

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PERMIAN GLOBAL INC., AND
MANTICORE FUELS, LLC
Petitioners,

v.

FUEL AUTOMATION STATION, LLC,
Patent Owner.

Case IPR2023-01236

Patent No. 10,815,118

PATENT OWNER FUEL AUTOMATION STATION'S
PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. §42.107

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TABLE OF EXHIBITS

Exhibit	Description
FAS2001	Dictionary definitions
FAS2002	WO 2007/087849 with translation
FAS2003	U.S. 2,769,572
FAS2004	Parent Application 15/290,304 File History
FAS2005	GB 2485832
FAS2006	Sister Application 15/673,730 File History
FAS2007	U.S. 3,826,275
FAS2008	Jayanti, "Bends Flow and Pressure Drop"
FAS2009	Keulegan et. al., "Pressure Losses For Fluid Flow In Curved Pipes"
FAS2010	Haile Parent Application

I. INTRODUCTION

Any case for invalidity must be made, in the first instance, in the Petition. If the Petition does not show a reasonable likelihood that the Petitioner would prevail as to at least one of the challenged claims, institution should be denied. As will be shown herein, the Petition fails to show a reasonable likelihood of success on at least one claim.

Initially, Petitioner's grounds fail under *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). The PTAB has discretion to deny a petition where the same or substantially the same prior art or arguments were previously presented to the Office. The two-part framework under *Advanced Bionics* considers whether the same or substantially the same prior art or arguments previously were presented to the Office. If either condition is satisfied, the PTAB then assesses whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims. *Advanced Bionics* at 8-9. Petitioner fails to demonstrate that the relied upon prior art of Van Vliet, Coxreels, and Shoap pass muster under *Advanced Bionics*. For this reason alone, the PTAB should deny institution.

Next, although the burden is on Petitioner to meaningfully address the scope and content of the prior art, as well as any differences between the claimed subject matter and the prior art, Petitioner has failed in numerous instances to meet this

burden. *Google Inc. v. EveryMD.com LLC*, IPR2014-00347, Paper 9, slip op. at 23–25 (May 22, 2014). For instance, Petitioner alleges that the independent claims of the '118 Patent recite features that are found in Van Vliet, but Petitioner then fails to sufficiently explain how those features are found in Van Vliet. Additionally, Petitioner altogether neglects to substantively address one of its grounds of obviousness over Van Vliet alone.

Petitioner further fails to support its contentions that there is motivation to combine Van Vliet and Coxreels. Moreover, Petitioner has overlooked aspects that would discourage a POSITA from making the combination.

Lastly, Petitioner offers no claim constructions, perhaps hoping to avoid locking itself into any particular constructions so that it can maintain flexibility later on to discreetly shift positions after assessing Patent Owner's positions. Indeed, Petitioner attempts to discreetly take a position on the claim term "a tube and a sleeve that circumscribes the tube" without offering a formal construction. Patent Owner provides a claim construction on this term, and having only the benefit of Patent Owner's construction, the Board should adopt that construction in evaluating Grounds 2 and 2A.

In view of at least the issues above, the Petition fails to show a reasonable likelihood of success on at least one claim, and the PTAB should therefore deny institution.

II. BACKGROUND

A. The '118 Patent

The application that became the '118 Patent is a continuation of Application 15/290,304, now U.S. Patent 10,087,065. The '118 Patent is directed to a distribution station, which may be used to deliver fuel to pumps or other equipment on a hydraulic fracturing wellsite for sustained operation. EX1001 at 7, col. 1, ll. 13-24.

Fig. 2 of the '118 Patent, copied below, shows an overview of a representative example of a distribution station 20. The distribution station 20 in the example is comprised of a mobile trailer 22 that may have wheels to permit movement from site to site. Ex. 1001 at 7, col. 2, ll. 11-18. Fuel (or other fluid) is provided to one or more pumps 30 from an external source. *Id.*, col. 2, ll. 25-27. The pumps 30 are connected via a line 32 with a high precision register 34 for metering fluid. *Id.*, col. 2, ll. 25-30. The line 32 is connected with one or more manifolds 38 arranged on opposed sides of the compartment 24 of the trailer 22. *Id.*, col. 2, ll. 39-49. Reels 42 are provided to extend or retract the hoses 40 externally to the equipment being refueled. *Id.* Each hose 40 is connected to a respective one of the reels 42 and a respective one of a plurality of control valves 44. *Id.*, col. 2, ll. 63 to col. 3, ll. 5. For example, a secondary line 46 leads from the manifold 38 to the reel 42, and the control valve 44 is in the secondary line 46 to selectively permit fuel flow from the manifold 38 to the reel 42 and the hose 40. *Id.* Integrated fuel cap sensors 50 are affixed to the

equipment (i.e., the fuel tank of the equipment). *Id.*, col. 3, ll. 6-18. Each hose 40 is connected to one of the fuel cap sensors 50, which measure the fuel level in the equipment. *Id.* The control valves 44, pump or pumps 30, sensors 36b, and register 34 are in communication with a controller 52 that is configured to operate the distribution station 20. *Id.*, col. 3, ll. 19-28. Each integrated fuel cap sensor 50 generates signals that are indicative of the fuel level in the fuel tank of the piece of equipment. *Id.*, col. 3, ll. 31-36. The signals are communicated to the controller 52. In response to a fuel level that falls below a lower threshold, the controller 52 opens the control valve 44 associated with the hose 40 to that fuel tank and activates the pump or pumps 30. *Id.*, col. 3, ll. 36-61. The pump or pumps 30 provide fuel flow into the manifolds 38 and through the open control valve 44 and reel 42 such that fuel is provided through the respective hose 40 and integrated fuel cap sensor 50 into the fuel tank. *Id.* The controller 52 also determines when the fuel level in the fuel tank reaches an upper threshold, which triggers the controller 52 to close the respective control valve 44 to cease fuel flow to the fuel tank. *Id.*, col. 3, ll. 62 to col. 4, ll. 9. Multiple control valves 44 may be open at one time, to provide fuel to multiple fuel tanks at one time. *Id.*, col. 4, ll. 10-21.

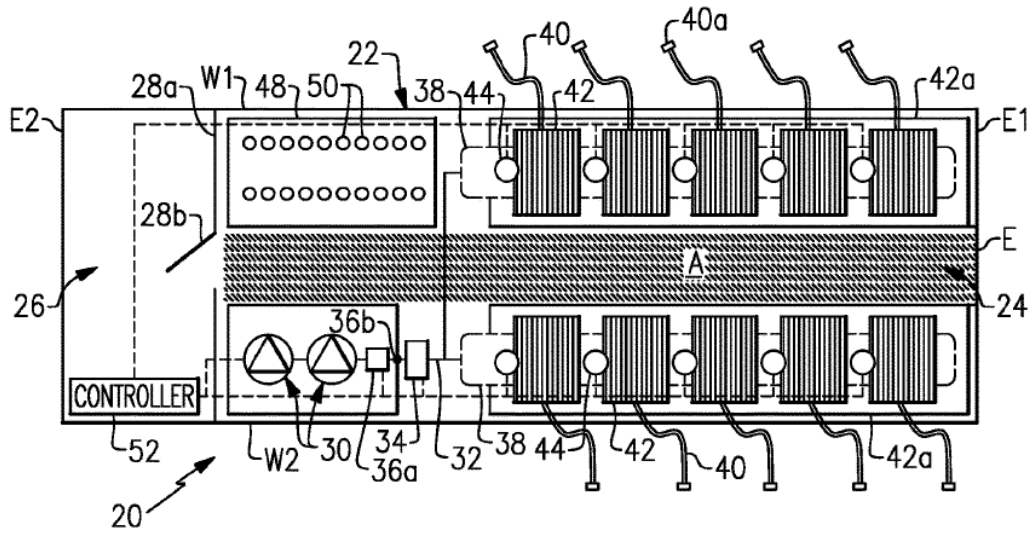


FIG. 2

III. LEGAL STANDARDS

Institution requires "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). In the first instance, this showing must be made *in the Petition*. See 35 U.S.C. § 312(a) ("A petition filed under section 311 may be considered only if . . . (3) *the petition* identifies, in writing and with particularity . . . the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim" (emphasis added)).

