
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GCE GAS CONTROL EQUIPMENT INC.,

Petitioner,

v.

VBOX, INC.,

Patent Owner.

Inter Partes Review No. IPR2023-00326
Patent No. 11,389,614

PATENT OWNER'S PRELIMINARY RESPONSE

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In this POPR, Patent Owner does not reference any exhibits other than those submitted by the Petitioner.

I. INTRODUCTION

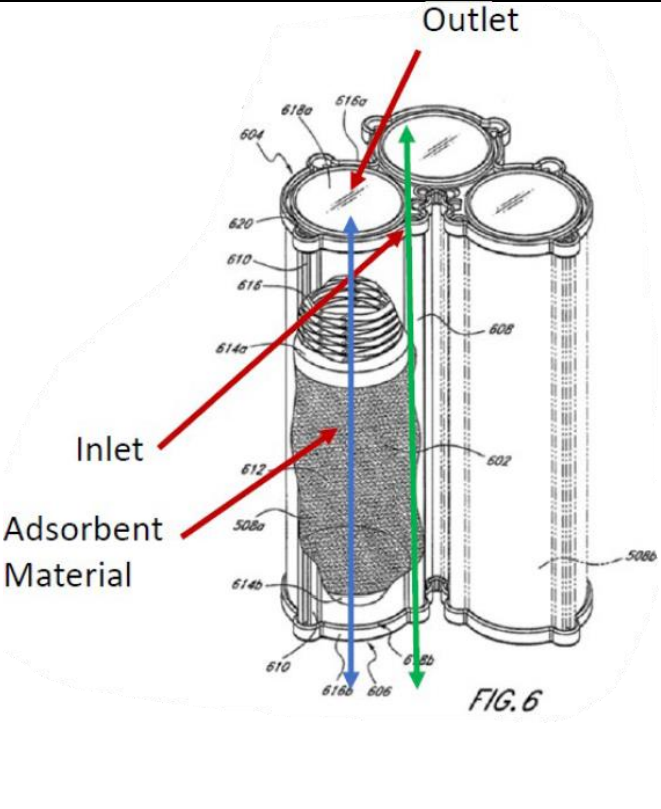
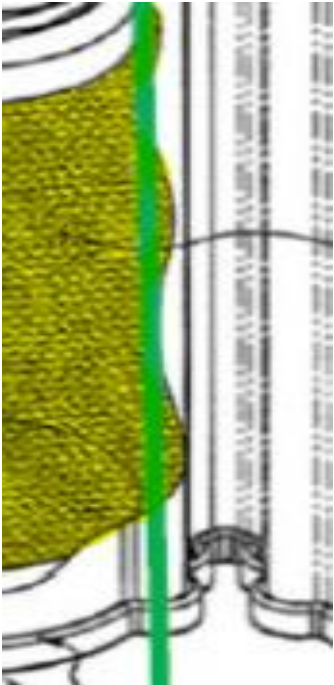
This case relates to portable oxygen concentrators, which are devices used by patients that require supplemental oxygen. Portable oxygen concentrators are able to convert ambient air, which contains about 78% nitrogen and 21% oxygen, into relatively pure oxygen.

The portable oxygen concentrator of U.S. Patent No. 11,389,614 (Ex. 1001, the “’614 Patent”) includes a separation cartridge containing a specific material, known as adsorbent, which is configured to separate nitrogen from ambient air. With the nitrogen separated out, relatively pure oxygen can be delivered to a patient. Over time, however, the adsorbent loses its ability to adsorb nitrogen and the separation cartridge must be replaced. Therefore, the portable oxygen concentrator includes a separation cartridge that is easily replaceable by end users.

Ultimately, providing an easily replaceable cartridge reduces downtime, because a patient can replace the cartridge themselves without needing to send their portable oxygen concentrator in for service every time a cartridge needs replacing.

Each of the challenged claims recites a separation cartridge and/or adsorbent bed configured such that fluid flowing along a reference line does not contact any adsorbent material. Patent Owner will refer to these as the “non-contact limitations.” As will be discussed herein, the non-contact limitations directly relate to the separation cartridge’s ability to be easily removed and replaced.

In all six proposed grounds, Petitioner alleges *Deane* (Ex. 1004) alone meets the non-contact limitations. But the evidence contradicts Petitioner's allegation. Petitioner provides the below annotation of *Deane*'s Figure 6 as evidence for alleging that *Deane* discloses the non-contact limitations. According to Petitioner, fluid flowing along the green line does not contact the yellow adsorbent material 612 (Petitioner added the green line; Patent Owner added the yellow shading). However, the green line clearly extends through the yellow adsorbent material. Therefore, the drawings of *Deane* indicate fluid flowing along the green line would contact the yellow adsorbent.

<i>Deane</i>'s Figure 6, as labeled by Petitioner	Green line overlaps adsorbent (yellow)
	

Where the claims expressly require non-contact along the green line identified by Petitioner, *Deane*'s drawings show contact. Petitioner has not otherwise attempted to demonstrate that *Deane* meets the non-contact limitations. Indeed, there is no evidence in the record that supports Petitioner. For one, *Deane*'s written description does not establish that there would be no contact along the green line. And remarkably, Petitioner's own Declarant authored an article suggesting that the inclusion of adsorbent material in the location of the green line was known and desirable in some situations. In light of this evidence, one cannot reasonably conclude that *Deane* teaches the non-contact limitations. Institution should be denied for at least this reason.

What's more, *Deane* was cited during prosecution of the '614 Patent and its disclosure was relied on pervasively during prosecution of the family members of the '614 Patent. Petitioner's grounds are therefore duplicative of the art that was already considered by the Office.

II. BACKGROUND

A. The '614 Patent, Generally

Again, the technology at issue in this case relates to portable oxygen concentrators. Ex. 1001 at 1:17-21. Some individuals suffering from certain diseases or lung conditions may require supplemental oxygen. *Id.* at 1:22-34. Receiving oxygen therapy can help these individuals maintain normal and productive lives. *Id.*

Before the priority date of the '614 Patent, supplemental oxygen was primarily provided through high pressure gas cylinders, liquid oxygen in vacuum-insulated containers, and in-home oxygen concentrators. *Id.* at 1:36-49. The high-pressure cylinder and liquid oxygen options both require refilling, which hinders the mobility of the user. *Id.* The in-home oxygen concentrators also hindered mobility, as these concentrators were relatively large and heavy, emitted excessive heat, and were relatively noisy. *Id.*

This case relates to portable oxygen concentrators, which are less bulky, lighter, and permit users to receive oxygen therapy while traveling with significantly more freedom than traditional oxygen tanks. *Id.* at 3:45-53. Instead of a dedicated oxygen tank, portable oxygen concentrators are able to produce their own oxygen from ambient air. *Id.* Specifically, portable oxygen concentrators include pumps that draw in ambient air and feed it to a separation cartridge. Ambient air is mostly nitrogen (i.e., about 78%), and contains only about 21% oxygen. Separation cartridges contain a specific material, known as adsorbent, that is able to separate nitrogen from the ambient air, leaving relatively pure oxygen—specifically, up to 95% oxygen. *Id.* With the nitrogen separated out, the portable concentrator is able to deliver the relatively pure oxygen to the patient.

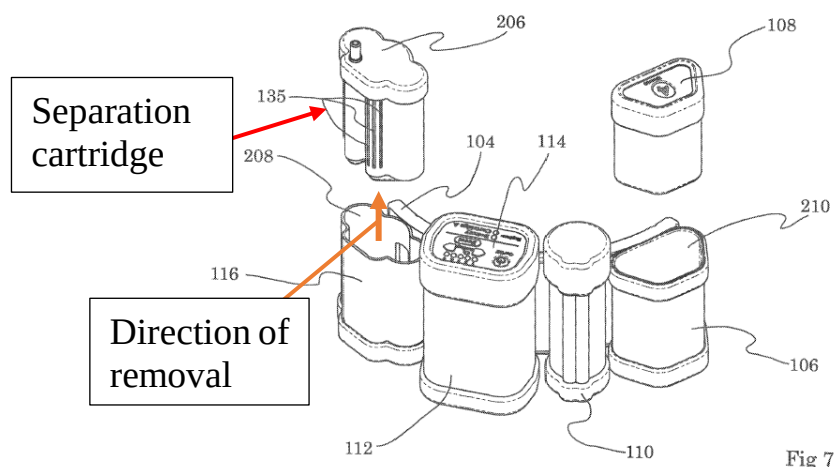
Over time, the adsorbent material becomes less effective at separating nitrogen from ambient air. *Id.* at 12:1-15. When this happens, the separation

cartridge must be replaced. *Id.* The '614 Patent specifically relates to separation cartridges that are relatively easy to remove and replace. *Id.* The '614 Patent is even titled: “Removable cartridge for oxygen concentrator.” *Id.* at Title.

