

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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NJOY, LLC,  
NJOY HOLDINGS, INC.,  
Petitioners

v.

JUUL LABS, INC.,  
Patent Owner

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Case No. IPR2024-00567  
U.S. Patent No. RE49,114

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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**EXHIBIT LIST**

| <b>No.</b> | <b>Exhibit</b>                                 |
|------------|------------------------------------------------|
| 2001       | Declaration of John Collins, Ph.D.             |
| 2002       | <i>Curriculum vitae</i> of John Collins, Ph.D. |

## I. INTRODUCTION

Petitioner challenges the independent claims of U.S. Pat. No. RE49,114 (the “’114 patent”) as anticipated by Cho. The Petition presents only a single anticipatory grounds against the independent claims. In order to meet its burden, Petitioner must show that Cho discloses every element within the four corners of the reference as arranged in the challenged claims, *i.e.*, without combining distinct embodiments. There are several reasons Cho does not.

*First*, Cho does not disclose an “electronic cigarette.” As the ’114 patent explains, the invention is an “electronic cigarette” intended to emulate tobacco cigarettes by providing nicotine through atomizing a liquid instead of burning tobacco. Cho, by contrast, discloses a “vaporisation unit” for health supplements “beneficial to the human body”—**not** nicotine.

*Second*, Cho does not disclose a liquid reservoir defined by “an interior of the cartridge housing and an exterior of the atomizing chamber.” Cho describes that its liquid reservoir is entirely defined by the housing interior. Petitioner relies on a single half-sentence in Cho as disclosing this limitation. But this statement says nothing about the liquid reservoir, is a distinct, mutually incompatible embodiment, and is not enabled. Cho therefore cannot anticipate.

## II. LEVEL OF ORDINARY SKILL IN THE ART

Petitioners propose that the level of a POSITA at the time of the '114 patent “would have at least a B.S. degree in Mechanical Engineering, Electrical Engineering, Industrial Design, Product Design, or similar field, with at least two years of industry experience in one of these fields, and such POSA would have been familiar with electrically powered vaporizing articles, their components or the underlying technologies.” Pet. 7.

Patent Owner proposes that a POSITA at the time of the '114 patent would have had a B.S. in mechanical engineering, electrical engineering, or an equivalent degree, and either at least two years of experience designing electro-mechanical consumer products or an advanced degree in mechanical engineering, electrical engineering, or an equivalent field. Ex. 2001, ¶19.

While Patent Owner submits that its level of skill is correct, the arguments in this Response apply regardless of which standard is adopted. *Id.*, ¶¶20-21. Patent Owner’s expert, Dr. John Collins, was a POSITA at the time of the '114 patent under either definition. *Id.*, ¶22.

## III. CLAIM CONSTRUCTION

In an *inter partes* review, claim terms receive their plain and ordinary meaning in light of the specification of the patent in which they appear, the

same standard as used in district court. 37 C.F.R. § 42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). While there are several terms in dispute in the parallel ITC litigation (Pet. 8), none of them need to be resolved by the Board. Ex. 2001, ¶¶36-37. With the exception of the preamble of claim 1, in this preliminary stage, it is not necessary for the Board to resolve the construction of any terms. *Id.*

**A. Claim 1’s Preamble is Limiting**

A preamble is limiting if it “recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). If the preamble only “state[s] a purpose or intended use for the invention,” it is not limiting. *Id.* The determination is based on “the overall form of the claim, and the invention as described in the specification and illuminated in the prosecution history.” *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1357 (Fed. Cir. 2012).