It is Petitioner who must specify "[h]ow the challenged claim is to be construed" and "[h]ow the construed claim is unpatentable," including "specify[ing] where each element of the claim is found in the prior art patents or printed

publications relied upon." 37 CFR § 42.104(b)(3)-(4). "[I]t is Petitioner's burden to establish, in the Petition, a reasonable likelihood of success, which includes, inter alia, explaining how a challenged claim is construed and how the prior art teaches that claim." *World Bottling Cap, LLC v. Crown Packaging Tech., Inc.*, Case IPR2015-00296, slip op. at 5 (PTAB May 27, 2015) (Paper 8).

Key requirements and burdens applicable to the Board's institution decision in an IPR were summarized by the Federal Circuit in *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356 (Fed. Cir. 2016): In an IPR, the Petitioner has the burden *from the onset* to show with particularity why the patent it challenges is unpatentable. *See* 35 U.S.C. § 312(a)(3) (requiring IPR *petitions* to identify 'with particularity ... the evidence that supports the grounds for the challenge to each claim.'). *Id.* at 1363 (emphasis added).

IV. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner set forth its definition of the level of ordinary skill in the art. Petition at 16-17. While Patent Owner does not necessarily agree with Petitioner's definition, the Petition should be denied for reasons not involving the level of ordinary skill. Accordingly, at this stage of the proceeding, Patent Owner does not dispute the level of ordinary skill in the art, but reserves the right to more clearly characterize a POSITA should the PTAB decide to institute review.

V. CLAIM CONSTRUCTION

The Board applies the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b) (2021). In applying that standard, claim terms generally are given their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

To the extent that construction of any term is not addressed below, Patent Owner reserves the right to further address claim construction issues should the PTAB decide to institute review.

Petitioner purports to apply the ordinary and customary meanings of the claim terms, though it does not formally provide any meanings and asserts that express constructions are not required. Petition at 22. However, Patent Owner believes that construction of the term or terms below may be necessary. Having only the benefit

of Patent Owner's constructions (because Petitioner did not propose any constructions), the Board should adopt Patent Owner's constructions below.

A. "a tube and a sleeve that circumscribes the tube"

Dependent claim 5 and each of independent claims 10[e] and 15[f] recite the phrase "a tube and a sleeve that circumscribes the tube." Claim 5 depends from claim 4, and claims 6-9 depend from claim 5 as an intervening claim, claims 11-14 depend from claim 10, and claims 16-18 depend from claim 15. The noted claim term thus touches twelve of the eighteen claims of the '118 Patent.

The '118 Patent provides no explicit definition of the claim term, nor does the prosecution history provide any insight on the claim term. Thus, an ordinary and customary meaning based on dictionary definitions is appropriate. Table 1 below shows the dictionary definition for each material portion of the phrase. See FAS2001. Based on the dictionary definitions and context discussed below, the term is understood to mean:

"a hollow cylinder that conveys fluid [tube] and a physically separate case [sleeve] that encircles [circumscribes] the tube."

Table 1: Claim constructions

Phrase	Definition	Source
"a tube"	a hollow cylinder, especially one that conveys fluid or functions as a passage	"Tube." The American Heritage Dictionary, 2011. FAS2001 at 5.
"a sleeve"	a case into which an object or device fits	"Sleeve." The American Heritage Dictionary, 2011. FAS2001 at 4.
"that circumscribes the tube"	to encircle	"Circumscribe." The American Heritage Dictionary, 2011. FAS2001 at 3.

The understood ordinary meaning is also supported by the disclosure of the '118 Patent. For example, the '118 Patent shows the connector port 50c (Fig. 6) to be round, which implies that the hose that connects to it is cylindrical [a hollow cylinder], and fluid is conveyed in the hose ("fuel is provided through the respective hose 40"). EX1001, col. 3, ll. 44. The sleeve 64 is "arranged around the tube 62" (*Id.*, col. 5, ll. 25; Fig. 6) [a case that encircles]. Therefore, the disclosure of the '118 Patent also supports the construction above.

Additionally, the claim language context requires that the sleeve be a physically separate structure from the tube. The sleeve circumscribes the tube, and unless the tube and the sleeve are separate structures, the word "circumscribes"

would be contextually nonsensical. In particular, if the tube and the sleeve were the same structure, the phrase "circumscribes the tube" would, in essence, require that the structure encircles itself, which is physically unreasonable. Accordingly, the claim phrase cannot have a reasonable physical meaning unless the tube and the sleeve are physically separate structures.

VI. INSTITUTION SHOULD BE DENIED UNDER *ADVANCED BIONICS*

Under 35 U.S.C. § 325(d), the PTAB has discretion to deny a petition where the same or substantially the same prior art or arguments were previously presented to the Office.

The PTAB applies a two-part framework to assess whether to exercise its discretion and deny a petition. First, the PTAB considers whether the same or substantially the same prior art or arguments previously were presented to the Office. If either condition is satisfied, the PTAB 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.

As discussed below, the factors weigh in favor of denying institution.

A. Petitioner's prior art is the same or substantially the same as prior art presented to the Office during prosecution.

1. Cited Prior Art

Petitioner relies on four prior art references, including Van Vliet (all Grounds 1, 1A, 2, 2A, and 3), Coxreels (Grounds 1A and 2A), Shoap (Grounds 2 and 3), and

Hosecraft (Ground 3). Petition at 3. Hosecraft is not relevant to this analysis, as Ground 3 relies on Ground 2.

2. Advanced Bionics Step 1: Van Vliet is the same prior art presented to the Office, and Coxreels and Shoap are cumulative of prior art considered during prosecution.

i. Van Vliet

As Petitioner acknowledges, Van Vliet was reviewed by the patent Examiner during prosecution of the '118 Patent. Petition at 7. Therefore, there is no disagreement that Van Vliet is the same prior art as was presented to the Office during prosecution.

Petitioner also asserts that the Office will additionally now have its expert's declaration, and that the report will bring new evidence to the Office's attention. Petition at 7. However, nowhere in the Petition does Petitioner identify any new evidence in particular that its expert brings to light.

Petitioner relies on Van Vliet as its primary reference, to provide a baseline system that Petitioner alleges to disclose all of the features of claim 1 of the '118 Patent. Petition at 5, 23.

ii. Coxreels

Although Coxreels was not presented to the Office during prosecution, it is cumulative to prior art presented during prosecution. Such an analysis does not require that the teachings be identical or entirely cumulative, only that they are

substantially the same. *Dropworks, Inc. v. The University of Chicago*, IPR2021-00100, Paper 9 at 13-14 (P.T.A.B. May 14, 2021).

The Examiner considered several prior art references that disclosed reels with flow paths in them. International Publication WO2007087849 to Amann (FAS2002, English translation and certification) was cited by Applicant in an IDS filed on 10/01/2018 and expressly considered by the Examiner. EX1008 at 83 ("ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH"). Despite presentation of Amann in the record of the '118 Patent, Petitioner fails to mention Amann or provide any analysis under *Advanced Bionics* as to how Coxreels is not cumulative over Amann. As shown below in a comparison of Amann's Fig. 1 to Coxreels relied on by Petitioner, Amann shows reels (unnumbered), with hoses 20 and a delivery line inlet 70 leading into the sides of the reels to provide liquid to the hoses. FAS2002 at p. 14. Amann's figure showing delivery line 70 leading into the side of the reel, along with Amann's disclosure that liquid is provided from the line 70 to the hose, signifies that there is a flow path through the reel. Accordingly, Amann discloses the same or substantially same features as Coxreels.

