. Kodama’s testimony lacks corroboration (EX2001, ¶98) is wrong. Moreover, Dr. Garris concedes the substance of Mr. Kodama’s testimony—*i.e.*, using a bulb heater

instead of one requiring direct fluid-to-wire contact improves the life of the heating element—by not challenging it.

Dr. Garris also criticizes Mr. Kodama for not offering “life-cycle analysis, cost-benefit analysis, [or] customer acceptability surveys” (*id.*), but a showing of obviousness requires no such analyses or surveys: “It’s not necessary to show that a[n] [obviousness] combination is the *best* option, only that it be a *suitable* option.” *Intel Corp. v. Qualcomm, Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (internal quotation omitted) (emphasis in original). Dr. Garris’s assertion that a POSA would need to perform “extensive analysis and experimentation” to compare bulb heaters to heaters using direct fluid-to-wire contact and thereby determine the best solution (EX2001, ¶¶99) is therefore inapposite. Dr. Garris’s argument that wire heaters have lower thermal resistance and are “more responsive” than bulb heaters (*id.*) fails for the same reason.

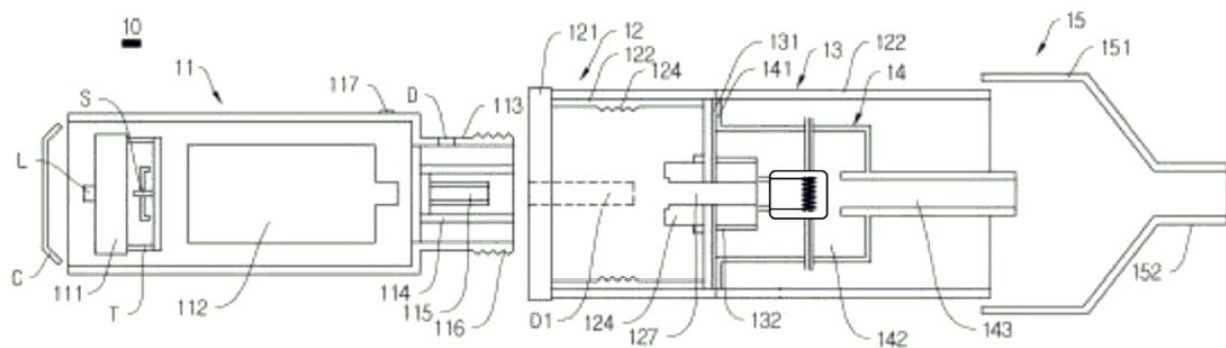
Third, Mr. Kodama testified that the concept of using “a heating element inside a bulb such as that claimed in the ’788 patent” for vaporizing fluids dates back “to the 1920s, almost one hundred years ago.” EX1003, ¶¶39-48; Pet., 11-15. Accordingly, “a POSA would have been motivated to implement a bulb heater in the Lee device, and, due at least to the ubiquitous nature of such heaters, the implementation of such a heater would have been well within the knowledge and skill of a POSA.” Pet., 59. HCMC and Dr. Garris do not refute this and thus

concede that “it has been known to use bulb heaters for vaporizing fluids for almost 100 years.” Pet., 57.

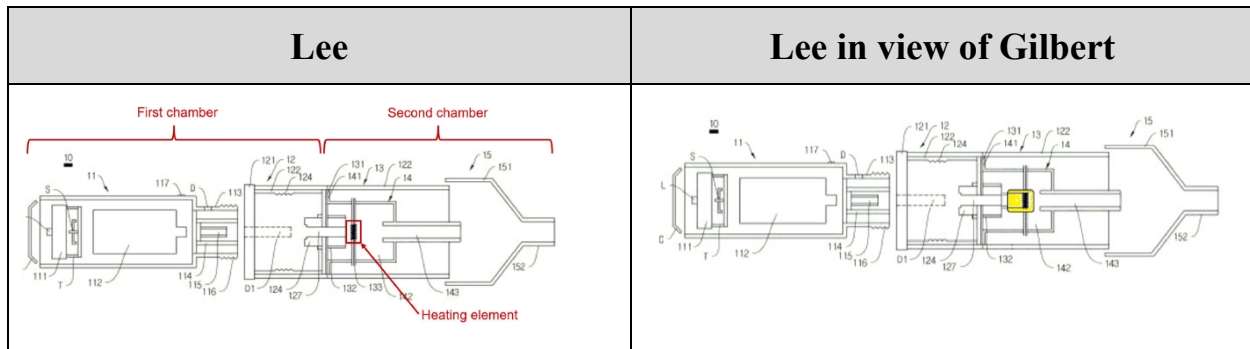
Finally, HCMC and Dr. Garris do not address, and thus concede, the Petition’s showing that “the ’788 patent discloses that a heating wire wrapped around a wick – similar to that used in Lee – is an acceptable alternative to the heating wire inside a bulb arrangement.” Pet., 56-57. Levin makes the same point (EX1009, [0049], cited at Pet., 58), and HCMC and Dr. Garris do not address this evidence either.