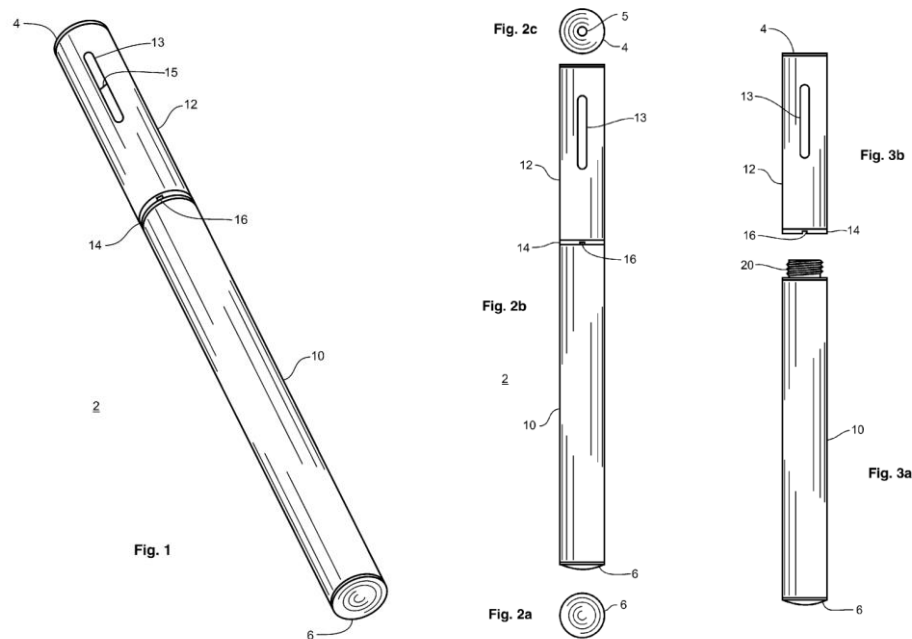
Claim 1 of the ’114 patent’s preamble recites “[a]n electronic cigarette cartridge apparatus.” Claim 44’s preamble also recites “[a]n electronic cigarette.” The Board should construe this term “electronic cigarette” as

limiting because it is essential structure and necessary to give meaning to the claims. Ex. 2001, ¶¶38-44.

The specification of the '114 patent frequently and consistently treats “electronic cigarette” as essential structure of the invention. The title of the patent is “Electronic cigarette with liquid reservoir” and the abstract states that the invention is “[a]n electronic cigarette.” Ex. 1001, Title, Abstract. In the description of related art, the specification notes that “[e]lectronic cigarettes have become increasingly popular in recent times” and that they “emulate a tobacco cigarettes, but without the combustion of tobacco during use.” *Id.*, 1:19-21. The specification further notes that with electronic cigarettes, “[r]ather than burning tobacco, a liquid is atomized within the electronic cigarette.” *Id.*, 1:22-24. The background also describes “certain prior art electronic cigarettes.” *Id.*, 1:28-39.

The specification also describes the “invention” as “advanc[ing] the art of electronic cigarettes by teaching an electronic cigarette that provides a liquid reservoir, which effectively delivers liquid ... from the reservoir to an atomizer.” *Id.*, 4:1-5. Figures 1 through 6 of the patent, which are illustrative embodiments of the invention, are described as depicting “an electronic cigarette.” *Id.*, 2:46-3:25.

The below figures show that an “electronic cigarette” is essential to the invention because it describes the purpose of the apparatus, which is the delivery of nicotine by atomizing liquid instead of burning tobacco. Ex. 2001, ¶43.



Thus, the term “electronic cigarette” is limiting because it provides essential meaning to the invention as a nicotine delivery system replacement for a tobacco cigarette. Such functionality is important to the invention because one of the primary purposes of electronic cigarettes is to replace tobacco cigarettes with a safer, non-combustible alternative to nicotine consumption. Ex. 2001, ¶44. The invention of the ’114 Patent is **not** a vaporizer for health supplements. *Id.*; Ex. 1005 at ¶1 (“**The present invention**

relates to a device . . . that vaporizes a substance *beneficial* to the human body . . .”).

For these reasons, the term “electronic cigarette” found in the preamble of claims 1 and 44 should be construed as limiting.

#### **IV. GROUND 1: PETITIONER FAILS TO ESTABLISH THAT CHO ANTICIPATES THE CHALLENGED CLAIMS**

The Petition challenges three independent claims: 1, 43, and 44. The Petition fails to establish that Cho anticipates the challenged claims for at least the following reasons: *First*, for claims 43 and 44, for the limitation “liquid reservoir at least partially defined by an interior of the cartridge housing and an exterior of the atomizing chamber,” Cho does not disclose this limitation, nor does the half-sentence Petitioner relies upon—which, in any case, is a distinct, mutually incompatible embodiment that cannot be combined with Cho’s other disclosures, and is also not an enabling disclosure. *Second*, for claims 1 and 44, Cho does not disclose an “electronic cigarette.” Ex. 2001, ¶45.