Petitioner also appears to mischaracterize the examiner's reasons for allowance of the '118 Patent to make it seem like absence of a reel in the prior art was the only reason for allowance. Petitioner asserts that Coxreels describes a hose reel having a flow path in the reel and that the Examiner found this not to be

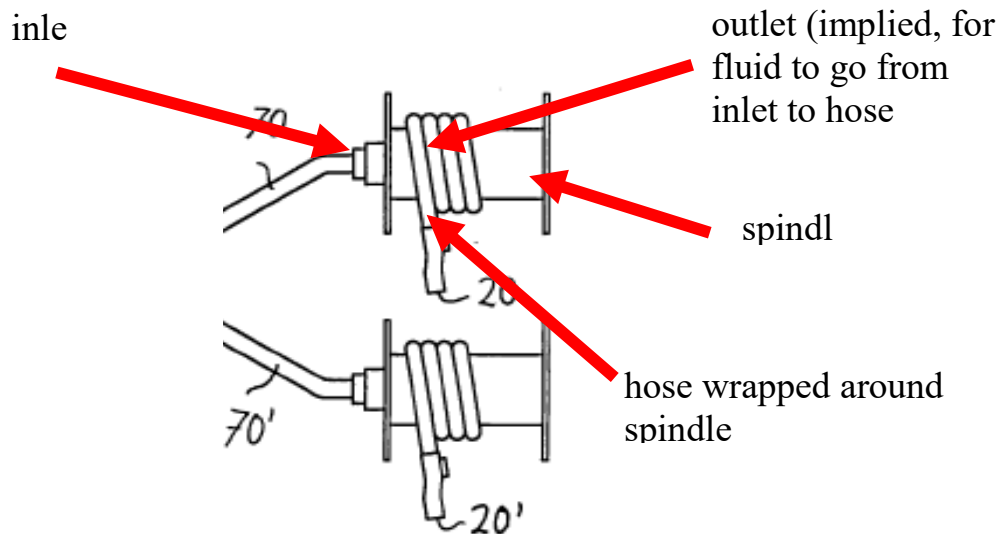
disclosed in the cited prior art during prosecution. See Petition 8-9, citing EX1008 at 23-24. The citation is to the file history of the '118 Patent, specifically to the Examiner's statement of reasons for allowance. The Petitioner's argument, however, paraphrases the Examiner's statement. In its paraphrasing, Petitioner focuses only on a hose reel having a flow path in the reel, thereby implying that the Examiner's conclusion was based solely on the absence of hose reels that have flow paths in the prior art. This contention, however, mischaracterizes the Examiner's actual statement, which does not suggest that there is no reel in the prior art at all, and does not suggest that this alone was the reason for allowance. Rather, the statement explicitly asserts that the cited documents "in combination" do not disclose the claimed invention as a whole or render the invention obvious. *Id.* In making this statement, the Examiner reiterated numerous elements of the claims, including

"a plurality of flow passages, each said flow passage being connected to the manifold and running through a respective one of the reels; a plurality of hoses, each said hose being connected with a respective one of the flow passages via a respective one of the reels; a plurality of valves on the mobile trailer, each said valve situated between the manifold and a respective different one of the reels and being operable to control fluid flow through a respective one of the flow passages." *Id.*

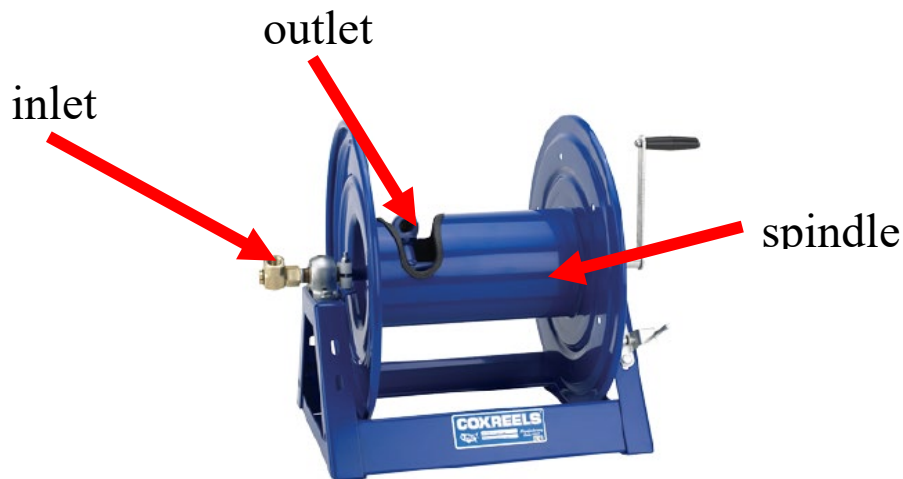
By listing these claim elements and stating that the prior art does not *in combination* disclose these, the Examiner made it clear that allowance was based on

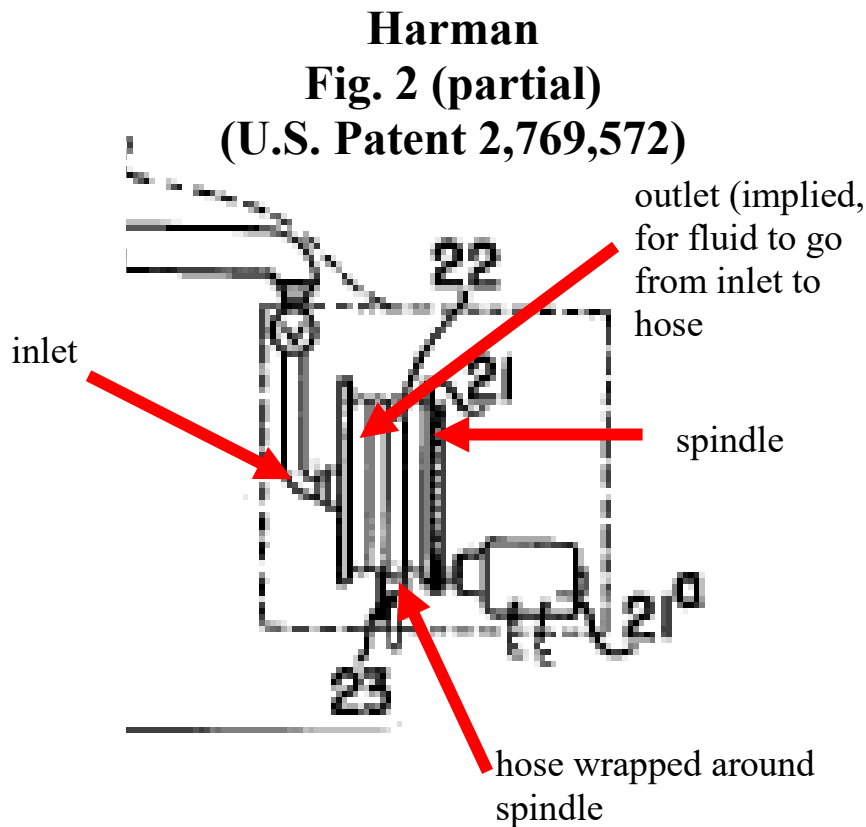
the claim elements together, not merely a lack of a reel with a flow path in the prior art as Petitioner seems to insinuate.

Amann
Fig. 1 (partial)
(WO2007087849)



Coxreels





U.S. Patent 2,769,572 to Harman (FAS2003) was cited by Applicant in an IDS filed on 10/01/2018 and expressly considered by the Examiner. EX1008 at 87 ("ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH"). Despite presentation of Harman in the record of the '118 Patent, Petitioner again fails to mention Harman or provide any analysis under *Advanced Bionics*. Fig. 2 (shown above) of Harman shows hose reels 21 that carry hoses 22, with pipe inlets 29 leading into the sides of the reels to provide fuel through nozzles 23 of the hoses. FAS2003 col. 3, ll. 31-38. Like Amann, the depiction of pipes leading into the sides

of reels to provide fuel to the nozzles of the hoses means that there is a flow path through the reel.

Coxreels, like Amann and Harman, shows a reel that has an inlet on the side, an outlet into a hose wrapped around the reel, and a flow path through the reel. EX1003 at ¶53. Thus, Amann and Harman each disclose the same or substantially the same features that Petitioner relies upon Coxreels to provide in its Grounds and that Petitioner contends were the basis of the Examiner's reasons for allowance.