2. The Petition Explained “How” Lee Would Operate With A Heater Bulb

HCMC erroneously argues that “[RJRV] fails to explain ‘how’ the combination [of Lee with a heater bulb] would work.” POR, 26, 28, 31. RJRV and Mr. Kodama provided, for example, the following “example of a possible implementation of the Gilbert bulb heater in the Lee device” (Pet., 57, EX1003, ¶118):



The above image shows “how” the obviousness combination would work, *i.e.*, “by merely replacing [Lee’s] heating element (133) with this bulb heater inside of the vaporization unit (14).” EX1003, ¶123.

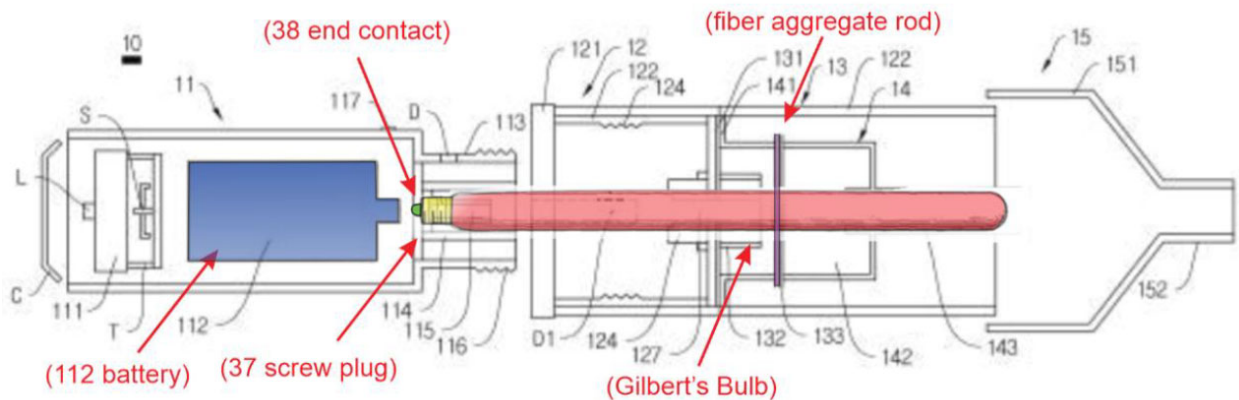


Explaining the simple, straightforward modification of swapping one heater for another, Mr. Kodama testified that “[t]he bulb heater could be connected to the [Lee’s] electric circuit board (111) and battery assembly (11) in a very similar fashion to the nichrome wire heater represented in Lee.” EX1003, ¶123. HCMC and Dr. Garriss do not address the Petition’s illustration showing how the combination would work, and they do not challenge Mr. Kodama’s testimony, thus waiving any contrary arguments.

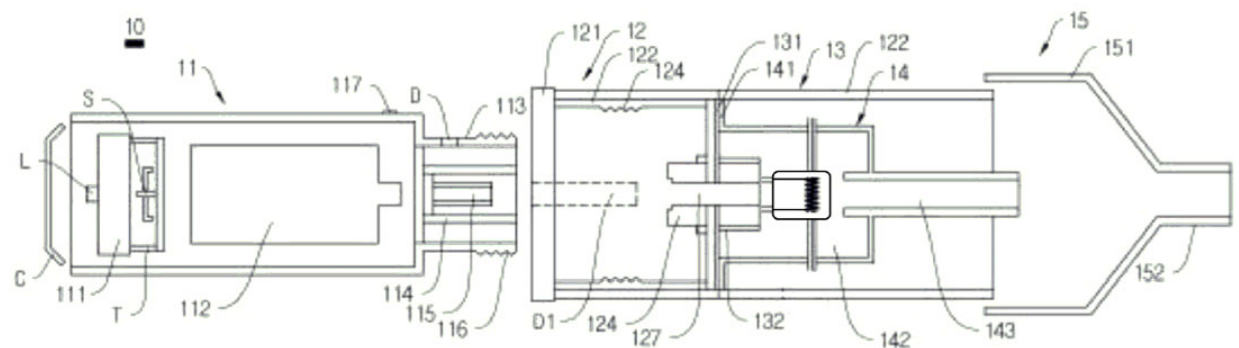
Moreover, the *Personal Web Techs., LLC v. Apple, Inc.* case cited by HCMC confirms that the “amount of explanation” required to meet the obviousness standard “necessarily depends on context.” 848 F.3d 987, 994 (Fed. Cir. 2017). Here, with the proposed modification amounting to an elementary replacement of one heater for another, well within a POSA’s skill, the Petition’s explanation of “how” the Lee-Gilbert combination would work is more than sufficient.