##### **A. Legal Principles of Anticipation**

For a claim to be anticipated, “each and every element as set forth in the claim [must be] found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d

628, 631 (Fed. Cir. 1987). Anticipation requires that the prior art is “shown in as complete detail as is contained in the claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

In addition to disclosure, the prior art must teach the limitations “arranged or combined in the same way as recited in the claim.” *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008). Thus, a reference does not anticipate if the disclosures are found in different embodiments. *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017) (“[A]nticipation is not proven by multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.”).

For a reference to be anticipatory, it must also “enable one of ordinary skill in the art to make the invention without undue experimentation.” *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008). Specifically, it must “enable[] the subject matter that falls within the scope of the claims at issue.” *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009). Enablement requires that a POSITA “would know how to make and use the invention based on the reference’s disclosure.” *Id.*, 523 F.3d at 1335. This means the POSITA must know how “to practice or to carry out” the disclosures in the prior art. *Id.*

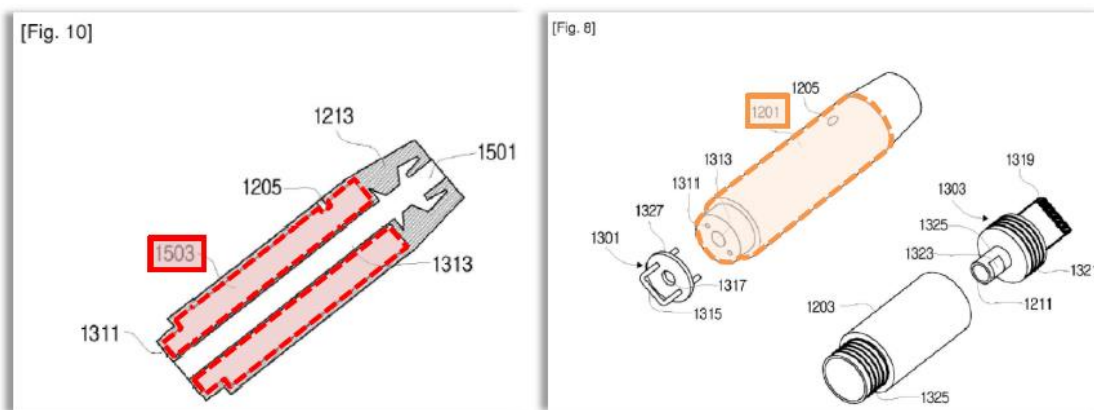
**B. Cho does not anticipate or enable a “liquid reservoir at least partially defined by an interior of the cartridge housing and an exterior of the atomizing chamber” (claims 43 and 44)**

Claims 43 and 44 require that the liquid reservoir is “defined by an interior of the cartridge housing and an exterior of the atomizing chamber.”

Cho does not disclose this limitation. Ex. 2001, ¶46. Instead, Cho’s alleged liquid reservoir is defined entirely by the interior of its storage container 1201.

*Id.*

Petitioner relies on “loading portion 1503” as the liquid reservoir. Pet. 49. However, Cho makes clear that this “loading portion 1503” is completely defined by the interior of “storage container 1202” and nothing else. Ex. 1005, Figs. 8, 10, ¶89 (“the storage container 1201 has a loading portion 1503 as the remaining space ...”). Nothing about Cho’s disclosure here indicates that the liquid reservoir is partially defined by the exterior of an atomizing chamber. Ex. 2001, ¶47.



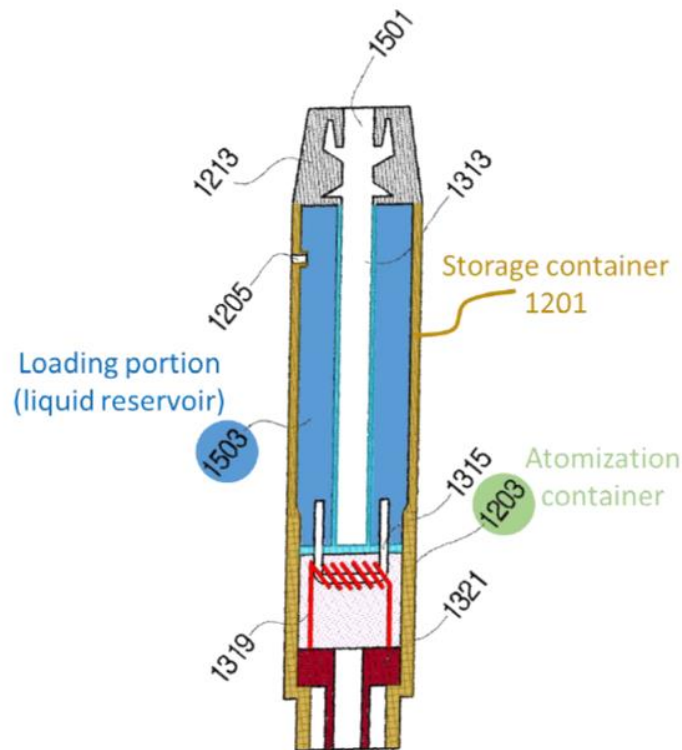
Recognizing this deficiency, Petitioner instead relies on a single half-sentence description of an alternative embodiment in which “the storage container 1201 and atomization container 1203 are integrated into a single structure.” Pet. 49 (citing Ex. 1005, ¶74); Ex. 2001, ¶48.