Petitioner fails to mention Amann or Harman in its arguments under *Advanced Bionics*, despite acknowledging that Becton factors (a), (b), and (d) are relevant to this inquiry. Petition at 7-9. In fact, Becton favors a conclusion that Coxreels is the same or substantially the same prior art as presented to the Office during prosecution.

Becton factor (a) pertaining to the similarities and material differences between the asserted art and the prior art involved during examination favors Patent Owner. Petitioner asserts that Coxreels describes a hose reel having a flow path in the reel (Petition at 8-9, 16). Indeed, Petitioner relies on the reel of Coxreels for providing features of claim 1[e] of each flow passage "running through a respective one of the reels." Petition at 37. The disclosures of Amann and Harman are similar or the same as the disclosure of Coxreels. Like Coxreels, each of Amann and Harman have flow passages through reels. See discussion of Amann and Harman, *supra*.

Furthermore, Becton factor (b) regarding the cumulative nature of the asserted art and the prior art evaluated during examination also favors Patent Owner. Coxreels is cumulative to Amann and Harman. Coxreels thus teaches no more than what a reasonable Examiner would consider to be taught by Amann and Harman, nor do Petitioners identify any claim features in particular that are taught by Coxreels but that are not found in Amann or Harman. Becton factor (d) is at least neutral, as there were no explicit arguments made by the Examiner or Applicant insofar as flow passages through the reels are concerned.

For these reasons, Coxreels is the same or substantially the same prior art as presented to the Office during prosecution.

iii. Shoap

Petitioner asserts that the Examiner made no reference to Shoap, and that Shoap is not cumulative because its teachings go beyond the teachings of Van Vliet and other prior art of record. Petition at 8-9. However, despite this statement, Petitioner fails to explain how it is not cumulative to prior art in the record.

Griffiths was presented to the Office (EX1001 at 2) and considered by the Examiner. EX1008 at 92 ("ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH"). In fact, the same Examiner, Nicolas A. Arnett, that prosecuted the application that became the '118 Patent used Griffiths in an

obviousness rejection in the parent '304 Application¹, remarking that Griffiths discloses "the sensor communication line is routed in the hose between the tube and the sleeve (in the embodiment where the lines are routed in the walls of the hose; see page 24)." FAS2004 at pp. 578-579. Griffiths, like Shoap, discloses a wired hose. FAS2005 at p. 23. In particular, Griffiths describes (see Fig. 1 below) a fluid supply duct 2 in the form of an enclosed flexible hose having an outer peripheral wall 3. *Id.* A data communication cable 10 [wire] is disposed within the bore 4 of the fluid supply duct 2 and includes data communication elements 11 which are connected to terminals 12 in the data coupling portion 9. *Id.* In the depicted embodiments of Griffiths, the data cable 10 is within the bore 4. However, Griffiths explicitly discloses that the data cables "may alternatively be disposed on the outside of the fluid supply pipes (as shown in the embodiments in Figures 13 and 14), or alternatively, may be embedded within the walls of the fluid supply pipes." *Id.* at p. 40. As the Examiner recognized in prosecution of the parent '304 Application, if embedded, the cable 10 would be between the outer periphery of the wall 3 of the duct 2 and the inner surface at the bore 4, just like in Shoap. Griffiths further discloses that the hose could be wound on a tensioned reel ("auto-recoils back onto the tensioned reel"). *Id.* at p. 18.

¹ The '118 Patent is a continuation of Application No. 15/290,304, filed on October 11, 2016, now U.S. 10,087,065. EX1001, cover page.

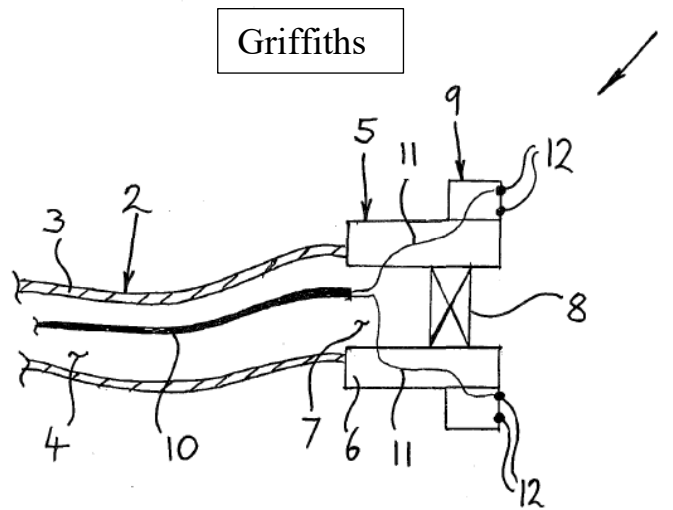


FIGURE 1

Petitioner relies on Shoap for the same or similar features as Griffiths discloses. Petitioner asserts that Shoap discloses a conduit with a communication wire, and a hose including an inner conduit surface and an outer conduit surface (Petition at 20-21), the use of a wired hose storable on a reel (Petition at 43), a hose having a communication line routed between a hose tube inner conduit surface and sleeve outer conduit surface (Petition at 47), and storing the wired hose on (i.e., wound around) a storage reel (Petition at 49). As discussed above, Griffiths already discloses these features.

Petitioner has failed to explain how Shoap is not cumulative to Griffiths, which was presented to the Office. An examiner is charged with applying the best references to the pending claims and to cite as particularly as possible. *See* 37 C.F.R.

§ 1.104(c)(2) (stating, for example, that "the Examiner must cite the best references at his or her command"). The Examiner explicitly considered Griffiths in the prosecution of the '118 Patent, creating a strong inference that he would have cited it, if appropriate. There is no doubt that, because the Examiner had used Griffiths in a rejection in the parent '304 application, he was aware of and familiar with the disclosure of Griffiths such that his indication that he considered it in the file history of the '118 Patent creates the inference that he would also have used it in a rejection in the prosecution of the '118 Patent if it had been appropriate. Accordingly, Petitioner has failed its burden of demonstrating that Shoap is not cumulative to art already cited and considered by the Office.

3. Advanced Bionics Step 2: Petitioner has not demonstrated that the Office erred in a manner material to the patentability of the challenged claims.

i. Van Vliet

Petitioner makes no explicit argument that that the Office erred with regard to Van Vliet in a manner material to patentability. Instead, Petitioner offers reasons it disagrees with the Examiner's treatment of Van Vliet. However, Petitioner's difference of opinion does not mean that the Office made an error.

The first reason that Petitioner disagrees with the Examiner's treatment of Van Vliet is that it is not clear to Petitioner that the Examiner substantively considered Van Vliet relative to the '118 Patent's claims because the Examiner never cited any

specific paragraph or figure of Van Vliet at any time during prosecution. Petition at 10. This assertion, however, does not support Petitioner's conclusion that the Examiner did not substantively consider Van Vliet. Indeed, by Petitioner's same implicit reasoning, the Examiner not citing any specific paragraph of Van Vliet also suggests that the Examiner considered Van Vliet but determined it did not affect patentability and thus had no reason to cite to it. In fact, the later inference finds support in Patent Office examination procedures to apply the best references to the pending claims and to cite as particularly as possible. *See* 37 C.F.R. § 1.104(c)(2). To this point, the Examiner explicitly indicates in the file history that he considered Van Vliet. *See* EX1008 at 90 (bottom of page stating in all caps "ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH").