3. HCMC's Inoperability Arguments Do Not Address The Petition's Proposed Combination And Rely On An Erroneous Bodily Incorporation Theory

HCMC argues that replacing Lee's heating element with a bulb structure like that of Gilbert would render Lee inoperable because the bulb would "obstruct[] Lee's airway pathway" (POR, 28-31):



But RJRV actually proposed the following (Pet., 57, EX1003, ¶118), with an appropriately sized bulb and appropriate connections for electrically coupling the bulb heater to the battery:



HCMC's inoperability argument thus attacks a strawman by not addressing the combination set forth in the Petition.

HCMC’s arguments about the alleged “significant modification” to Lee of requiring “an attachment socket to affix the bulb in contact with the battery” (POR, 31-32) likewise fail because the Petition did not propose adding the precise bulb structure used in Gilbert with a socket for receiving power. RJRV and Mr. Kodama cited Gilbert and Levin for *the concept* of a heater bulb, not the precise heater bulbs described in those references. This is evident at least from the above image (which lacks a bulb with socket) and other statements in the Petition (*e.g.*, at 57-58).

In fact, Mr. Kodama testified that the bulb heater would be “connected to the electric circuit board (111) and battery assembly (11) in a very similar fashion to the nichrome wire heater represented in Lee”—*i.e.*, in a manner without a socket—and that this implementation “would have been well within the knowledge and skill of a POSITA.” EX1003, ¶123. And Lee confirms that “[t]he method of supplying [power to] the electric circuit board (111) or the heating element (133) may be performed in various ways” (EX1005, ¶24), further indicating that a POSA understood how to make these basic electrical connections. *See also* EX1027, 44:18-45:2 (Dr. Garris conceding that the ’788 patent does not describe how the heating wire and battery are electrically connected).

Fundamentally, HCMC’s inoperability arguments are based on an erroneous bodily incorporation theory, and “it is not necessary that [Lee and Gilbert] be

physically combinable to render [the challenged claims] obvious.” *Allied Erecting & Dismantling v. Genesis Attachments*, 825 F.3d 1373, 1381 (Fed. Cir. 2016).

“[A]ssertions that [a first prior art reference] cannot be incorporated in [a second prior art reference] are basically irrelevant, the criterion being not whether the references could be physically combined but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole.” *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc). Here, a POSA would have made the necessary modifications so that a bulb heater could be used in Lee, including (i) using a bulb of appropriate dimensions so as not to obstruct airflow in Lee, and (ii) connecting the heater bulb “to the electric circuit board (111) and battery assembly (11) in a very similar fashion to the nichrome wire heater represented in Lee.”

EX1003, ¶123.

B. Obviousness In View Of Lee And Levin

1. Levin Does Not Teach Away From Conductive Heating

For element 1d (reciting, *inter alia*, a “heating assembly comprising a bulb”), the Petition (at 55-59) showed that it would have been obvious to modify Lee to use a heater bulb like that of Levin, which may be a “halogen tungsten quartz bulb.” EX1009, [0056]. HCMC argues that Levin “discourages the use of a conductive heating device.” POR, 33.

But HCMC misunderstands the Petition’s obviousness argument, which did not rely on Levin as motivating the use of conductive heating in Lee. As the POR concedes (at 7-8), Lee already uses conductive heating, and the Petition relied on Levin primarily for its disclosure of a bulb heater, including the halogen tungsten quartz bulb. Pet., 55-59; EX1027, 79:16-19.