There are several problems with Petitioner’s theory and Cho’s half-sentence disclosure. Ex. 2001, ¶49. First, Cho does not disclose that in the “integrated embodiment,” the loading portion is partially defined by the exterior of the atomizing chamber. Second, this “integrated embodiment” is an embodiment that is distinct from the other embodiments that the Petition relies on and, as such, Petitioner is mixing and matching embodiments. Again, Petitioner has presented this ground as anticipatory, and thus presented no evidence or argument that it would have been obvious to modify Cho’s other embodiments according to the separate “integrated embodiment.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017). It is therefore improper for Petitioner to rely on it for anticipation. Third, the “integrated embodiment” imagined by Petitioner is not enabled.

**1. The “integrated embodiment” does not disclose a liquid reservoir partially defined by the exterior of the atomization chamber**

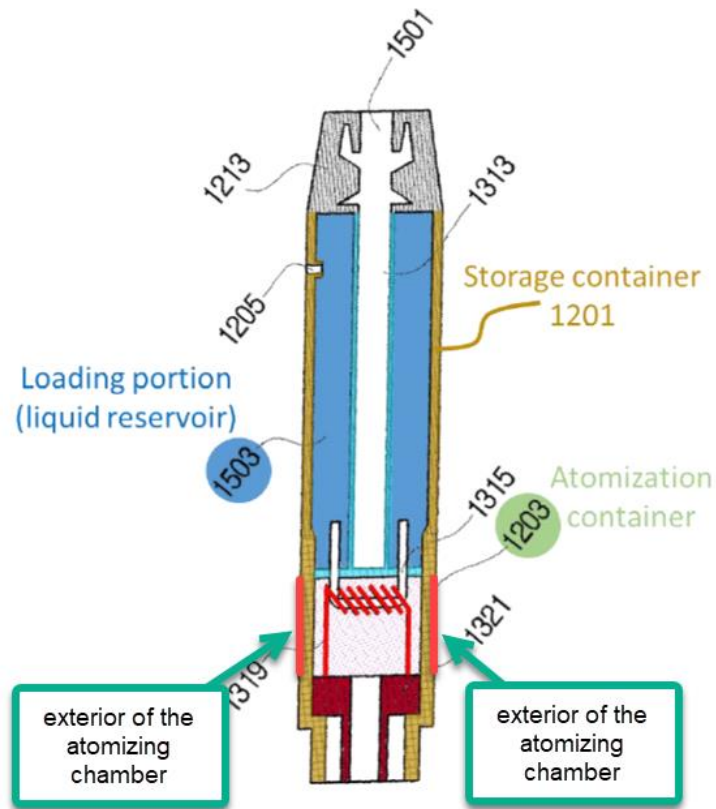
Cho provides no explanation at all about how “the atomization container and the storage container are molded into a mutually integrated structure.” Ex. 1005, ¶74. Cho provides no figures that depict such an integrated structure. Thus, there is no disclosure whatsoever that in this embodiment, Cho’s “loading portion” is in any way defined by the exterior of the atomization chamber. Ex. 2001, ¶¶50-51. The anticipation inquiry should end there.

Yet Petitioner persists and instead relies on its own imagined and hindsight-driven version of Figure 11. To be clear, this Figure appears nowhere in Cho, and was fabricated specifically for purposes of the Petition:



EX1005, Fig. 11 (integrated embodiment, annotated).