Additionally, the same Examiner, Nicolas A. Arnett, considered Van Vliet in the parent '304 Application, considered Van Vliet in sister Application 15/673,730 that was also a continuation of the '304 Application, and applied Van Vliet in a substantive rejection in the prosecution of the '304 Application and the '730 Application. FAS2004 at 578; FAS2006 at 574. For instance, in the parent '304 application, Examiner Arnett issued an obviousness rejection over Van Vliet in view of Griffiths. In the rejection he acknowledged that Van Vliet did not disclose communication lines routed with the hoses, and he then relied on Griffiths for that feature. FAS2004 at pp. 578-579. Applicant then recited the feature "each said

sensor communication line being routed through a respective different one of the reels" in one of its independent claims and recited "the fuel level sensors are hard-wired through the reels to the controller" in another independent claim. *Id.* at p. 572. Examiner Arnett then allowed the claims. *Id.* at p. 7. Examiner Arnett thus recognized in prosecution of the parent '304 application that he could not modify Van Vliet with wires through the reels. In a similar way, Examiner Arnett may well have recognized in prosecution of the '118 Patent that, like the wires in the parent '304 application, he could not route the fuel through the reels either, likely because he did not interpret Van Vliet's hoses to be connected to flow passages through the reels. There is no doubt that Examiner Arnett was aware of and familiar with the disclosure of Van Vliet such that his indication that he considered it in the file history of the '118 Patent creates the inference that he would also have used it in a rejection in the prosecution of the '118 Patent if he thought it would have been appropriate, as he had in the parent and sister applications.

Second, Petitioner asserts that even if Examiner Arnett considered Van Vliet, its disclosure of a flow passage "running through a respective one of the reels" may not have been immediately apparent from Van Vliet's figures since it is made clear in the text as a further refinement of the arrangement depicted. Petition at 11. Petitioner does not explain what in particular about Van Vliet would necessarily cause those features to be beyond apprehension by Examiner Arnett, especially

given that Examiner Arnett had previously considered Van Vliet in the parent and sister applications (see above), that examiners are in general highly capable of comprehending the prior art, and that there is an inference that examiners follow examination procedures. 37 C.F.R. § 1.104(c)(2). Aside from Petitioner's conjecture in that regard, Petitioner provides no factual support tending to show that Examiner Arnett actually failed to appreciate any aspect of Van Vliet. Again, there is no doubt that Examiner Arnett was familiar with Van Vliet's disclosure and that he would have made a rejection over Van Vliet if he thought it was appropriate, as he did in the parent and sister applications. As a result, it is apparent that Examiner Arnett just did not interpret Van Vliet in the same manner as Petitioner. This does not, however, mean that Examiner Arnett failed to consider Van Vliet or that he made an error.

Petitioner's failure to demonstrate that Examiner Arnett erred with regard to Van Vliet is fatal to Ground 1. Ground 1 asserts that claims 1-3 are anticipated by or obvious over Van Vliet alone. Petition at 5. However, Van Vliet is the same prior art as presented to the Office during prosecution and, other than its mere disagreement with the treatment of Van Vliet, Petitioner has not demonstrated any cognizable error in a manner material to patentability. Ground 1 is thus defeated under *Advanced Bionics*.

Additionally, to the extent that Petitioner relies on Van Vliet in the same manner as the primary base reference in Grounds 1A, 2, 2A, and 3 as it did for Grounds 1, those grounds are also defeated.

ii. Coxreels and Shoap

Petitioner contends that even if *Advanced Bionics* Step 1 was satisfied, the Office erred under Step 2 in failing to consider Coxreels and Shoap. Petition at 9. However, as discussed below, none of Petitioner's reasons demonstrate that the Office erred.

Petitioner's contention that a reasonable Examiner would have considered Coxreels and Shoap because they teach elements of the '118 Patent that materially affect patentability is to no avail in supporting Petitioner's argument. Petitioner relies on *Oticon Med.*, IPR2019-00975, Paper 15 at 18–20 for the proposition that there is error where the secondary reference was not considered by an examiner, and a reasonable examiner would have considered the reference. Petition at 9-10. *Oticon*, however, is distinguishable from the present facts at hand. In *Oticon*, the Board made detailed findings on the teachings of the challenged reference (Choi) in comparison to teachings before the examiner and problems in the art before concluding that Choi was noncumulative. *Oticon* at 18-19. In contrast, despite Petitioner's burden to show error (*Juniper Networks, Inc. v. Mobile Telecomms. Techs., LLC*, IPR2017-00642, Paper 31 at 10–11 n. 6 (PTAB Mar. 14, 2018)), Petitioner fails to provide any

meaningful analysis of the relevant teachings of Coxreels and Shoap in comparison to the prior art before the Examiner. As a result, Petitioner has done no more than attempt to apply *Oticon* as a *per se* rule without any analysis of the facts at hand and the prior art of record. For this reason alone, Petitioner has not demonstrated that the Office erred with regard to Coxreels and Shoap. In fact, as explained above in section VI.A(2)(ii) and VI.A(2)(iii), Coxreels is the same or similar to each of Amann and Harman, and Shoap is the same or similar to Griffiths.

For the reasons above, the Petition should be denied as to Grounds 1, 1A, 2, and 2A because Van Vliet is the same prior art presented to the Office, Coxreels and Shoap are cumulative of prior art considered by the Examiner during prosecution, and Petitioner has failed to demonstrate any error by the Office.

VII. PETITIONER FAILS TO ESTABLISH A REASONABLE LIKELIHOOD OF PROVING UNPATENTABILITY OF ANY CHALLENGED CLAIM

As discussed above, institution should be denied based on *Advanced Bionics*. For the additional reasons discussed below, Grounds 1, 1A, 2, 2A, and 3 do not support institution.

The table below shows the grounds that Petitioner asserts against each of independent claims 1, 10, and 15. As the grounds asserted against the dependent claims rely on the same prior art as asserted against the independent base claims, and the additional prior art cited against the dependent claims does not cure the

deficiencies, the Petition (and thus institution) stands or falls with the grounds asserted against claims 1, 10, and 15.

Claim	Asserted Ground: Prior Art
Independent claim 1	Ground 1: §103 Van Vliet alone Ground 1A: §103 Van Vliet + Coxreels
Independent claim 10	Ground 2: §102/103 Van Vliet + Shoap
Independent claim 15	Ground 2: §102/103 Van Vliet + Shoap Ground 2A: §102/103 Van Vliet + Coxreels + Shoap

A. Petitioner fails to identify the claim features 1[e] and 1[f] in Van Vliet under Ground 1.

Claim feature 1[e] recites "a plurality of flow passages, each said flow passage being connected to the manifold and running through a respective one of the reels." Patent Owner does not dispute that, in general, Van Vliet has flow passages. Rather, Petitioner does not identify where or how Van Vliet definitively discloses that there are flow passages "running through a respective one of the reels."

Petitioner first points to an annotated Fig. 1 of Van Vliet to assert that a single fluid stream is shown, as well as a flow chart apparently created by its expert that shows flow from outlet 22, to reel 30, and then to hose 24. Petition at 28. Neither the annotated figure or the flow chart provide factual evidence of flow passages "running through a respective one of the reels." In particular, the assertion of the annotated

figure and the flow chart are self-serving and amount to a circular argument that presupposes the very fact it asserts to prove – that the fluid stream runs through the reel. For example, Petitioner starts with the proposition that Van Vliet's Fig. 1 shows a single fluid stream, and then from that concludes that a POSITA would have understood fluid flow as in the flow chart. *Id.* The conclusion, however, is based on false logic, because it relies on the very thing that it seeks to prove, i.e. that there is a single flow stream through the reel. Neither Petitioner nor its expert provide any factual evidentiary basis from Van Viet that tends to support the assertion of a single flow stream or the flow chart. Petitioner's assertions thus amount to unsupported allegations that do not prove the presence of claim feature 1[e] in Van Vliet.

Petitioner's expert also observes that reel 30 is shown in series in the fluid stream of Van Vliet, in between outlet 22 and hose 24. EX1003, §118. However, the Petition does not mention this observation, and neither Petitioner nor its expert explain the significance or how a POSITA would understand this to be dispositive of a single flow stream given that Van Vliet does not describe those features.

Additionally, Petitioner's expert holds out seemingly contradictory views. In one instance he relies on Van Vliet's figures to allege that the fluid stream goes through the reels. Yet, he simultaneously concedes elsewhere in his report that Van Vliet's figures are schematic, and that "[a] schematic in this context is a high-level representation and is not intended to depict the physical appearance or form."