In any case, Levin does not teach away from conductive heating. HCMC’s argument is based on a selective reading of Levin, violating the principle that a reference must be considered for everything it teaches. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1076 (Fed. Cir. 2015). While paragraph [0035] of Levin states that “*conventional* devices” utilizing conduction heating sometimes faced difficulties like poor vaporization and overheating, Levin proceeds to describe the use of conduction heating in embodiments of its device. EX1009, [0013], [0033], [0037], [0051], [0056]-[0059], [0099]. Specifically, Levin describes the use of “a heater bulb, such as a Tungsten filament in a quartz bulb” (*id.*, [0049], [0056]-[0058]) for conductive heating, explaining how the heater bulb can overcome issues of conventional conductive heating (*e.g.*, the bulb can be used with a thermistor to address overheating issues, *id.*, [0030], [0057]-[0059], [0064], [0067]). Levin even claims the use of conductive heating. Claim 28.

2. The Petition Did Not Propose Using Levin's Micro-Convection Heater In Lee

The POR argues (at 33-34) that “the heating element taught by Levin is a micro-convection heater” that is not “configured to rapidly heat fluid making contact with the bulb,” and a POSA thus allegedly would not have been motivated to make the Petition’s proposed Lee-Levin combination. But HCMC argues against a strawman since the Petition never mentioned Levin’s micro-convection heater, much less proposed adding it to Lee. Levin’s micro-convection heater is mentioned just *one time* with reference to the embodiment of Figures 3A-3D. EX1009, [0049]. The Petition’s obviousness showing did not rely on this embodiment of Levin nor its micro-convection heater and instead cited the bulb heater of Figures 15A-15D and 16A-16B:

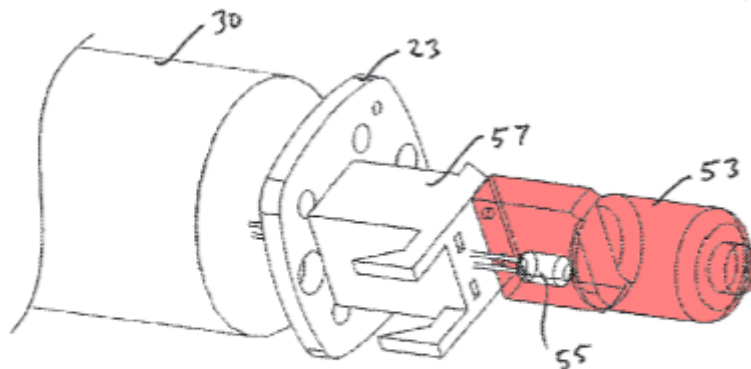


FIG. 16B

Pet., 58-59.

HCMC and Dr. Garris do not address the bulb heater 53 of Levin's Figures 15A-15D and 16A-16B. Moreover, they do not challenge the Petition's showing that Levin's bulb heater 53 is used for conductive heating and thus concede the point. Pet., 58-59. In fact, while Dr. Garris studiously avoids mention of Levin's bulb heater 53, he concedes that Levin's paragraph 56 (describing bulb heater 53) discloses the use of conduction heating. EX2001, ¶108. Dr. Garris argues that this conductive heating is only used to vaporize dry matter broken down by a grinder, not fluid (*id.*), but this is incorrect because Levin's disclosure is not so limited. EX1026, ¶¶32-33.

Dr. Garris also argues that Levin does not teach conductive heating because a mesh allegedly separates the dry matter from the heater. EX2001, ¶108. This argument is wrong because Levin describes using its bulb heater to "directly contact" substances for vaporization. EX1009, [0056]-[0058]. Even in embodiments where a mesh is used, the heating is still via conduction. EX1026, ¶32. Paragraph 74 of Levin, as cited by Dr. Garris, also states that meshes are optional and not used in every embodiment. EX1009, [0074].