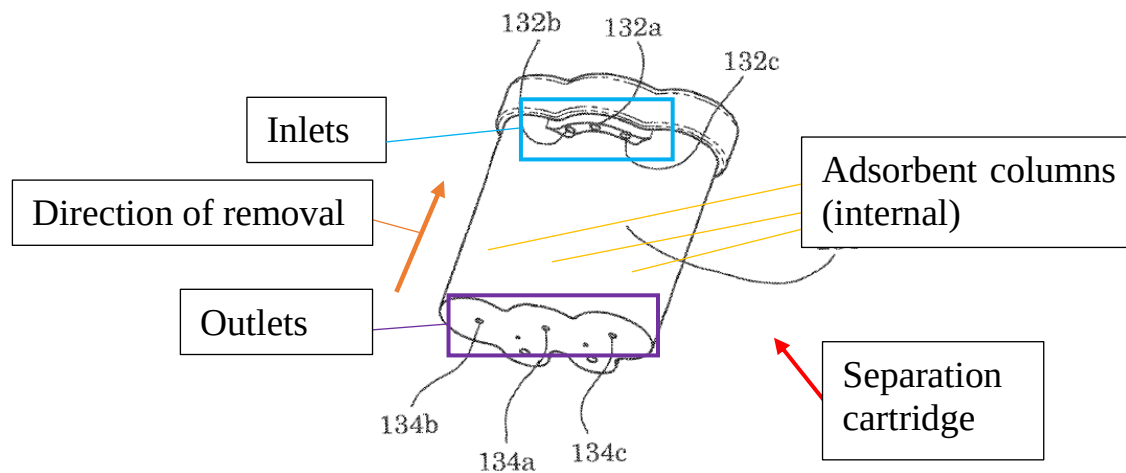
Increasing the ease with which separation cartridges can be removed and replaced is significant because it reduces patient downtime. It also allows the user to easily remove and replace the cartridges without the assistance of the manufacturer. In other words, when a separation cartridge needs replacing, the entire oxygen concentrator unit does not need to be sent away for service. Rather, the patient or their caregiver can replace the cartridge themselves in a matter of minutes.

B. The claimed arrangements improve ease of replacement

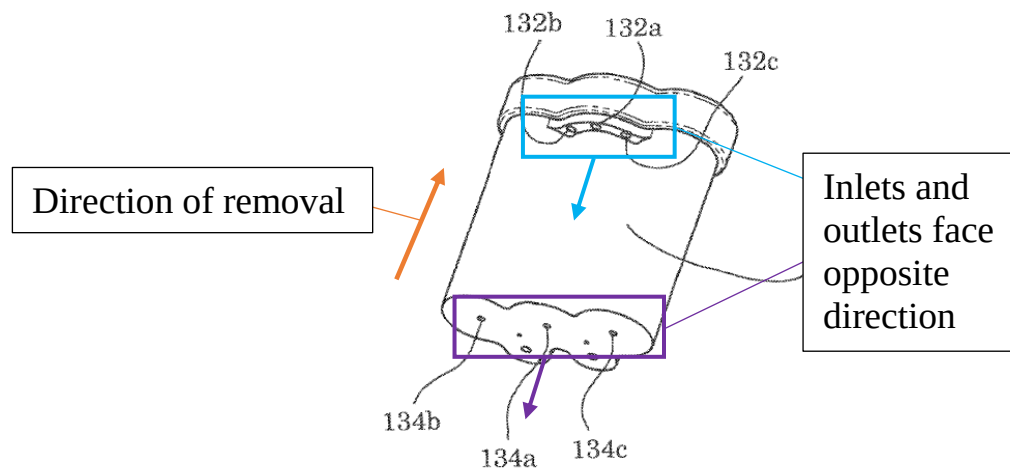
The oxygen concentrator 100 of the '614 Patent includes, among other things, an adsorbent, or separation, cartridge 206, which is removable from a receptacle 208 of a cartridge module 116. Ex. 1001 at 11:61-12:3. The separation cartridge is “easily removable to facilitate replacement.” *Id.*



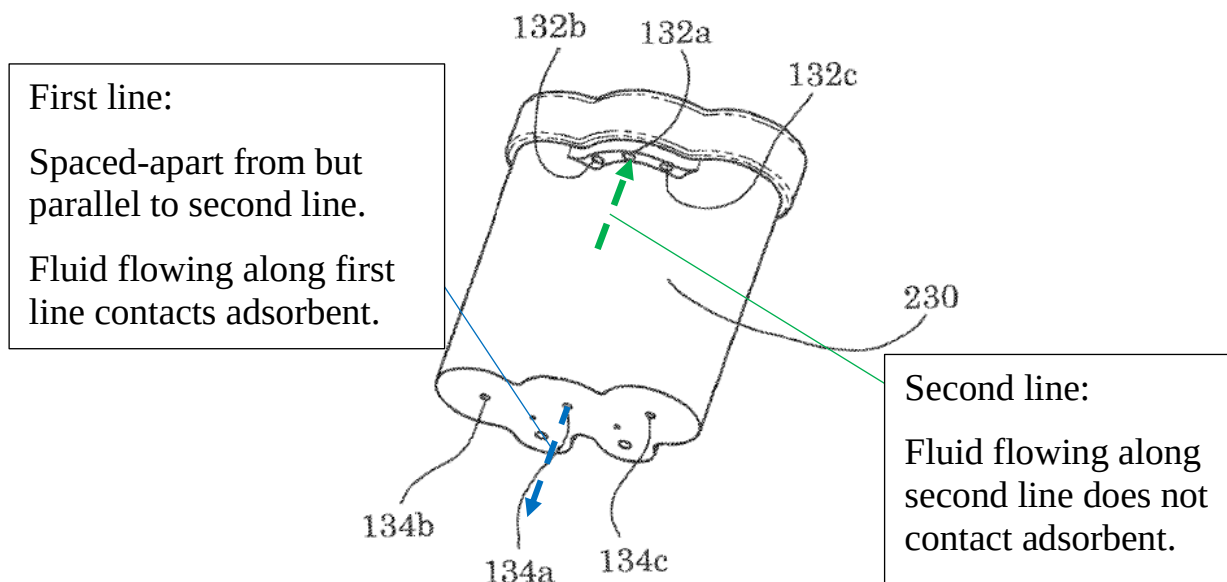
The separation cartridge includes inlet ports 132a-132c and outlet ports 134a-134c configured to direct fluid relative to adsorbent columns 130a-130c. *Id.* at 4:60-66; Figures 15 and 16.



All of the claims require a separation cartridge including an inlet and an outlet oriented in a common direction. *See, e.g., Id.* at claim 1. As shown above and below, the inlet and outlet face toward the receptacle, which is a direction opposite the direction of removal.



In addition to requiring the inlets/outlets to face a particular direction, the claims also require the inlets and outlets to be spaced-apart from one another in a particular manner. Specifically, a first reference line passes through the outlet, and a second reference line passes through the inlet. *Id.* The first and second lines are spaced-apart from one another yet are also parallel to one another. *Id.* Further, the claims specify that, in use, fluid flowing along the first line contacts adsorbent while the fluid flowing along the second line does not contact adsorbent, i.e., the non-contact limitations. *Id.*

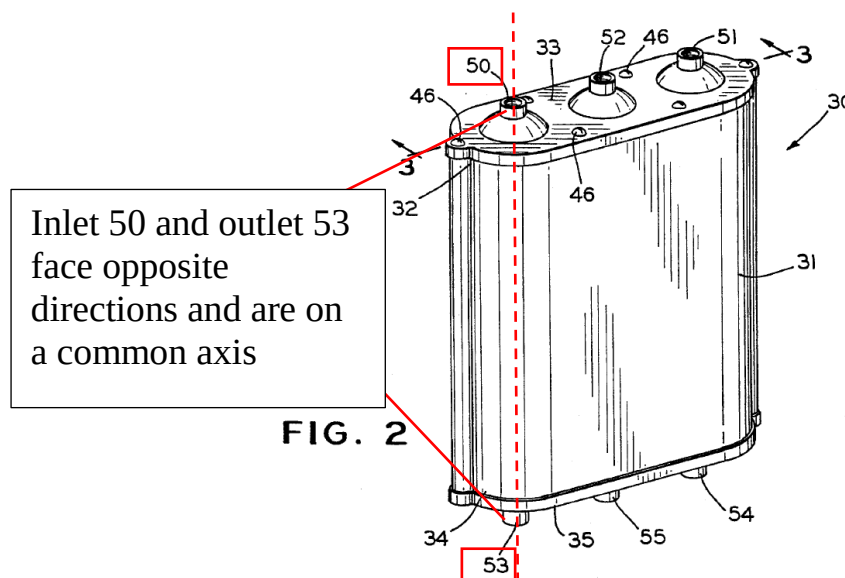


The '614 Patent explains that separation cartridge 206 contains a “quick-connect attachment” for coupling the separation cartridge 206 within the receptacle 208. *Id.* at 12:6-11. Because the inlets 132a-132c and are spaced-apart from the

outlets 134a-134c while also facing a common direction, the separation cartridge 206 is readily removed simply by moving the separation cartridge 206 vertically relative to the receptacle 208, which detaches both the inlets and outlets relative to their corresponding quick-connect attachments in a single motion. In turn, after the old cartridge has been removed, a new replacement cartridge is able to relatively easily interface with the receptacle 208 by a single vertical movement.

Claims 1, 12, and 13 of the '614 Patent are independent claims. These claims each encompass the above-discussed features relating to ease of removability and replacement.

The prior art does not teach or suggest such a configuration. Most of the known art exhibited inlets and outlets that faced opposite directions and were arranged on a common axis. One example is shown below. See Ex. 1020 at Figure 2.



The above prior art arrangement is not as easily removed and replaced because it cannot couple or decouple the inlet 50 and outlet 53 by movement of the component in a single direction. For instance, if one attempted to remove the above component from a receptacle, moving it vertically downward could potentially detach the inlet 50 from a corresponding inlet interface, but it would not be possible to detach the outlet 53 from its interface in that same downward motion. One or more additional steps or movements would be required to disconnect the component.

C. Relevant Prosecution History

The '614 Patent has a relatively large patent family. The *Deane* reference upon which Petitioner relies, and a number of references that are nearly identical to the *Deane* reference (each of which are also to *Deane*), were cited during prosecution of the various family members of the '614 Patent.¹ Patent Owner will now dive into the patent family and the various *Deane* disclosures, primarily to rebut Petitioner's mischaracterizations and false narrative surrounding the same.

¹ The *Deane* '059 (Ex. 1038), *Deane* '745 (Ex. 1039), and *Deane* '426 (Ex. 1047) references cited throughout the '614 Patent family have substantially the same disclosure as the *Deane* reference (Ex. 1004) that is relied on in Grounds 1-6. *Cf.* Exs. 1038, 1039, 1047 with Ex. 1004. Patent Owner will refer to these disclosures generally as the *Deane* disclosures.