EX1003, ¶112, footnote 146 citing EX1022 (the definition of schematic as "represented in simplified or symbolic form"). That is, despite the acknowledged simplified or symbolic form of Van Vliet's figures, and the absence of physical appearance or form in the figures, Petitioner's expert appears to rely on physical appearance or form to conclude that the figures somehow show that the reels are fluidly connected to the hoses and manifolds. EX1003, §117.

It is further noted that Petitioner's argument on claim feature 1[e] also improperly sidesteps a proper anticipation analysis. A claim is anticipated only if each and every element as set forth in the claim is found, either *expressly or inherently* described, in a single prior art reference (MPEP 2131). Petitioner makes no argument that the feature is express, but rather relies on what Fig. 1 of Van Vliet *implies*. By asserting that the claim feature is implied, Petitioner tacitly acknowledges that the claim feature is not express, which further implies that Petitioner must be asserting that the feature is inherent. MPEP 2112 outlines the standard for inherency. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Rather, in relying upon the theory of inherency, there must be a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

Ex parte Levy, 17 USPQ2d1461, 1464 (Bd. Pat. App. & Inter. 1990). Petitioner has not conducted an inherency analysis, and Petitioner has not, therefore, established that Van Vliet inherently has claim feature 1[e].

To the contrary, it is quite possible to have a reel in which there is no fluid passage running through the reel. For example, U.S. Patent No. 3,826,275 (FAS2007) discloses a hose reel that is for storage and transport of a hose but does not fluidly connect to the reel for throughput of a fluid. Rather, the hose is mechanically secured to the reel by inserting the end of the hose through a slot in the reel hub (*Id.* col. 4, ll. 12-26 "Hose end E of hose H, see FIG. 5, is next inserted through slot 31 in the manner indicated"). In that manner the hose can be wound or unwound from the reel to store and transport the hose from place to place. This non-connecting type of reel is clearly the type of reel suggested in Van Vliet. For instance, Van Vliet explicitly states that the hoses are preferably *stored* on reels 30 (col. 2, ll. 58), without mention of the hoses being fluidly connected to the reels, or even that the hoses are on the reels during use. In fact, Van Vliet further states that the hoses are "connected to a fuel outlet 22 by a dry connection 60 and to a cap 26 by a dry connection 62 (col. 5, ll. 9-11), i.e., not the reels. As shown in Van Vliet's Figs. 1 and 2, neither dry connection 60 or 62 is on the reels 30. EX1004 at 2-3. Thus, the hoses could certainly operate properly by storing them on the reels and then, when desired for use, be unwound from storage on the reels and connected to

the dry connects 60/62 for operation. In this regard, since the hoses are to be stored on the reels and then connected to fuel outlet 22 by a dry connection 60, a POSITA would be likely to understand that that the reels should be near the dry connections 60, which is what Van Vliet Fig. 1 shows.

Van Vliet does not require or even suggest that the hoses are on the reels during operation or that the hoses must be on the reels to operate properly. Thus, a fluid passage running through a reel is not inherent in Van Vliet because other types of reels exist that do not have fluid passages through the reel and the storage function of such reels align with the storage function described in Van Vliet.

Petitioner further contends that Van Vliet's disclosure that the hose reels 30 may leak fluid confirms that the reels include flow passages. Petition at 29. Leaking fluid, however, does not necessitate a fluid passage running through the reels, nor does Petitioner explain how such leaking inherently requires that. For the pan in Van Vliet to catch leaking fluid it is not necessary for the hoses to be connected to the reels. All that would be required is that there is fluid and that the pan is positioned below in order to catch the fluid, regardless of the source of the fluid. If the hoses are merely stored on the reels after use without connection to the reels, it is plausible that fluid that remains in the hoses could leak onto the reels and then from the reels to the pan, or that the fluid could leak from other locations in the system that are near the reels, such as valves 28 or 58 or dry connection 60 shown in Fig. 1 of Van Vliet.

EX1004 at 2. Indeed, Van Vliet explicitly discloses that the hoses are *stored* on the reels (*Id.* at 9, [0027]) and that the hoses are connected to the fuel outlet 22 by dry connection 60 (*Id.* at 8, [0022]). Van Vliet thus does not disclose, either explicitly or inherently, that the hoses are fluidly connected to the reels.

Petitioner relies on the same or substantially same arguments for claim feature 1[f] (Petition at 30), and Petitioner thus fails to identify the claim feature 1[f] for the same reasons as above. Additionally, Petitioner relies on flow passages "discussed in Section VI, *supra*." *Id.* Notably, Section VI contains multiple sub-sections, none of which Petitioner specifically refers to, nor do any of the sub-sections appear to discuss flow passages. For this additional reason, Petitioner's allegation that Van Vliet discloses claim features 1[f] is entirely lacking support.

Accordingly, for the reasons above, Ground 1 does not support institution. Ground 2 as to dependent claims 4-9 relies on Ground 1 as applied to independent base claim 1 and does not support institution for the same reasons.²

B. Petitioner fails to argue obviousness under Ground 1.

A claim is unpatentable under §103(a) if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a

² The Petition does not explicitly identify that Ground 2 as to claims 4-9 relies on Ground 1 as applied to independent base claim 1. However, since the combination of Van Vliet and Shoap (Ground 2) is not asserted against claim 1, the only possible basis in the Petition against independent base claim 1 (as it pertains to Ground 2) is Ground 1 (Van Vliet alone).

whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–8 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

In the heading of Ground 1 Petitioner asserts that, if not anticipated, claims 1-3 are rendered obvious by Van Vliet. Petitioner then proceeds to list the elements of claim 1 in sections VIII.A(1) through VIII.A(12) that it alleges are found in Van Vliet. Petitioner at 23-35. However, Petitioner makes no arguments in any of those sections that any particular elements of claims 1-3 are obvious over Van Vliet. Nor does Petitioner conduct any of the fundamental factual inquiries underlying an obviousness analysis, such as identifying any particular differences between Van

Vliet and the claims at issue. Petitioner has, therefore, failed to support its assertion of obviousness under Ground 1.

Accordingly, Ground 1 (obviousness) does not support institution. Ground 2 as to dependent claims 4-9 relies on Ground 1 as applied to independent base claim 1 and does not support institution for the same reasons. See also footnote 2 above.

C. There is no motivation to combine Van Vliet and Coxreels.

1. Petitioner does not support its assertions of motivation.

Grounds 1A and 2A rely on a proposed combination of Van Vliet and Coxreels. In support, Petitioner purports to provide a rationale and motivation for combining these references. Petition at 35-37. Ground 2A relies on the same motivation as given in support of Ground 1A. Petition at 63, stating "The motivation to combine Van Vliet and Coxreels are the same as those described in Section VIII.B.1 above." As discussed below, however, Petitioner offers no more than conclusory statements, without a factually supported motivation for the proposed combination.

Petitioner first suggests that a POSITA would have been motivated because Van Vliet and Coxreels are analogous art. Petition at 35-36. A mere allegation of analogous art is not sufficient to demonstrate obviousness. The fact that references may be analogous to a claimed invention or even share the same design incentives with each other and with the patent at hand does not establish that it would have been

obvious to combine their features. Petitioner must show some reason why a person of ordinary skill in the art would have thought to combine particular available elements of knowledge, as evidenced by the prior art, to reach the claimed invention. Conclusory labels do not substitute for a fact-based analysis in a Petition to establish what is being modified and why, based on the differences between the prior art and the claimed invention, it would have been obvious to a person of ordinary skill to make the modification. See *Shopkick, Inc. v. Novitaz, Inc.*, IPR2015-00279, Paper 7, slip op. at 26–30 (May 29, 2015). Beyond conclusory labels, Petitioner provides no meaningful explanation of a reason why mere analogous art would have prompted the proposed combination.

Moreover, Petitioner asserts that Coxreels was marketed in the "same industry" as Van Vliet's system. Petition at 36. However, although Coxreels mentions a number of industries, fuel or refueling is not one of them. As Van Vliet is explicitly directed to "fuel delivery systems and methods" (EX1004 at [0001]), Coxreels failure to mention fuel places it clearly outside of the "same industry" as Van Vliet. The only way that these references could be in the same industry is by hindsight over-generalization that broadly encompasses both references. Indeed, such an exercise is artificial and meaningless, as virtually any two things could be in the "same industry" if characterized broadly enough.