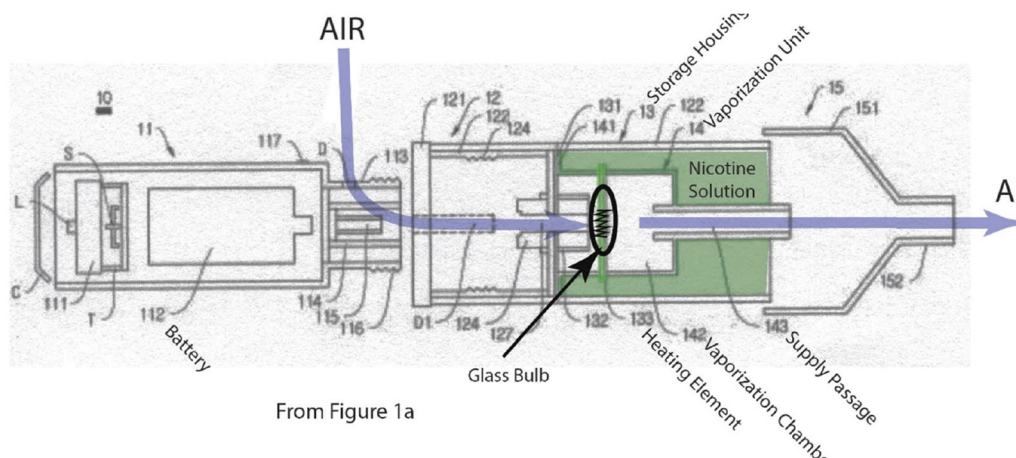
Finally, HCMC argues that "[RJRV] fails to address 'how' Lee might be modified to include the heating element 51 and the cone-shaped reflector 52 described in Levin." POR at 38-39. This is another strawman since the Petition

never mentioned either of these components and did not argue that they should be added to Lee.

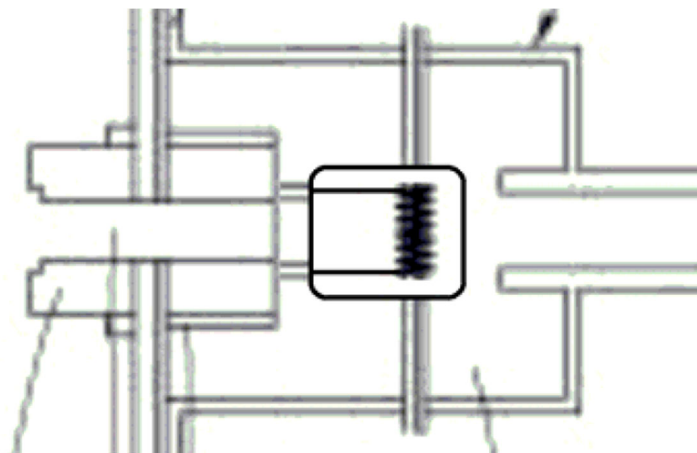
3. The Petition Did Not Propose Encapsulating The Fiber Rod

HCMC argues that “the inclusion of a bulb encapsulating the nichrome wire taught in Lee would also encapsulate the fiber assembly that is supplying the nicotine solution from the fluid container.” POR, 34. According to HCMC, this would render the device “non-functional.” *Id.*

Once again, HCMC creates a strawmen and rebuts an argument that RJRV never made. This is demonstrated by the image provided by Dr. Garriss, proposing to show what an “encapsulated” fiber rod would look like:



EX2001, ¶113. But this is not what Reynolds argued. As can be seen below, and as further explained by Mr. Kodama (EX1026, ¶29), in Reynolds’s proposed combination, the fiber rod is not encapsulated inside the bulb:



Pet., 57; EX1003, ¶118. To the contrary, the fiber extends to, and makes contact with, the outside of the bulb, thus putting the fluid into direct contact with the bulb. EX1026, ¶29. As Mr. Kodama explains, this can be accomplished in various simple ways that would be easily understood by a POSA. *Id.*, ¶30. Moreover, Dr. Garris conceded that even if a portion of the fiber rod was encapsulated by the bulb, fluid would still wick into contact with exterior surfaces of the bulb. EX1027, 78:25-79:11; 81:15-82:3.

HCMC goes on to argue that the Petition’s proposed configuration would “require a substantial reconstruction of Lee” (POR, 34), but provides *no* explanation of why that is so. As explained above, this modification is an elementary swapping of one heater for another, and it would be well within a POSA’s skill to address these types of minor implementation details. EX1026, ¶¶29-31.

IV. CONCLUSION

The Board should cancel claims 1, 7, 8, and 11 of the '788 patent.

Dated: September 10, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on September 10, 2025, a complete and entire copy of **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** has been served in its entirety by e-mail to:

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(a)

I, the undersigned, do hereby certify that the attached petition contains 5,551 words, as measured by the Word Count function of Microsoft Word 2016. This is less than the limit of 5,600 words as specified by 37 C.F.R. § 42.24(c)(i).

Respectfully submitted,

Dated: September 10, 2025

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