Moreover, even in Petitioner's contrived figure, there is no disclosure that the loading portion (in blue) is partially defined by the exterior of the atomizing chamber. Ex. 2001, ¶52. Within Petitioner's integrated structure, the exterior is one seamless piece that is no longer defined by separate portions. *Id.* Thus, the exterior of the atomizing chamber can only be those portions of the exterior co-located with the atomizing chamber, as shown in the annotations below:



EX1005, Fig. 11 (integrated embodiment, annotated).

As is clearly seen, the loading portion (in blue) is not defined by the actual exterior of the atomizing chamber. Ex. 2001, ¶53. Petitioner’s theory relies on the exterior of the atomizing chamber component in the “separated” embodiment, but being a completely different, mutually incompatible embodiment, that component’s exterior has no bearing on what is the exterior of the atomizing chamber in Petitioner’s “integrated” embodiment. *Id.*

Thus, neither Cho nor Petitioner’s contrived figure discloses a liquid reservoir partially defined by the exterior of the atomizing chamber.

**2. The “integrated embodiment” is a distinct, mutually incompatible embodiment**

Anticipation cannot be proven “by multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d at 1069. That is precisely what the Petition has done.

The “integrated embodiment” is clearly a different, distinct embodiment from the other embodiments that the Petition relies on. Ex. 2001, ¶¶54-55. Cho does not provide any description for this “integrated embodiment” (an issue discussed in more detail in the next subsection). All that is disclosed by Cho is that, unlike the embodiment where “the atomization container and the storage container as a structure [are] separated from each other as an embodiment,” the “integrated” embodiment’s “atomization container and the storage container are molded into a mutually integrated structure,” and thus “the shape of the atomization container itself becomes unnecessary.” Ex. 1005, ¶74. Clearly, these are two distinct, mutually incompatible embodiments—a “separated” embodiment and an “integrated” embodiment. Ex. 2001, ¶55.

Yet the Petition clearly relies on the “separated” embodiment for other limitations. *See, e.g.*, Pet. 46-47 (relying on Figure 11, which depicts a “separated” embodiment). Indeed, most of the Petition’s Claim 43 analysis relies on its Claim 1 analysis that expressly relies on the structures being separate. Ex. 2001, ¶56. For example, for limitation [43.F], the Petition solely relies on “limitation [1.F].” Pet. 48. However, for limitation [1.F], the Petition argues that in Cho, “inductor 1315 (wick) *pass[es] through* the first and second holes in fixing plate 1327 and also *through* the insertion holes 1311 in storage container 1201” (Pet. 22-23), which is only possible in the “separated” embodiment. This is clearly seen in Petitioner’s modified and annotated versions of Figures 8 and 11, wherein the fixing plate 1327 and inductor 1315 is clearly depicted as being inserted into the bottom of a storage container that must be separated from the atomizing chamber. Ex. 2001, ¶56.



Petitioner relies on the storage container being integrated with the atomizing chamber. *Id.*

Thus, Petitioner has improperly mixed mutually incompatible embodiments, which cannot sustain a theory of anticipation.

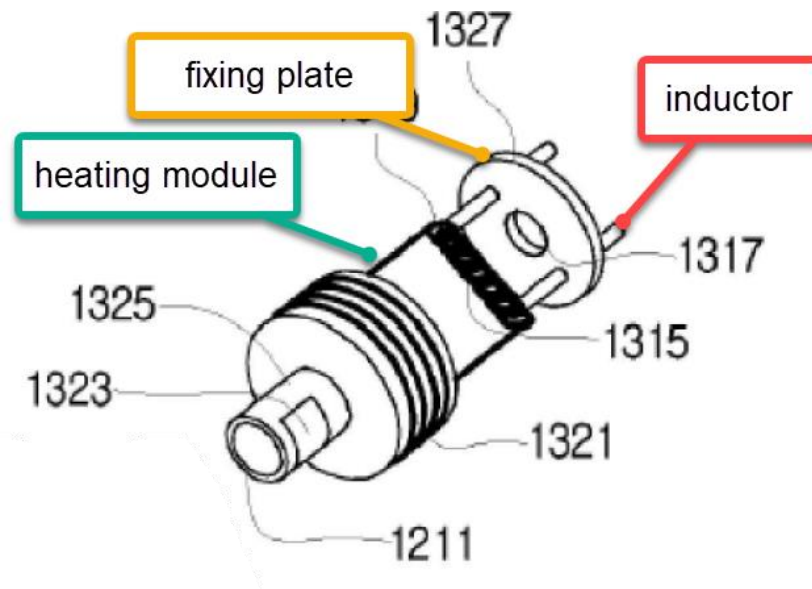
### **3. Cho’s “integrated embodiment” is not enabled**

Another issue with the Petition’s reliance on Cho’s “integrated embodiment” is that the embodiment is not enabled—Cho does not inform a POSITA “how to make and use the invention.” *In re Gleave*, 523 F.3d at 1335; Ex. 2001, ¶58.