The '614 Patent is a continuation of U.S. Application No. 14/193,504 (Ex. 1052, the "'504 Application"), which issued as U.S. Patent No. 10,702,669 (Ex. 1056, the "'669 Patent"). The '614 Patent is also the great grandchild continuation of U.S. Application No. 13/096,362 (Ex. 1050, the "'362 Application"), now abandoned, and a great, great grandchild of U.S. Application No. 11/054,341 (Ex. 1049, the "'341 Application"), which issued as U.S. Patent No. 7,954,490 (Ex. 1055, the "'490 Patent").

As set forth fully below, the *Deane* disclosure was considered in the '614 Patent's related family. This weighs in favor of the Board exercising its discretion to deny the Petition under 35 U.S.C. § 325(d). Surprisingly, despite the repeated appearances of the *Deane* disclosure favoring denial of their Petition, Petitioner actually highlights the Office's prior reliance on *Deane*'s disclosure to attempt to paint a story that an error occurred when the Examiner of the '614 Patent did not reject the challenged claims over *Deane*. See Petition at pp. 7-13. However, Petitioner has mischaracterized the relevant prosecution history.

1. Prosecution of the grandparents

The '362 Application and '341 Application both included claims that were directed to the function of the disclosed oxygen concentrator, but did not recite specific structural features of the separation cartridge. See Exs. 1049, 1050. However, though they differ from the claims of the '614 Patent, the *Deane* disclosure

was cited and Patent Owner faced multiple prior art rejections based on the *Deane* disclosure during prosecution of these applications. *See* Ex. 1049 at pages 77-81, 108-112, and 186-191, and; Ex. 1050 at pages 58-65.

2. Prosecution of the parent

The '504 Application, like the '614 Patent, included claims directed to a separation cartridge configuration. *See* Ex. 1052. Examination of the '504 Application was handled by Examiner Vasat, who did not examine the '614 Patent. *Id.* As with the grandparent applications, the *Deane* disclosure was again cited and discussed during prosecution of the parent '504 Application. *See* Ex. 1052 at page 19 (Examiner Interview Summary explaining that “There was a brief discussion of the prior art to Deane (US 20050072426).”). A notice of allowance soon followed including an Examiner’s amendment and a discussion of the *Deane* disclosure. Ex. 1052 at page 2 *et seq.* (Under “Reasons for Allowance” the notice states: “The closest prior art to new claims 24-42 is considered to be prior art to Deane (US 20050072426). Deane is considered to disclose ... The amendment defines over Deane because...”)).

3. Prosecution of the '614 Patent

During prosecution of the '614 Patent, Patent Owner submitted all of the various *Deane* disclosures, as well as *Dubois* and *Hill* '719 (Petitioner’s secondary

teaching references) for consideration in an information disclosure statement (“IDS”). Ex. 1002 at page 59 *et seq.*

Examination of the ’614 Patent was handled by Examiner Jones rather than by Examiner Vasat. *See* Ex. 1002. Examiner Jones considered each of the submitted *Deane* disclosures. *Id.* at page 67 (Examiner Jones placed his initials on that IDS next to “All references considered except where lined through” and *Deane* was not lined through.).

Following a preliminary amendment (Ex. 1002 at page 88 *et seq.*), only one Office Action issued during examination of the ’614 Patent, and that action raised only non-statutory double patenting grounds. Ex. 1002 at page 19 *et seq.*

4. Summary table: ’614 Patent family and the Deane disclosure

The Board may find the below table as a helpful summary of the above discussion.

’614 Patent and Family	<i>Deane</i> disclosure considered by Examiner?	<i>Deane</i> disclosure specifically raised in rejection or discussed by Examiner?
Great, great grandparent: ’341 Application	Yes	Yes
Great grandparent: ’362 Application	Yes	Yes
Parent: ’504 Application	Yes	Yes
’614 Patent	Yes	No

5. Petitioner's mischaracterizations

Petitioner alleges that the claims submitted on January 20, 2022 in the parent '504 Application are "very similar to the Challenged Claims." Petition at page 8. Petitioner's theory is that because Examiner Vasat appears to have required additional limitations in view of the *Deane* disclosure during prosecution of the parent '504 Application, that Examiner Jones erred by allowing the claims of the '614 Patent over the *Deane* disclosure. The Petition appears to suggest that the change in examiner caused an alleged error, and asserts that, despite applicant's IDS submission, "there is no evidence Examiner Jones properly considered *Deane/Deane* '426 *vis-à-vis* the '614 Patent." Petition at page 13, fn. 4.

Petitioner ignores the fact that the claims of the '614 Patent all contain at least one completely different limitation than the claims of the '504 Application, namely at least the non-contact limitations. As an example, claim 1 of the '614 Patent recites "wherein the separation cartridge is configured such that ... *fluid flowing along the second line does not contact the adsorbent material of the bed.*" (emphasis added). This is not a requirement of the claims in the '504 Application. See Ex. 1052 at pages 149 – 153. The Petition also fails to address the fact that Examiner Jones placed his initials on the IDS submission to indicate that *Deane's* disclosure was, in fact, considered. Ex. 1002 at page 67.

As discussed further below, the Petition has failed to establish that *Deane* teaches at least the non-contact limitations. Accordingly, Examiner Jones did not err in considering and then dismissing the teachings of *Deane*.

III. LEVEL OF ORDINARY SKILL

For purposes of this Preliminary Response only, Patent Owner does not dispute the Petitioner's definition of a person of ordinary skill in the art ("POSITA").

IV. CLAIM CONSTRUCTION

The Board construes claims in an *inter partes* review in accordance with *Phillips*, such that words of a claim are generally given their ordinary and customary meaning in light of the patent's specification. *Phillips v. AWH Corp.*, 415 F.3d at 1312, 1315 (Fed. Cir. 2005).

In general, the Board does not need to construe any terms raised for construction by Petitioner because these constructions do not bear on the issue of whether *Deane* discloses the non-contact limitations. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[The Board] need only construe terms that are in controversy, and only to the extent necessary to resolve the controversy.")

That said, Patent Owner provides a brief response to the Petitioner's claim construction arguments below.

A. “Separation Cartridge”

In relevant part, independent claim 1 recites “a separation cartridge ... the separation cartridge comprising an inlet [], an outlet [], and a bed of adsorbent material configured to preferentially adsorb nitrogen.” *See, e.g.*, Ex. 1001 at claim 1. Independent claim 12 also recites similar language. *Id.* at claim 12.

Petitioner proposes that the term “separation cartridge” should be construed as “a housing that holds multiple adsorbent columns for gas separation and provides separate inlet and outlet ports for each adsorbent column.” Petition at pages 21-23. There are two main problems with Petitioner’s construction. First, Petitioner seeks to read “multiple adsorbent columns” into the claims, which runs contrary to claims 1 and 12, which plainly recite “a bed of adsorbent,” as in one bed. Second, Petitioner seeks to embed the terms “inlet” and “outlet” into the construction of “separation cartridge,” which is redundant because the claims already specify that the separation cartridge includes an inlet and outlet.

Petitioner states that the embodiments of the ’614 Patent support their proposed “multiple column” construction. Petition at pages 21-23. Petitioner further alleges that during prosecution of the ’614 Patent’s family members, Patent Owner did not disagree when an Examiner asserted that modules with more than one adsorbent column were separation cartridges. *Id.* Petitioner also alleges that applicant argued that a separation cartridge had not been identified when the

Examiner pointed to a single-column module. *Id.* Petitioner’s reasoning should be rejected for several reasons.

1. No construction needed at this stage

Petitioner’s proposed construction requiring a separation cartridge to include multiple adsorbent columns and multiple inlets and outlets, while improper and incorrect, does not relate to the applicability of the asserted prior art.

It is not coincidental that Petitioner sells separation cartridges with a single bed. Petitioner’s proposed construction is an overt attempt to bait the Board into taking a position that Petitioner seeks to establish for purposes of non-infringement in the corresponding federal court litigation between the parties. Whether a “separation cartridge” must include one or more adsorbent beds is not related to any controversy in this IPR proceeding. *See Nidec*, 868 F.3d at 1017.

2. Multiple beds not required

Nevertheless, Petitioner’s reasoning is flawed for several reasons. First, the fact that the embodiments of the ’614 Patent include multiple beds does not limit the claims. Petitioner is attempting to read the specification into the claims, in violation of black letter patent law. It is “not enough that the only embodiments, or all of the embodiments, contain a particular limitation to limit a claim term beyond its ordinary meaning.” *Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012); see also *Phillips*, 415 F.3d at 1323 (“[A]lthough the specification often

describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”).

Second, the alleged failure to rebut the Examiner’s characterization of prior art during prosecution does not serve to limit the claims. A prosecution statement effecting claim scope requires a “clear and unambiguous disavowal of claim scope.” *Saffran v. Johnson & Johnson*, 712 F.3d 549, 559 (Fed. Cir. 2013). The Federal Circuit has declined to find claims limited by prosecution “where the alleged disavowal is ambiguous, or even amenable to multiple reasonable interpretations.” *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016). Silence regarding an Examiner’s characterization of the prior art is not a “clear and unambiguous disavowal of claim scope.” *Saffran*, 712 F.3d at 559.

Third, Petitioner has misrepresented the relevant prosecution history. Specifically, the Petition states “when an Examiner compared a ‘separation cartridge’ to a single-bed module, applicant argued that the Examiner had not identified a separation cartridge, which supports ‘separation cartridge’ meaning a module with multiple adsorber beds.” Petition at p. 23 (citations omitted). This is a blatant mischaracterization.