Petitioner next suggests as motivation that a POSITA designing a system of Van Vliet would have looked to commercially-available reel components like those described in *Coxreels*, among other reasons, as a cost-effective and readily-available option (*e.g.*, as compared to a custom-made reel) for that system. Petition at 35-36. However, Petitioner provides no underlying factual basis or citation for this proclamation, nor does Petitioner identify what the "other reasons" are. Insofar as Petitioner's expert makes the same or similar statement (EX1003 at ¶150), neither Petitioner nor its expert explain what in particular, if anything, beyond the mere existence of *Coxreels* would have prompted a POSITA to turn to and select the reel of *Coxreels*. Nor does Petitioner or its expert provide any factual basis to give color to its cost and availability assertions in comparison to other reels. This assertion of motivation is, therefore, insufficient to support Petitioner's combination.

Petitioner next asserts that a POSITA would have recognized the advantage of using *Coxreels*' reel in Van Vliet's mobile fuel delivery system to connect Van Vliet's hoses to *Coxreels*' reel flow passages. Petition at 36. Petitioner neglects to identify or explain, however, what "the advantage" is. Petitioner points to support in its expert's declaration (*Id.* citing to EX1003 at ¶150), but that paragraph also fails to identify or explain any particular advantage. The alleged "advantage" is thus irreconcilably ambiguous, and is thus most certainly insufficient to support Petitioner's combination.

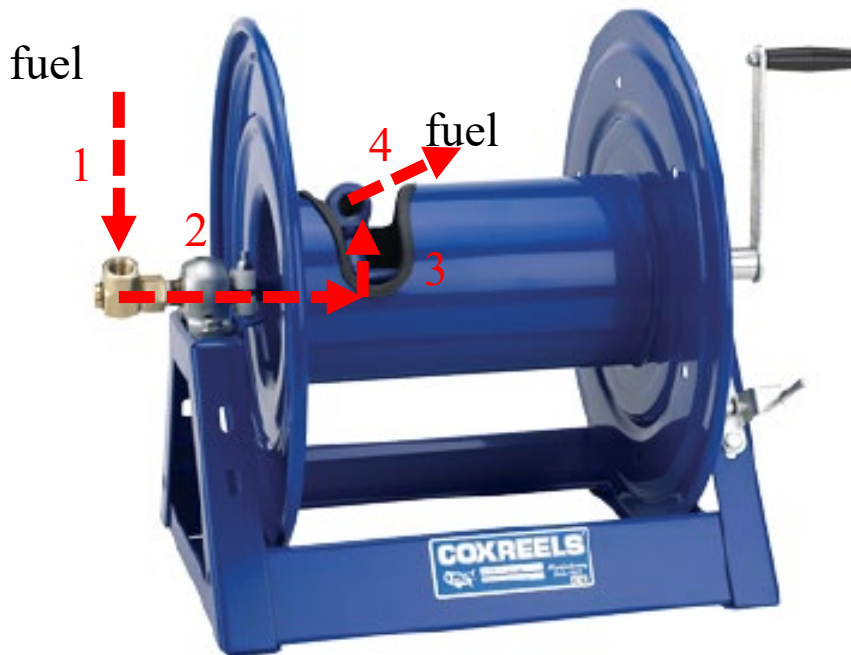
Petitioner fails to provide a factually supported motivation to combine Van Vliet and Coxreels. Indeed, it is Petitioner's responsibility to explain specific evidence in order to support its arguments, not the PTAB's responsibility to search the record and make Petitioner's arguments. *Dominion Dealer Solutions, LLC v. Autoalert, Inc.*, Case IPR2013-00225, slip op. at 4 (PTAB Oct. 10, 2013) (Paper 15).

Accordingly, the proposed combination of Van Vliet and Coxreels (Grounds 1A and 2A) does not support institution.

2. There is no suggestion to combine Van Vliet and Coxreels.

Contrary to Petitioner's contentions, it is unclear why a POSITA would modify Van Vliet with the reels of Coxreels. Routing flow of fuel in a fluid passage that runs through a reel as in Coxreels would require the fuel to flow along a tortuous path. For example, as shown by the annotation of Coxreels below, fuel would need to flow along direction 1 into the inlet (inlet see EX1003, ¶122), then turn and flow along direction 2 along the spindle, and then turn again along direction 3 from the spindle into the outlet riser (riser see EX1003, ¶123) before making another turn and flowing in direction 4 out of the outlet opening of the riser. It is well-known in mechanical engineering that features such as turns in pipes/flow passages cause a pressure drop in the fluid flowing through the pipe. See FAS2008 and FAS2009. Indeed, this basic principle is familiar to anyone who has used a garden hose and kinked the hose to reduce or stop water flow through the hose. As a result, a POSITA

would understand that the tortuous path through the reel of Coxreels would cause a pressure drop in fluid flowing through the reel and that because of this either i) a higher pumping pressure would be needed to overcome the pressure drop in order to obtain the same flow to the hose as without the reel or ii) there would be a lower flow of fuel to the hoses if the pressure drop was not overcome, which would result in longer times to fill the fuel tanks.



A POSITA would further understand from Van Vliet that high pressure in the system is a concern, due to safety considerations of handling fuel in an environment with extreme temperatures. EX1003, [0002]. For instance, Van Vliet teaches a pressure switch to stop power to the pump when pressure builds-up to a predetermined level and then allow power to the pump once the pressure drops off.

EX1004, [0021]. The pressure switch is thus, in effect, a safety measure intended to prevent or reduce the chance of dangerous over-pressure conditions in the system.

Given the pressure drop that would be caused by adding ten Coxreels-type reels in Van Vliet (one for each of the ten hoses) and the prospect of either having to use higher pumping pressure or having to settle for lower flow to the hoses, particularly when coupled with Van Vliet's concern for over-pressure in the system, a POSITA would not be motivated to modify Van Vliet to add the reels with a fluid passage as in Coxreels.

For this additional reason, the proposed combination of Van Vliet and Coxreels (Grounds 1A and 2A) does not support institution.

D. Shoap does not support institution.

1. A POSITA would not be motivated to modify Van Vliet with Shoap.

A POSITA would not be motivated to combine Van Vliet and Shoap. First, although Shoap has a number of different wires, Shoap is primarily concerned with power wires. For instance, in its Summary of the Invention section, Shoap discusses electric power sources and electric power wires coupled with conduit segments and electrically-powered pumps. EX1006, col. 2, ll. 50-60. Further, such power wires are used in context of "relay pumping" over long distances through multiple firetrucks. *Id.* at col. 1, ll. 43-47. Van Vliet, on the other hand, is not concerned with power wires, powering pumps through its hoses, or pumping over long distances

through multiple firetrucks. There would therefore be no need to add power wires, as Van Vliet does not disclose that any components are powered through its hoses, nor does Van Vliet provide any suggestion to do so.

Second, Van Vliet expresses a preference for wireless communication. For instance, Van Vliet states "[t]he sensor 54 preferably communicates with a control station 56 on the trailer 14 via a wireless communication channel" and "the fuel level sensor 54 preferably includes a wireless transceiver." EX1004, [0018]; see also [0020] "preferably wireless." Thus, given Van Vliet's preference for wireless, there would be no reason for a POSITA to instead complicate the design with a wired channel. Additionally, Petitioner has already proposed to complicate connection of the hose to the reel by adding the reel from Coxreels. A POSITA would understand that additionally incorporating a wire in the hose would further complicate the structure and movement of the hose, as well as being directly contrary to Van Vliet's preference for wireless.

Additionally, Petitioner's reliance on Haile to allegedly support its obviousness assertion is misplaced. Petitioner contends that it would have been obvious to a POSITA *around the time* the '118 Patent was filed that wired hoses could be used in fueling operations for hydraulic fracturing equipment. Petition at 44. However, there are several issues with this contention.