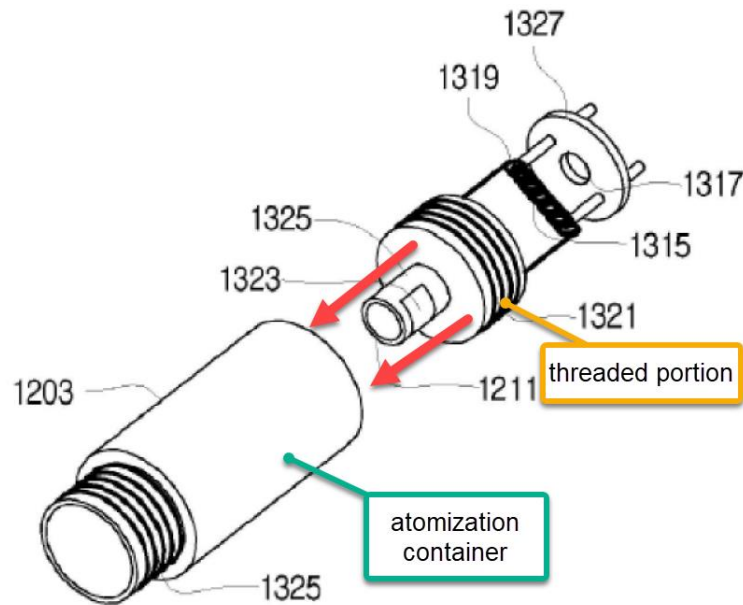
Cho does not provide any explanation as to how “the atomization container and the storage container are molded into a mutually integrated structure.” Ex. 1005, ¶74. Cho does not explain to a POSITA how the integrated structure would be constructed or formed, what it would look like, or what surfaces would be defined in the device. Ex. 2001, ¶59. On this basis alone, there is no enablement of this integrated embodiment.

Moreover, the issues with “mak[ing] and us[ing]” the “integrated” embodiment come to light with Petitioner’s contrived modification of Figure 11. For example, in Petitioner’s modification, it is not possible to install the heating module, fixing plate, and inductors as described by Cho. Specifically,

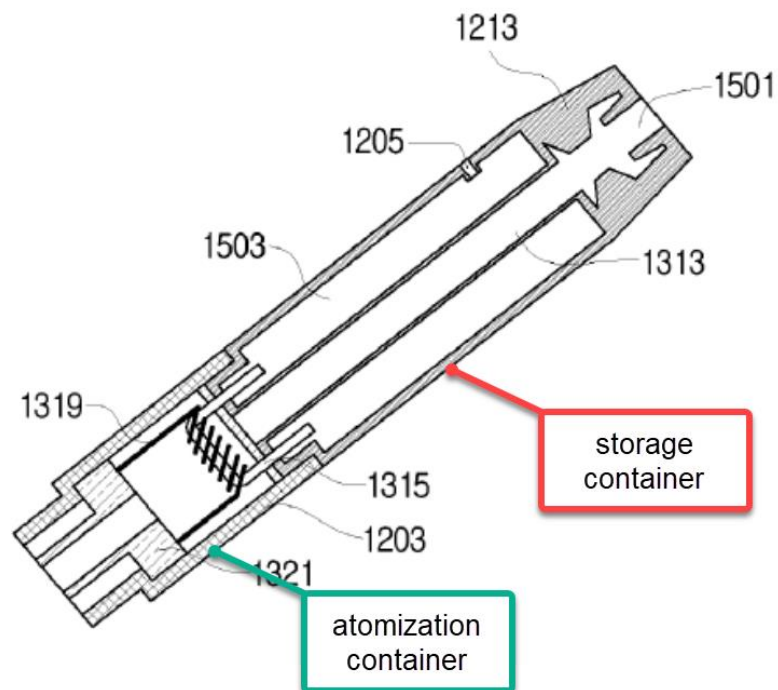
Cho describes that in the separated embodiment, the heating module, fixing plate and inductors are assembled together as shown in Figure 10. Ex. 1005, ¶88; Ex. 2001, ¶¶60-61.