During the examination of the parent ’504 Application, the Examiner cited a reference, *Warren* (Ex. 1012), and alleged it would be obvious to modify *Warren* to include an outlet port and inlet port directed in a common direction towards the

bottom of the gas separation cartridge as required by the pending claims. Ex. 1052 at 297. In appealing the rejection, Applicant noted “the Examiner does not even identify a ‘separation cartridge’ in Warren, and instead generally refers to Figures 7 and 8,” and therefore “there is no way to tell from Warren’s Figures 7 and 8 what is the bottom.” Ex. 1052 at 255-256. That is, applicant was arguing that the Examiner had failed to establish a *prima facie* case of obviousness by failing to specify how the Examiner proposed modifying *Warren* to meet the claims. The suggestion that Applicant argued that *Warren* failed to disclose a separation cartridge because its device happened to only have one bed is completely unfounded.

Further, other claims of the ‘614 Patent *do* recite a separation cartridge with multiple beds (which Petitioner’s proposed construction would call multiple adsorbent columns). Claim 16 of the ‘614 Patent recites multiple beds of adsorbent, and even specifies that “the first and second beds are contained within a common separation cartridge.” Ex. 1001 at claim 16. If Patent Owner wished to claim multiple beds in a single separation cartridge, Patent Owner could have used similar language to what is present in claim 16, but Patent Owner did not.

Likewise, in another patent in this family, U.S. Patent No. 10,357,628 (Ex. 1054) which is the subject of a related IPR filed by Petitioner, the independent claims require a “separation cartridge” having “a bed of adsorbent material” while a dependent claim further recites “wherein the bed of adsorbent material is one of a

plurality of beds of adsorbent material within the separation cartridge.” *See* Ex. 1054 at claim 21.

Applicant knew how to recite multiple beds of adsorbent in a single separation cartridge, but specifically did not do so in claims 1 and 12 of the ’614 Patent. Claim differentiation, coupled with the principle that common claim terms should be construed the same across a patent family, weighs heavily against Petitioner’s construction. *Phillips* at 1315 (Fed. Cir. 2005) (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”); *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005) (When “patents all derive from the same parent application and share many common terms, we must interpret the claims consistently across all asserted patents.”).

Construing separation cartridge to require more than one bed is simply unsupported and not the correct construction.

3. Redundant additions of inlet and outlet

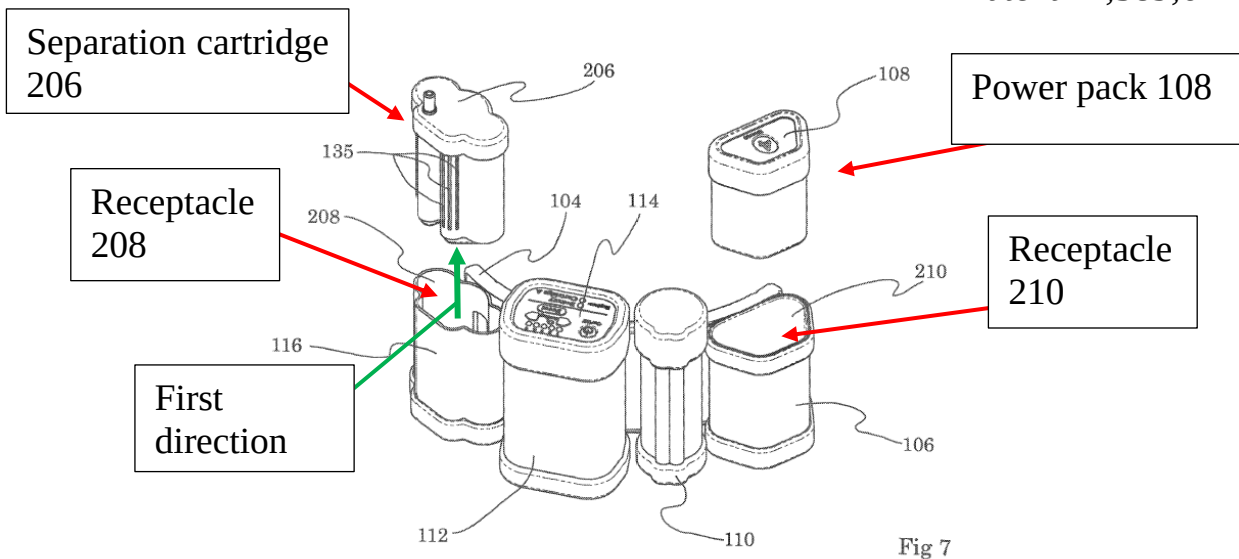
Other than the issue with reading multiple beds into the claims, Petitioner also reads in “inlet” and “outlet” into their proposed construction of “separation cartridge.” This is inappropriate because claims 1 and 12 already require the separation cartridge to have an inlet and an outlet. *See TMI Prods. v. Rosen Entm’t Sys., L.P.*, 610 Fed. Appx. 968, 971-972 (Fed. Cir. 2015) (rejecting construction of

a term that would render other language in the claim redundant); *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (It is well settled that a “claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”). Embedding the terms “inlet” and “outlet” into the term “separation cartridge” is at best redundant and more likely would add confusion to the meaning of the claims.

In summary, Patent Owner’s position is that no construction of “separation cartridge” is necessary at this stage. If the Board does wish to construe the term, the Board should not construe the term “separation cartridge” to require multiple adsorbent beds, and the Board should not read “inlet” or “outlet” into the term.

B. “Receptacle”

Independent claim 1 of the ’614 Patent recites in relevant part “a separation cartridge selectively removable from a receptacle by movement relative to the receptacle in a first direction.” *See, e.g.*, Ex. 1001 at claim 1. The direction of movement is the direction represented by the upward-pointing green arrow below. *See* Ex. 1001 at Figure 7.



As shown above, there are two receptacles 208, 210 in Figure 7 of the '614 Patent. Receptacle 208 is configured to receive and contain separation cartridge 206, while receptacle 210 is configured to receive and contain power pack 108. Ex. 1001 at 12:4-14.

Petitioner proposes that the term “receptacle” should be construed to mean “a structure that releasably interfaces with the inlet(s) and outlet(s) of the separation cartridge and at least partially contains the separation cartridge.” Petition at pages 23, 24.

First, the Board need not construe this term at this stage, as Patent Owner does not believe it bears on the issues raised in this POPR. See *Nidec*, 868 F.3d at 1017.

Second, if the Board does wish to construe the term, Petitioner’s construction should not be accepted. Petitioner reads in the “releasably interfaces” language, which is not required by the claims. It is an apparent effort by Petitioner read a

particular embodiment into the claims, specifically, the '614 Patent's disclosure that the cartridge 206 may connect to the various lines within the receptacle 208 using quick-connect attachments of the cartridge 206. *See* Ex. 1001 at 12:4-14 ("In this embodiment... [c]artridge 206 contains a quick-connect attachment..."). So, whereas the claims do not specify the precise mechanism for connecting the cartridge and the receptacle, Petitioner seeks to limit Patent Owner to "releasably interfac[ing]." Since Petitioner's construction reads in terms from the specification and does not otherwise resolve any dispute at this stage of the proceeding, it should be rejected.

C. "Selectively Removable From A Receptacle"

Again, independent claim 1 recites "a separation cartridge selectively removable from a receptacle by movement relative to the receptacle in a first direction." Petitioner seeks a construction of only a portion of this phrase. Namely, Petitioner proposes that the phrase "selectively removable [from a receptacle]" should be construed to mean that the separation cartridge is "withdrawable or separable as a whole from a receptacle." Petition at pages 24-26.

Petitioner's proposed construction should be rejected because, again, it does not bear significantly on the issues raised at this stage of the proceeding. *See Nidec*, 868 F.3d at 1017. What's more, Petitioner's proposed construction completely reads out the word "selectively" from the phrase "selectively removable." If for some

reason the Board does wish to construe the phrase “selectively removable,” Patent Owner believes the term “selectively” should not be read out. *See Merck*, 395 F.3d at 1372 (“A claim construction that gives meaning to all the terms of the claims is preferred over one that does not do so.”)

V. DEFECTS IN PROPOSED GROUNDS

An *inter partes* review may not be instituted “unless ... the information presented in the petition ... shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). The burden of proof lies with the Petitioner to show that the statutory threshold is satisfied.

The Petition raises six grounds challenging the patentability of claims 1-16 of the '614 Patent. Each of these grounds rely on *Deane* (Ex. 1004) as a sole or primary reference. The proposed grounds are deficient for at least the below reasons. The below arguments carry additional weight given that the Examiner was well aware of the *Deane* disclosure during prosecution.

A. Ground 1—*Deane*, *Dubois*, and *Berntson* do not support obviousness of claims 1-5 and 7-16

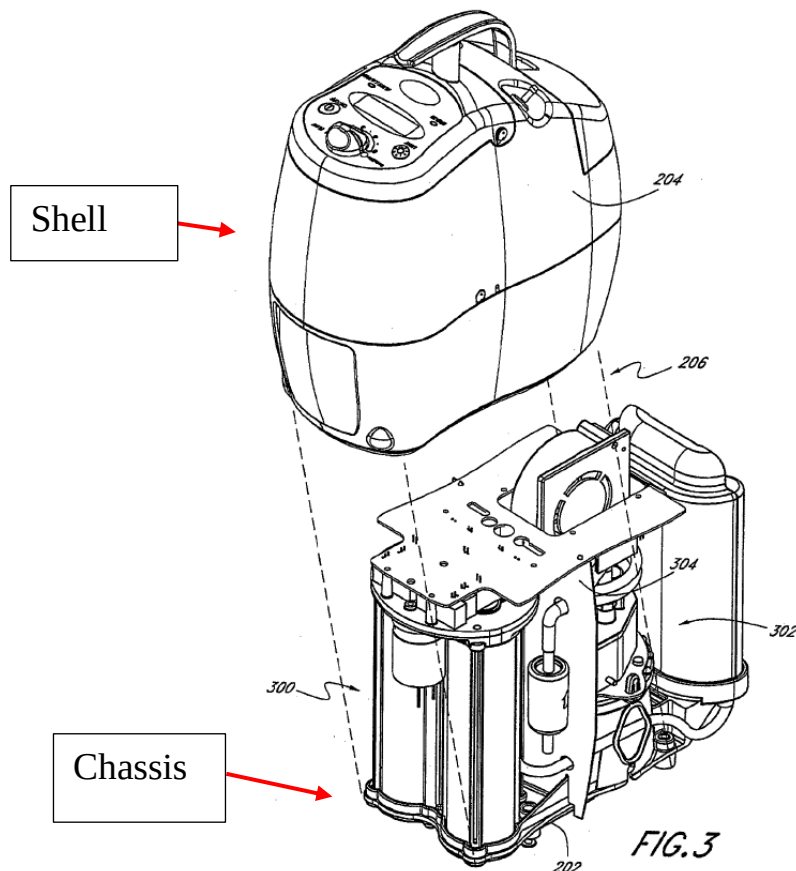
Ground 1 alleges claims 1-5 and 7-16 are obvious over *Deane* (Ex. 1004), *Dubois*, and *Berntson*. Petitioner essentially argues that *Deane* teaches all of the

claim elements, but includes *Dubois* and *Berntson* as backstops on certain claim elements.