First, contrary to Petitioner's assertion, the relevant time (under AIA) is "before the effective filing date of the claimed invention," not around the time of filing. MPEP 2141.

Second, the features Petitioner relies upon do not predate the '118 Patent. In alleged support of its argument, Petitioner cites to Patent No. 10,882,732 to Haile (EX1029), and asserts that Haile describes use of a "wired hose 811" to supply fuel to a saddle tank of fracturing equipment being refueled and connect sensors on the tank's fuel cap to a controller. *Id.*, 8:59–9:26 and Figs. 17-18. What Petitioner does not mention, however, is that Haile is a national stage filing of PCT/US2017/029173, which is a *continuation-in-part* of application 15/135,761, filed on April 22, 2016. *Id.*, cover page. The parent '761 application does not disclose "wired hose 811" and does not include Figs. 17-18 that are in EX1029 and in the PCT application. FAS2010. In other words, the wired hose 811 and Figs. 17-18 of EX1029 were added to the continuation-in-part application. As a result, those features are not entitled to the priority date of the parent '761 application and, at best, get priority to the PCT filing date of April 24, 2017. As Petitioner acknowledges (Petition at 4), the '118 Patent has a priority date of October 11, 2016. EX1001, cover page. Accordingly, the '118 predates the wired hose 811 and Figs. 17-18 of Haile that Petitioner relies on, which thus do not represent the state of the art "before the effective filing date

of the claimed invention" of the '118 Patent. For this reason, Haile does not support Petitioner's assertion of obviousness.

2. Petitioner's prior art does not disclose or teach "a tube and a sleeve that circumscribes the tube."

Grounds 2 and 2A assert that the claim feature "a tube and a sleeve that circumscribes the tube" is obvious over van Vliet in view of Shoap. Petition at 47-50, 53, 61, 63, and 68. Again, having only the benefit of Patent Owner's claim construction (Petitioner did not propose a construction for "a tube and a sleeve that circumscribes the tube"), the Board should adopt Patent Owner's construction in evaluating Grounds 2 and 2A.

Under the proposed claim construction , the phrase "a tube and a sleeve that circumscribes the tube" is understood to mean " a hollow cylinder that conveys fluid [tube] and a physically separate case [sleeve] that encircles [circumscribes] the tube." See Claim Construction Section V.A.

Shoap does not disclose "a tube and a sleeve that circumscribes the tube." Petitioner argues that the inner conduit surface 110 of Shoap maps to the claimed tube, and that the outer conduit surface 140 maps to the claimed sleeve, though it is unclear how Petitioner could "map" any features without offering a claim construction or explaining how Shoap's features meet the claim features. Petition at 47-48. As Petitioner concedes, the alleged tube and sleeve are both part of the same structure, namely the conduit 100. Indeed, Fig. 1A of Shoap shows a single structure,

conduit 100, with inner 110 and outer 140 surfaces. EX1006 at 3; at 32-33 col. 5, ll. 1-3. While the conduit 100 conveys fluid, the alleged sleeve is not a physically separate case that encircles the hollow cylinder. Rather, as shown in Shoap's Fig. 1, the surfaces 110 and 140 are of the same structure, namely the conduit 100. Thus, according to the claim construction, Shoap does not teach the claim features of "a tube and a sleeve that circumscribes the tube" because there is no physically separate case [sleeve] that encircles [circumscribes] the hollow cylinder [tube].

Petitioner also posits that if the claim requires that the tube and the sleeve are physically separate structures, this feature would have been obvious. Petition at 48. Petitioner, however, fails to explain why. For instance, Petitioner summarily asserts that this feature is obvious because the structure "could be" formed using two thinner concentric conduits. Petitioner provides no support for this assertion, and the assertion thus amounts to a conclusory statement. More importantly, Petitioner does not provide any reason why a POSITA would be prompted to use a tube and a physically separate sleeve around the tube. In fact, contrary to Petitioner's proposed use of separate concentric conduits, Shoap teaches that conductors [wires]:

"are located between an outer boundary 185 and an inner boundary 180 of the wired fluid conduit 100. The wired fluid conduit 100 is constructed such that the fluid flowing through the wired fluid conduit 100 will cool the insulated electrical power conductors 160. The cooling allows the insulated electrical power conductors 160 to carry more current without thermally damaging the insulation."
EX1006, col. 5, ll. 21-26.

Thus, a POSITA would not be motivated to modify Shoap to have a physically separate tube and sleeve because Shoap desires to have the conductors in the boundary of the conduit, i.e., a single conduit, so that it can be cooled by fluid flowing through the conduit, and it is not at all clear that this could be achieved if the tube and sleeve are separate such that the wire would not be in the boundary of the tube.

Petitioner's expert further opines that "the use of protective sleeves to surround tubes was well known at the time of the '118 Patent" and that sleeves were commercially available (RhinoSleeve). EX1003 at ¶183. Neither Petitioner nor its expert explain how mere existence would motivate the combination, especially given Shoap's desire for a single conduit to enable cooling of the wires. Furthermore, any argument based on RhinoSleeve is inapposite anyways, as none of Petitioner's grounds assert RhinoSleeve as prior art against any claims. Petition at 5. These assertions are thus to no avail in demonstrating obviousness in the grounds that Petitioner does assert.

Lastly, in a desperate hedge on its other obviousness assertions, Petitioner speculates that the arrangement would "be merely an obvious matter of design choice." Petition at 49. To support a conclusion that a feature is an obvious matter of design choice, there must be a "convincing line of reasoning" as to why a POSITA

would have found the claimed feature to have been obvious. *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (BPAI 1985). Petitioner falls well short of meeting this burden.

First, Petitioner fails to make any statement of the law to guide its assertion of design choice, nor provide any analysis of the claim feature within that legal framework. Without any analysis under a legal framework, Petitioner's assertion of "design choice" amounts to no more than a throw of a dart in the dark. Indeed, even the citation to its expert's declaration that is offered in support fails to mention design choice or provide any analysis. EX1003 at ¶83.

Lastly, insofar as Petitioner relies on its expert in support of "design choice," that reliance is ineffective to rescue Petitioner's argument. In particular, there is no indication that Petitioner's expert, who does not profess to be a patent attorney (EX1003 at 1-6), was ever informed about any legal standards for "design choice," despite apparently having been informed about other areas of patent law (EX1003 at 10-16). Therefore, any conclusions of Petitioner's expert on "design choice" were clearly uninformed by the law. Indeed, as neither Petitioner nor its expert set forth any legal framework on "design choice" or provide any analysis thereunder, Petitioner's argument of design choice can be given no weight and is insufficient to demonstrate obviousness.

Accordingly, for all the reasons above, Grounds 2 and 2A do not support institution. Ground 3 as to dependent claims 12 and 13 relies on Ground 2 as applied to independent base claim 10 and does not support institution for the same reasons.³

VIII. CONCLUSION

As stated initially, any case for invalidity must be made, in the first instance, in the Petition, and if the Petition does not show a reasonable likelihood that the Petitioner would prevail as to at least one of the challenged claims, institution should be denied. As shown herein, the Petition fails to show a reasonable likelihood of success on at least one claim. Accordingly, Patent Owner respectfully requests that the PTAB deny the Petition.

Respectfully Submitted,

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Dated: November 29, 2023

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³ The Petition does not explicitly identify that Ground 3 relies on Ground 2 as applied to independent base claim 10. However, the only ground asserted against claim 10 is Ground 2, and it is thus assumed that Ground 3 must rely on Ground 2.

STATEMENT OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(b)(1), the undersigned hereby certifies that the foregoing document is produced using a 14-point Times New Roman font and contains 10,663 words (excluding a table of contents, table of authorities, certificate of service, and appendix of exhibits), which is fewer than the 14,000 words permitted by PTAB rules. Counsel relies on the word count of the computer program used to prepare the brief.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on November 29, 2023, a true and correct copy of the foregoing document was served electronically via e-mail in its entirety on counsel identified below by Petitioner for service at

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