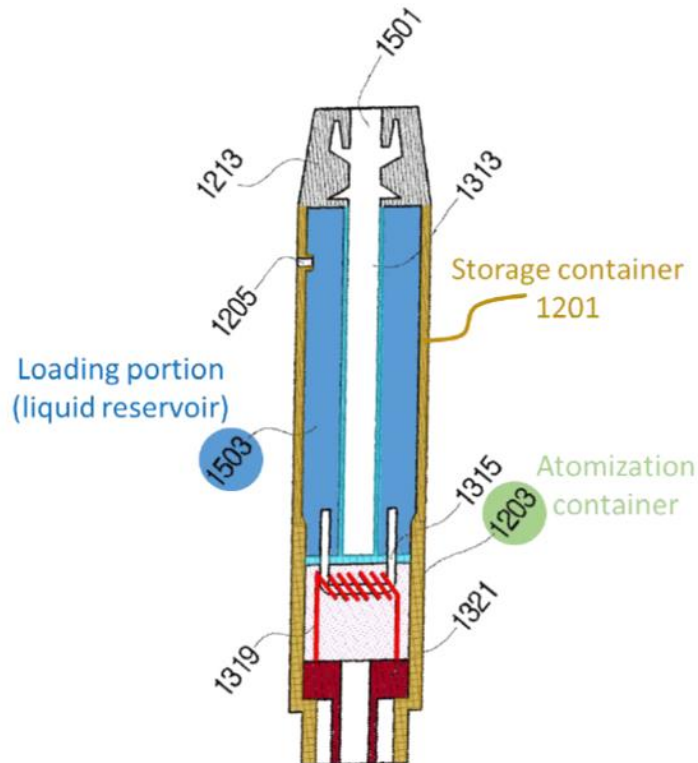
This combined structure is then inserted and screwed into atomization container 1203 via the threaded portion 1321. Ex. 2001, ¶62.



This combined structure is then attached to the storage container, as shown in Figure 11. Ex. 2001, ¶63.

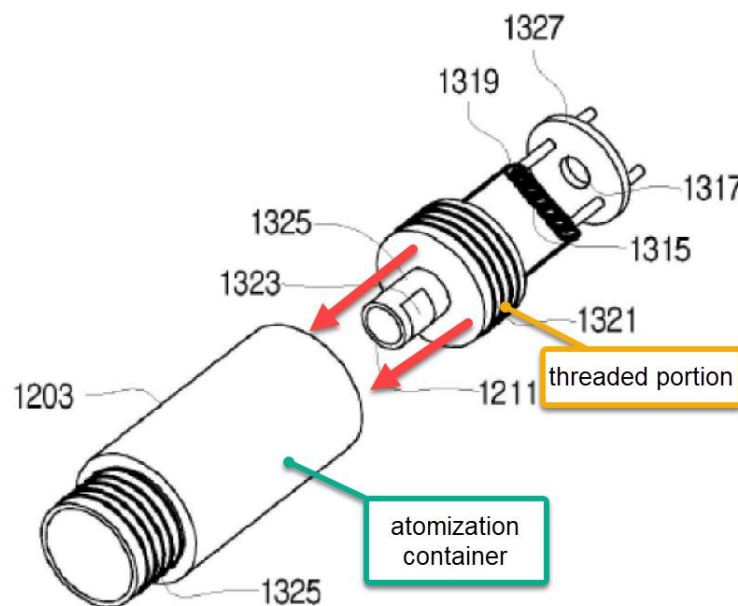


The above process of assembly is impossible with Cho's integrated embodiment, especially in the contrived example from Petitioner's modified Figure 11, reproduced below. Ex. 2001, ¶64.