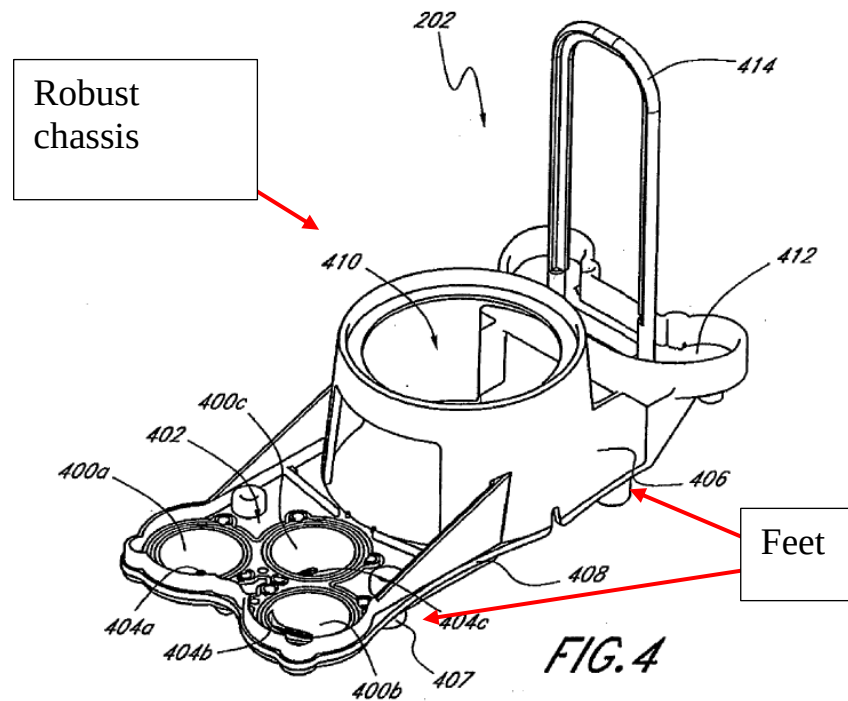
1. *Deane*

Deane discloses a portable gas fractionalization apparatus 200. Ex. 1004 at ¶ [0057]. While referred to as portable, the *Deane* apparatus 200 is rather bulky, and is configured to be carried by a handle or rolled on a wheeled cart 1800 (Ex. 1004 at ¶ [0099]; Figure 18B).

Deane's apparatus 200 generally includes a chassis 202 and a shell 204, which together form a housing 206. *Id.* at ¶ [0057]; Figure 3 (below).



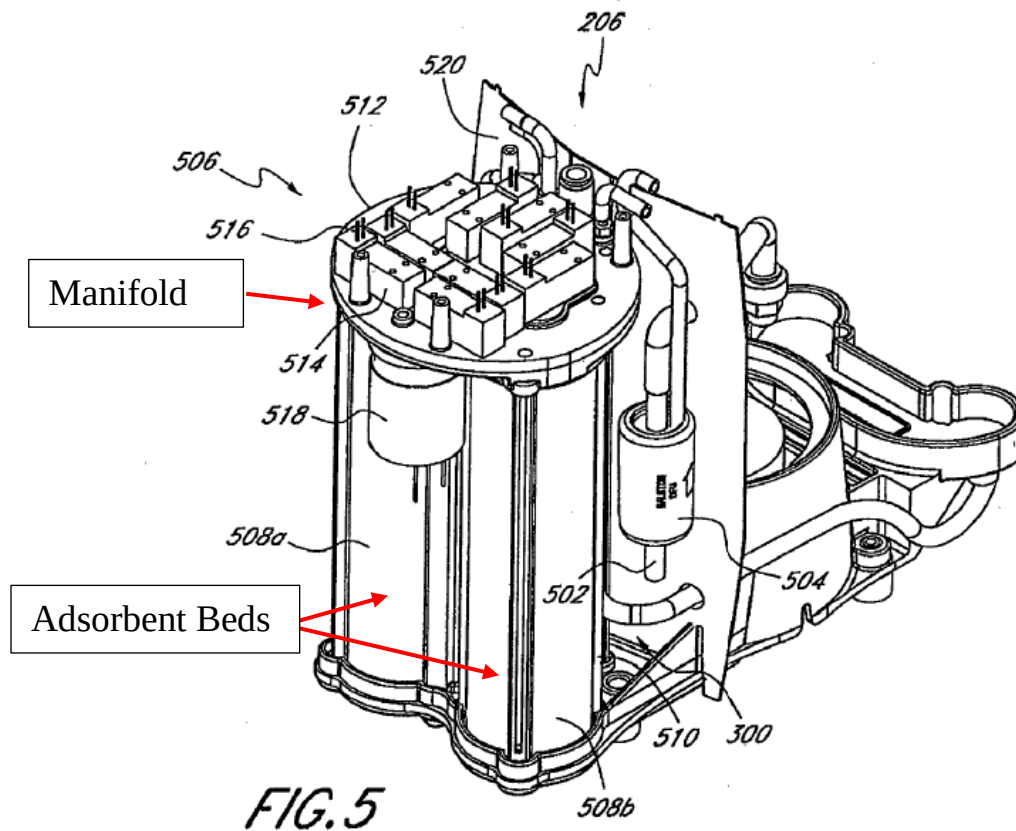
The chassis 202 is a robust frame with isolation feet 407 configured such that the apparatus 200 can rest on a flat surface, such as a floor or table, while supporting the various internal components of the *Deane* device. See *Id.* at ¶ [0060].



Deane's apparatus is not designed to be used in any configuration other than its vertically-upright configuration. On this point, *Deane's* shell 204 exhibits curved, non-planar walls to discourage users from resting the apparatus 200 on its side. See *Id.* at ¶ [0057].

Inside *Deane's* housing 206, the apparatus 200 includes a first compartment 300 which contains the components that adsorb nitrogen from ambient air, and a second compartment 302 which contains heat generating components. *Id.* at ¶

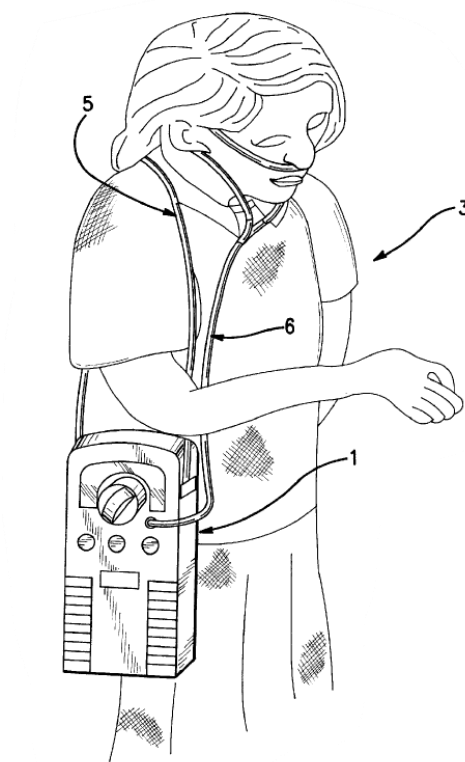
[0058]. Specifically, the first compartment 300 includes adsorbent bed columns 508a, 508b. *Id.* at ¶ [0061]; Fig. 5. Fluid is directed relative to the adsorbent bed columns 508a, 508b via a manifold 512, which includes two plates. *Id.* at ¶ [0063, 0071]; Fig. 8.



There are a number of differences between *Deane* and the claims. While the Petition primarily relies on *Deane*, Petitioner does cite to certain secondary teaching references as well, none of which resolve the problems with Petitioner's reliance on *Deane*.

2. *Dubois*

Dubois (Ex. 1005) generally teaches a portable oxygen concentrator. Specifically, *Dubois*' concentrator appears to be more portable than that of *Deane*, namely because it is smaller and can be worn by a patient or user, as shown in Figure 5, which is partially copied below.

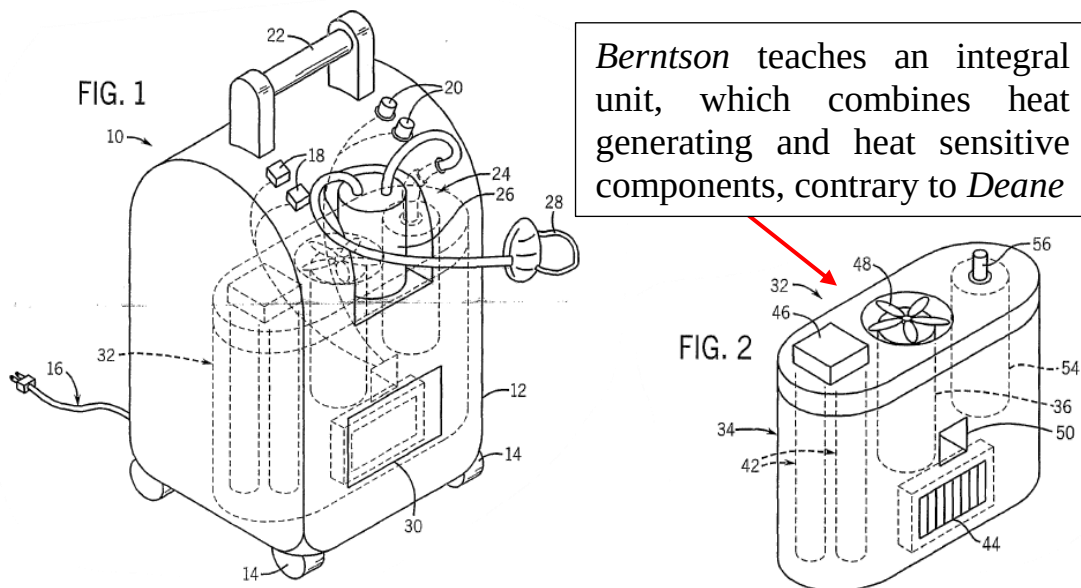


Petitioner does not significantly rely on *Dubois*, and *Dubois* does not (and cannot) cure the defects noted in *Deane* below.

3. *Berntson*

Berntson (Ex. 1006) generally teaches an oxygen concentrator with a consolidated oxygen-rich air generator (ORAG) unit including a pump 36, adsorbent

containers 42, a valve system 46, a cooling fan 48, an air tank 54, and an air outlet 56 all consolidated in one removable unit. Ex. 1006 at ¶ [0012, 0014]. Petitioner relies on *Berntson* purely as a supplement for *Deane* to allegedly teach a “more distinct cartridge” than *Deane* that is “selectively removable from a receptacle.” Petition at pages 26 and 41. However, *Berntson*’s teachings plainly conflict with a central teaching of *Deane*. Whereas *Deane* teaches separation of heat generating and heat sensitive components (Ex. 1004 at ¶ [0058]), *Berntson* teaches integrating its heat generating and heat sensitive components. Ex. 1006 at ¶ [0018] (“It may also be desirable to integrate components formerly considered separate. For example, ...the sieve beds may be incorporated into the pump housing...”).



Petitioner has failed to establish a *prima facie* case of obviousness relative to *Deane*, regardless of the teachings of *Dubois* or *Berntson*.

4. Ground 1 Fails As To All Claims—*Deane* does not establish the non-contact limitations

Failure to adequately establish each and every limitation of a claim is fatal to a determination of obviousness. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1366-1367 (Fed. Cir. 2016) (Reversing Board’s determination of obviousness when a claim limitation was missing from the cited prior art and the Board had improperly relied on “common sense” to fill in the missing limitation); *see also In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970) (“All words in a claim must be considered in judging the patentability of that claim against the prior art.”).

Independent claim 1 of the ’614 Patent recites “a second line spaced-apart from the first line and extending parallel to the first line passes through the inlet” and “wherein the separation cartridge is configured such that, when fluid flows through the separation cartridge, ... fluid flowing along the second line does not contact the adsorbent material of the bed.” *See* Ex. 1001 at claim 1. Independent claim 12 includes identical non-contact limitations. *Id.* at claim 12. Independent claim 13 recites similar non-contact limitations. *Id.* at claim 13 (“fluid flowing along the second line does not contact the adsorbent material of the first bed... fluid flowing along the fourth line does not contact the adsorbent material of the second bed”). As such, this argument applies to every challenged claim.

The Petition relies on *Deane* alone as allegedly teaching these non-contact limitations. The Petition has not established that *Deane* teaches the non-contact limitations because the only evidence that the Petition cites to in support runs contrary to the limitations, or, at the absolute best, is ambiguous.

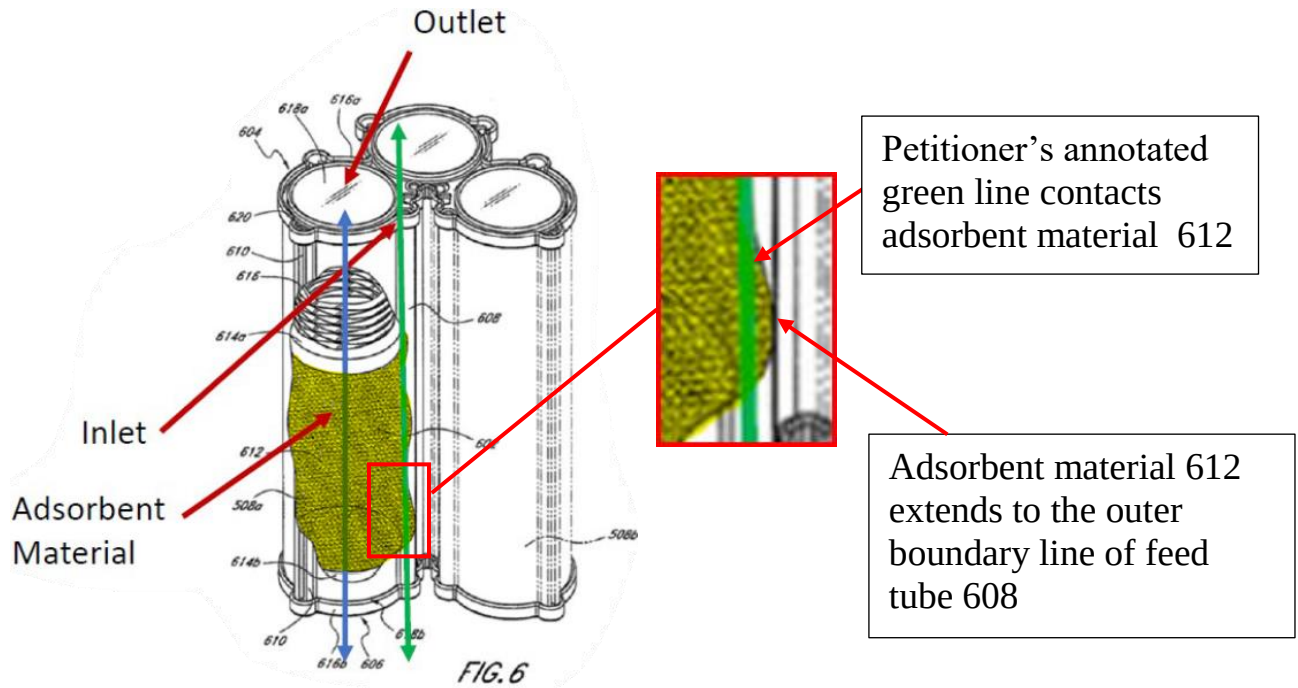
When a prior art reference is ambiguous regarding a limitation, it does not, by itself, render that limitation unpatentable. *See Wasica Fin. GmbH v. Cont'l Auto. Sys.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017) (upholding the Board's finding that a claim was patentable when it was "unclear" whether or not the cited reference disclosed the pertinent feature because "[a]mbiguous references do not, as a matter of law, anticipate a claim"); *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1315 (Fed. Cir. 2019) (affirming jury finding of nonobviousness when challenger relied solely on a prior art photograph "of limited clarity" to establish a claim limitation and "offer[ed] nothing to fill this gap in its obviousness analysis."). In this vein, the Federal Circuit has consistently held in the context of inherency that an alleged teaching of the prior art "may not be established by probabilities or possibilities." *Par Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014). Rather, "in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis – the limitation at issue necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art." *Id.* at 1195-1196. Further, "it is impermissible

within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.” *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448 (Fed. Cir. 1986). In summary, the principles of law regarding ambiguous disclosures and inherency, which are rooted in anticipation case law, apply equally to an obviousness analysis, especially where, as here, the obviousness ground is based on an allegation that a particular limitation is taught or disclosed in a single reference. *Par Pharm.*, 773 F.3d at 1194-95.

The Petition primarily relies on the adsorbent bed columns 508a, 508b of *Deane* as depicted in Figures 6 and 7A as allegedly reading on the claimed separation cartridge. See Petition at page 32, *et seq.* When addressing each of the independent claims, the Petition points to the top of feed tube 608 as the alleged inlet, and annotates a green line extending through the feed tube 608 as allegedly reading on the claimed second line. *Id.* at pages 49, 59, and 62. Without additional discussion, the Petition summarily states “fluid flowing along the green line in the figures below flows through feed tube 608 that does not contain adsorbent material 612.” See *Id.* at page 49.

Extraordinarily, the adsorbent material 612 in Figure 6 is illustrated as extending into the feed tube 608, and Petitioner’s annotated green line quite clearly

does contact the adsorbent material 612 (highlighted in yellow below) of adsorbent column 508a. See Petition at page 49 (yellow coloring added by Patent Owner). Petitioner makes no attempt to address this glaring deficiency.