With the storage container and atomization container being “molded into a mutually integrated structure” (Ex. 1005, ¶74), it is not possible to insert the combined heating module, fixing plate, and inductors into the integrated structure. Ex. 2001, ¶65. Indeed, in Petitioner's contrived figure, there is no fixing plate to which the inductors are fastened (the blue strip in the middle is instead the bottom of the loading portion containing the inductor insertion

holes). *Id.* Because the body is integrated and not separate components, there is no mechanism to insert the necessary elements into the integrated body, because the internal area where they must be placed is closed off. *Id.* Similarly, it is not possible to screw the heating module/inductor module structure into the inside of the atomization container (which again is closed off) as instructed by Cho. See Fig. 10 (annotated by Patent Owner); Ex. 2001, ¶65.



Even assuming the fixing plate is manufactured as part of the integrated structure (which Cho does not disclose and which Petitioner does not propose), there is no mechanism to insert the inductors into it, or wind the heating module around the inductors, or fasten those elements to the atomizing chamber by screwing them in. Ex. 2001, ¶66.

Thus, Cho’s single, non-descript half-sentence of an “integrated structure” does not enable a POSITA to make or use the claimed invention.

**C. Cho does not disclose an “electronic cigarette” (claims 1 and 44)**

Cho does not disclose an “electronic cigarette,” whose purpose is to atomize a nicotine-based liquid as a replacement for a tobacco cigarette. Ex. 2001, ¶67. Instead, Cho describes what it calls a “vaporisation unit” or a “vaporisation and inhalation device” that is specifically and solely directed to vaporizing “a substance beneficial to the human body.” Ex. 1005, ¶¶1, 33 (referring to “the present invention”). There is no dispute that nicotine is not such a substance and, indeed, where Cho identifies exemplary substances for its vaporizer, it refers to mint, lavender, grapefruit, ginseng, and other similar health supplements—nowhere even hinting at nicotine. *Id.*, Abstract, ¶¶12, 15.

Indeed, the entire focus of Cho is on therapeutic substances, not nicotine. *Id.*, ¶¶57-61, 66 (listing therapeutic substances for various “therap[ies]”—none of which relate to or even suggest the use of nicotine). Cho states that the “object of the present invention is to provide a device for vaporisation and inhalation [of] highly viscous target substances ... such as ***amino acids, vitamins, and minerals.***” *Id.*, ¶8; see also ¶11 (“minerals,

vitamins, and amino acids as target substances”). Table 1 of Cho lists various “substances to be vaporized belonging to a part of the ***present invention***,” and includes their effects, all of which are therapeutic, such as “concentration enhancement,” “memory enhancement, senile dementia,” “insomnia,” “bronchitis, asthma,” “indigestion,” “arthritis,” “acne,” “cystitis,” “constipation,” “enhancing sexual function,” “bad breath removal,” “oral ulcers,” “osteoporosis,” “cancer prevention,” and “nutrition.” *Id.*, ¶¶57-58. The provision of such therapeutic substances and benefits by Cho’s apparatus is the direct opposite of the ’114 patent’s claimed electronic cigarette—which is to “emulate a tobacco cigarette[]” by providing nicotine when “a liquid is atomized” “[r]ather than burning tobacco.” Ex. 1001, ¶¶1:19-24; Ex. 2001, ¶68.

Cho consistently and exclusively refers to the use of health supplements and a POSITA would, thus, understand it does not disclose an electronic cigarette but instead discloses something entirely different. Ex. 2001, ¶69.

Petitioner has fashioned Ground 1 as an ***anticipatory*** ground. It has thus failed to present any arguments or evidence that Cho’s “vaporisation unit” for delivery of “therapeutic substances” would have rendered obvious a the

claimed “*electronic cigarette*.” For these reasons, Cho does not disclose claim 1 and claim 44’s “electronic cigarette.”

## V. GROUND 2 ALSO FAILS

Petitioner’s Ground 2, which challenges claim 80 which depends on claim 43, likewise fails because it relies on Ground 1 and does not assert that any of the limitations in claim 43 are obvious. Ex. 2001, ¶¶70-71.

## VI. CONCLUSION

For the foregoing reasons the Board should deny institution of this petition.

Date: May 28, 2024

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**CERTIFICATE OF LENGTH (37 C.F.R. §§ 42.24)**

The undersigned hereby certifies that, according to the word-processing system used to prepare the foregoing document, this document has 3,328 words and thus complies with the applicable word limit.

Date: May 28, 2024

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**CERTIFICATE OF SERVICE (37 C.F.R. §§ 42.6(E), 42.105(A))**

The undersigned hereby certifies that the foregoing document was served in its entirety on May 28, 2024 upon the following parties via Electronic Mail:

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