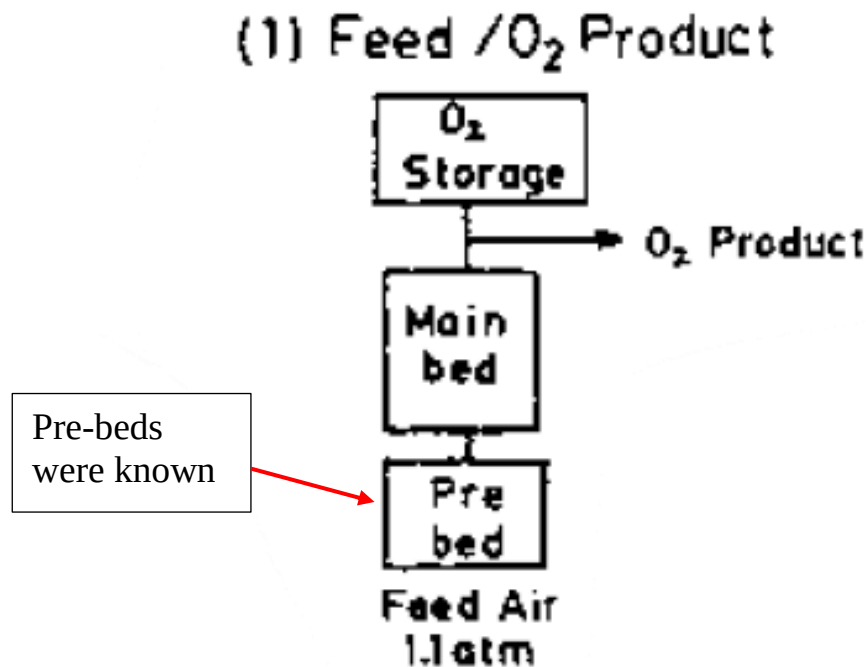


Stated plainly, Figure 6 illustrates that fluid flowing along the green line would contact adsorbent, which is contrary to the claim language. Indeed, the adsorbent material 612 extends to the outer boundary line of the feed tube 608, which demonstrates that the adsorbent is in the feed tube 608. See Ex. 1004 at Fig. 6.

Further, the highly schematic drawing in *Deane's* Figure 7A does not help Petitioner. Adsorbent is not even shown in Figure 7A, and, as such, it does not establish that feed tube 608 lacks adsorbent.

Petitioner does not attempt to cite to anything in *Deane's* written description to address the non-contact limitations. Indeed, *Deane* never states there is no adsorbent material in the feed tube 608. *See, e.g.*, Ex. 1004.

Providing adsorbent in *Deane's* feed tube 608, as shown in Figure 6, could serve the function of what is known in the art as a pre-bed of adsorbent, i.e., an initial bed of adsorbent in series with and prior to a main bed of adsorbent. Indeed, Petitioner's own declarant, Dr. Knaebel, co-authored a book which describes an oxygen concentration system with a pre-bed of adsorbent in sequence with a main bed of adsorbent. *See* Ex. 1068 at pages 126-129. Dr. Knaebel and his co-authors described "a two-bed system" in which "each 'bed' actually consists of a prebed for impurity removal in series with the main adsorption bed." *Id* at pages 126-129 and Figure 6.10, partially copied below:



Similarly, another reference cited by Petitioner, *Dee* '318 (Ex. 1037), also teaches that using multiple adsorbent beds in series can result in higher oxygen product purity. Ex. 1037 at 4:48-50. These teachings support why *Deane* shows adsorbent in the identified feed tubes.

In summary, *Deane*'s Fig. 6 shows contact with adsorbent where Petitioner alleges there is none, *Deane*'s detailed description is silent on the issue, and the prior art cited by Petitioner, including a prior publication by Petitioner's own Declarant, demonstrates a known reason that green-line-contact with adsorbent would make sense and be beneficial. Thus, the Petition has failed to establish that the non-contact

limitations are either explicitly or inherently taught by *Deane*. See *Wasica*, 853 F.3d at 1384; *Par Pharm.*, 773 F.3d at 1195-1196.

The Petition does not attempt to rely on *Dubois* or *Berntson* to cure this defect in *Deane*. Indeed, Petitioner has “offer[ed] nothing to fill this gap in its obviousness analysis” and therefore has failed to establish a *prima facie* case of obviousness. *Lucent Techs.*, 580 F.3d at 1315; see also *Arendi*, 832 F.3d at 1366-1367.

B. Grounds 2-6 are deficient for the same reasons as Ground 1

Ground 2 relates to dependent claims 2, 3, and 15. Petitioner applies *Deane*, *Dubois*, *Berntson*, and *Hill* ‘719 (Ex. 1008) to the claims in Ground 2. Ground 3 relates to dependent claims 6. Petitioner applies *Deane*, *Dubois*, *Berntson*, and *Basset* (Ex. 1007) in Ground 3. Petitioner does not rely on *Hill* or *Basset* in an attempt to cure any of the above-noted deficiencies in the proposed grounds of rejection of the independent claims. Therefore, the Petition fails on Grounds 2 and 3 for the same reasons as Ground 1, above.

Grounds 4-6 repeat the allegations of Grounds 1-3, but eliminate the teachings of *Dubois* and *Bernston*. Petition at page 72. Grounds 4-6 fail for the same reasons as Grounds 1-3.

VI. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 325(d)

Patent Owner does not agree with Petitioner's *Fintiv* analysis. See Petition at pages 18-19. Regardless, Patent Owner does not address it herein, and instead focuses on § 325(d), which strongly favors denial.

“In determining whether to institute or order a proceeding..., the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d).

Here, the Petition primarily relies on *Deane*, the disclosure of which was noted to be the “closest prior art” during Examination of the parent '504 Application (Ex. 1052 at page 16) that Petitioner contends had claims “very similar to the Challenged Claims.” See Petition at page 8. Further, *Deane* was cited and considered by the examiner during prosecution of the '614 Patent. Ex. 1002 at page 67. The Office previously considered *Deane* pervasively during the prosecution of the '614 Patent's family, and Petitioner has failed to provide a compelling reason why the Board should re-adjudicate the same prior art considered and dismissed by Office during prosecution. The Board should thus exercise its discretion under § 325(d) and deny institution.

The Board applies a two-part framework to assess whether to exercise its discretion and deny a petition under § 325(d). First, the Board considers whether the

same or substantially the same prior art or arguments previously were presented to the Office. If either condition is satisfied, the Board then assesses whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). A non-exclusive list of factors, set forth in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph), guides the Board's application of this framework. *Advanced Bionics*, Paper 6 at 9. Those factors include:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
 - (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
 - (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
 - (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
 - (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art;
- and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson, Paper 8 at 17-18.

Importantly, the Board’s analysis should include an evaluation of not only the file history of the subject patent, but also the extent to which the asserted prior art was analyzed by the Office in other applications in the priority chain. *See Becton, Dickinson*, Paper 8 at 23 (finding that the fact that the asserted prior art reference had been “evaluated with respect to obviousness rejections in the parent application over claims with scope similar to that of the [subject] patent” favored denial under § 325(d)); *Johnson & Johnson Surgical Vision, Inc. v. Alcon, Inc.*, IPR2021-00899, Paper 16 at 2 (PTAB Nov. 9, 2021) (denying institution under § 325(d) where asserted prior art was evaluated in the parent case); *Microsoft Corp. v. IPA Technologies, Inc.*, IPR2019-00839, Paper 9 at 13-18 (PTAB Nov. 8, 2019) (same); *Cultec, Inc. v. Stormtech, LLC*, IPR2017-00777, Paper 7 at 8-11, 13 (PTAB Aug. 22, 2017) (Informative) (denying under § 325(d) based on analysis of the asserted art in a sibling application).

All of the *Becton, Dickinson* factors weigh heavily in favor of denying institution.

1. Previously presented – factors (a), (b), and (d)

Regarding factors (a) and (b), all of the art relied upon in the grounds of the Petition is either identical or cumulative to the prior art presented to the Office during examination of the '614 Patent and its related family. *Deane* is the sole or primary reference applied in all grounds and it was submitted and considered by the Examiner via an IDS submission during examination of the '614 Patent and appears on the face of the '614 Patent. Ex. 1002 at page 67; Ex. 1001 at References Cited.

The secondary references of *Dubois*, *Berntson*, *Hill '719*, and *Basset* provide no shield for Petitioner. Notably, the Petition fails to describe any differences or teachings provided by these secondary references compared to the art analyzed during prosecution. *See Becton, Dickinson*, Paper 8 at 21 (“Petitioner has not ... substantively addressed, any particular differences between the [the prior art of the Petition and the prior art the Examiner considered] as a basis for unpatentability in the Petition. We therefore give little weight to the fact that [Petitioner’s art] is a different secondary reference from [the art in the file history].”).

Moreover, the *Dubois* and *Hill '719* references were submitted for consideration in an IDS in the '614 Patent. Ex. 1002 at page 44-45. The *Basset* reference is relied upon only as allegedly teaching a limitation of dependent claim 6, and thus does not provide any prior art differentiation in relation to the independent claims. Lastly, the relied-upon teachings of the remaining *Berntson*

reference are cumulative to at least the *Cole* reference (Ex. 1020), which was used in an obviousness rejection in the parent '504 Application (Ex. 1052 at page 185, *et seq.*) and was submitted and considered during prosecution of the '614 Patent. Ex. 1002 at page. 39. Specifically, the Petition relies on *Berntson* to allegedly teach a distinct and removable cartridge containing adsorbent material. See Petition at pages 26 and 41. Petitioner's Declarant admits that *Cole* "teaches a removable adsorber cartridge." Ex. 1003 at page 26.

With respect to factor (d), Petitioner relies on *Deane* in a very similar manner to how Examiner Vasat explained the applicability of *Deane* '426 in the notice of allowance of the parent '504 Application. Examiner Vasat contended, as does the Petition, that the *Deane* disclosure teaches an oxygen concentrator cartridge at Figure 6. Ex. 1052 at page 16; Petition at pages 32-34. Both also pointed to the top of the housing 602 at filter portion 618a as a first port/outlet of the alleged cartridge and the upper part of feed tube 608 as a second port/inlet spaced-apart from and faced in the same direction as the first port/outlet. *Id.* While the prosecution history does not contain relevant "arguments" in view of the *Deane* disclosure, "Section 325(d) is phrased in the disjunctive ('or'), not the conjunctive ('and'), when it refers to 'whether... the same or substantially the same prior art or arguments previously were presented to the Office.' 35 U.S.C. § 325(d). Thus, Section 325(d) does not require previous presentation of the same art *and* arguments." *Edge Endo, LLC v.*

Michael Scianamblo, IPR2018-01320, Paper 15 at 12 (PTAB Jan. 14, 2019) (emphasis in original). Here, there is significant overlap between how the prior art was applied in the relevant prosecution and the manner in which Petitioner relies on the prior art.

Accordingly, *Becton, Dickenson* factors (a), (b), and (d) all indicate that the first prong of the § 325(d) inquiry is satisfied. *See Advanced Bionics*, Paper 6 at 10.

2. No material error – factors (c), (e), and (f)

Factor (c) clearly favors denial. Again, during prosecution of the '614 Patent the Examiner indicated that he had considered the *Deane* disclosures via an IDS submission. Ex. 1002 at page 67. During prosecution of the parent '504 Application, the *Deane* disclosure was the sole reference noted as a subject of discussion in the Examiner initiated interview summary and specified as the “closest prior art” in the notice of allowance. Ex. 1052 at pages 16, 19. The same disclosure was cited in three separate obviousness rejections during prosecution of the great grandparent '362 Application, and was used as a base reference for an obviousness rejection in the great, great grandparent '341 Application. Ex. 1049 at pages 186-191, 108-112, and 77-81; Ex. 1050 at pages 58-65. Accordingly, the disclosure and applicability of *Deane* was carefully considered by the Office during prosecution.

Petitioner summarily states that factor (c) favors institution because *Deane* was not formally applied in any prior art rejection during prosecution of the '614

Patent. Petition at pages 19-20. However, the precedential *Becton, Dickinson* decision found that factor (c) favored denial when the asserted prior art reference had been “evaluated with respect to obviousness rejections in *the parent application* over claims with scope similar to that of the [subject] patent.” *Becton, Dickinson*, Paper 8 at 23 (emphasis added). Further, the *Advanced Bionics* decision noted that “although *Becton, Dickinson* factor (c) evaluates ‘the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection,’ *the focus should be on the record.*” *Advanced Bionics*, Paper 6 at 11 (emphasis added).

Accordingly, the fact that the *Deane* disclosure was discussed during prosecution of the parent and grandparent applications, and was not formally used as a basis for a prior art rejection during prosecution of the ’614 Patent, does not carry the weight that Petitioner contends. Indeed, the Board has denied institution when the relevant references were submitted for consideration in an IDS alone and not discussed or applied in any manner during prosecution. *See Biocon Pharma Ltd. v. Novartis Pharmaceuticals Corp.*, IPR2020-01263, Paper 12 (PTAB Feb. 16, 2021); *see also Advanced Bionics*, Paper 6 at 7-8 (“Previously presented art includes art made of record... such as on an Information Disclosure Statement (IDS)”). Here, the overall prosecution record of the ’614 Patent family indicates that Petitioner’s interpretation of *Deane* was evaluated by the Office to quite a significant extent.

Regarding factor (e), “[i]f reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability.” *Advanced Bionics*, Paper 6 at 9. Here, the only error advanced by the Petition is allegedly that “the Examiner clearly erred by not rejecting the Challenged claims in view of *Deane* ‘426/*Deane*, alone or in combination with the other Ground references.” Petition at page 20. Accordingly, the alleged “error” appears to be that either Examiner Jones neglected to consider *Deane* or failed to appreciate Petitioner’s interpretation of *Deane*. This is improper for at least three reasons.

First, Examiner Jones did, in fact, consider the *Deane* disclosure. Under MPEP § 609.02(II)(2) an examiner is required to “consider information which has been considered by the Office in a parent application ... when examining: (A) a continuation application...” See also MPEP § 904 (“In all continuing applications, the parent applications must be reviewed by the examiner for pertinent prior art.”). Further, Examiner Jones signed an IDS listing *Deane* with the statement “all references considered except where lined through,” and *Deane* was not lined through. Ex. 1002 at page 67. Thus, the suggestion that Examiner Jones missed something regarding *Deane* that Examiner Vasat did not is completely unfounded. Indeed, it is presumed that an Examiner handling the examination of a continuation application would substantively review a reference noted to be the “closest prior

art” in the notice of allowance of the parent application. *See Ultra-Tex Surfaces Inc. v. Hill Brothers Chemical Co.*, 204 F.3d 1360, 1367 (Fed. Cir. 2000) (noting that the Office and its examiners are “presumed to have properly done [their] job.”).

Second, Petitioner’s interpretation of *Deane* and its applicability to the claims of the ’614 Patent was clearly appreciated by Examiner Jones. As noted above, Examiner Vasat set forth an interpretation of the *Deane* disclosure which is almost identical to the manner in which Petitioner relies on *Deane* in relation to claims that Petitioner contends are “very similar to the Challenged Claims.” Petition at page 8. Examiner Jones was required to review this interpretation. MPEP § 609.02(II)(2) and § 904. Examiner Jones thereafter issued a double patenting rejection in view of the parent ’669 Patent, indicating that he compared the allegedly “very similar” claims of the parent ’669 Patent to the claims of the ’614 Patent. Ex. 1002 at page 19 *et seq.*

Third, as shown above, *Deane* does not teach what Petitioner contends. Thus, Examiner Jones’ reasonable interpretation that *Deane* does not meet the Challenged Claims cannot be said to be a material error by the Office. Again, if reasonable minds can disagree regarding the treatment of the art, no material error is established. *Advanced Bionics*, Paper 6 at 9.

Finally, as to factor (f), the only evidence presented by Petitioner that could arguably be considered new is the declaration of Dr. Knaebel (the “Knaebel

Declaration”) (Ex. 1003). However, the Director recently designated as precedential a decision denying institution of *inter partes* review which held that testimony of a declarant that merely repeats conclusory assertions from a petition, without citing additional supporting evidence or providing technical reasoning to support the testimony, is entitled to little weight. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (Aug. 24, 2022) (precedential). Here, the Petition refers generally to the Knaebel Declaration in its brief § 325(d) analysis, but provides no specific citation as to what parts of the voluminous Knaebel Declaration provide additional facts and evidence, and no explanation as to how this testimony would change the Office’s previous consideration of the *Deane* reference. *See* Petition at page 20. Further, while the Knaebel Declaration provides some colorful background explanation across its roughly 250 pages, it fails to provide meaningful additional explanation as to how *Deane* meets the claims. For example, in discussing how *Deane* allegedly meets the relevant non-contact limitations, the Knaebel Declaration merely parrots language similar to the Petition. *See* Ex. 1003 at 162-167. Thus, the Petition has not provided any meaningful additional evidence, and *Becton, Dickenson* factors (c), (e), and (f) all indicate that the Petition has failed to establish the Office erred in a manner material to the patentability of the Challenged Claims.

3. Petitioner's Cited Decisions are Inapposite

Petitioner advances the decisions of *Asetek Danmark A/S v. Coolit Systems, Inc.*, IPR2019-00705, Paper 19 (PTAB Sept. 6, 2019), *Apple Inc. v. MPH Technologies OY*, IPR2019-00820, Paper 10 (PTAB Oct. 7, 2019), and *Microsoft Corp. v. IPA Technologies, Inc.*, IPR2019-00814, Paper 12 (PTAB Nov. 6, 2019) as examples where the Board granted institution despite the prior art overlapping with references cited during examination. However, the facts presented in these decisions are very different from the present facts.

In *Asetek*, the Examiner only cited the petition's base reference "in a very limited fashion" to teach a limitation of a dependent claim and "did not otherwise analyze or apply" that reference during prosecution. *Asetek*, Paper 19 at 9. This is similar to the *Apple* decision, where the base reference advanced in the IPR was only "considered and applied during examination in a limited, narrow manner" and "only as a secondary reference." *Apple*, Paper 10 at 12. Here, in stark contrast, the *Deane* disclosure was analyzed in the relevant prosecution history as a primary reference that the Examiner believed constituted the "closest prior art," and was applied by the Office in an almost identical manner to the Petition in relation to independent claims which the Petition asserts are "very similar to the Challenged Claims." Petition at page 8.

In *Microsoft*, the asserted base reference was discussed in prosecution, but a secondary reference necessary to fill a gap in the base reference “was not considered substantively by the examiner” nor was it “cumulative of art considered by the examiner.” *Microsoft*, Paper 12 at 17-19. There is no such secondary reference here to save Petitioner. The Petition relies on the secondary *Dubois* and *Berntson* references only as fallbacks to allegedly teach a carrying case and a more distinct cartridge. See Petition at page 26. The Petition does not advance any secondary reference to modify *Deane* to be any different than how Examiner Vasat interpreted *Deane* '426 in the parent '504 Application.

More on point here, the Board has consistently exercised its discretion to deny petitions for *inter partes* review that assert prior art which was at the forefront during examination of the parent application and other related applications. See *Johnson & Johnson Surgical Vision, Inc. v. Alcon, Inc.*, IPR2021-00899, Paper 16 at 2 (PTAB Nov. 9, 2021); *Microsoft Corp. v. IPA Technologies, Inc.*, IPR2019-00839, Paper 9 at 13-18 (PTAB Nov. 8, 2019); *Cultec, Inc. v. Stormtech, LLC*, IPR2017-00777, Paper 7 at 8-11, 13 (PTAB Aug. 22, 2017) (Informative). The Board should follow these decisions and exercise its discretion to reject Petitioner’s attempt to re-adjudicate the *Deane* disclosure.

VII. CONCLUSION

Patent Owner respectfully requests that institution be denied.

Respectfully Submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(b)(1), the undersigned hereby certifies that the foregoing document contains 9,277 words, excluding a table of contents, a table of authorities, mandatory notices under 37 C.F.R. § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing, as measured by the word-processing system used to prepare this paper.

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing document was served electronically via email on April 11, 2023 in its entirety on the following:

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