

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

FUEL AUTOMATION STATION, LLC,  
Patent Owner.

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Case IPR2023-01237

Patent No. 9,586,805

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

## TABLE OF CONTENTS

I. INTRODUCTION .....	1
II. BACKGROUND .....	3
A. Fracking and Refueling .....	3
B. Overview of the '805 Patent .....	3
III. LEGAL STANDARDS .....	6
IV. LEVEL OF ORDINARY SKILL IN THE ART .....	8
V. CLAIM CONSTRUCTION .....	8
VI. INSTITUTION SHOULD BE DENIED UNDER <i>ADVANCED BIONICS</i> .....	9
A. With respect to Ground 2, Van Vliet is the same prior art presented to the Office during prosecution. ....	10
1. <i>Advanced Bionics</i> Step 1 .....	10
2. <i>Advanced Bionics</i> Step 2: Petitioner has not demonstrated that the Office erred in a manner material to the patentability of the challenged claims. ....	11
VII. PETITIONER FAILS TO ESTABLISH A REASONABLE LIKELIHOOD OF PROVING UNPATENTABILITY OF ANY CHALLENGED CLAIM ...	16
A. Ground 1: Petitioner does not sufficiently explain how "design choice" renders claim 1[h] obvious. ....	17
B. Ground 1: There is no reason to combine Van Vliet and Cable. ....	20
1. A POSITA would not look to Cable to modify Van Vliet.....	20
2. Petitioner does not account for Cable's hoses deploying from the rear of the truck. ....	25

3.	As to claims 7-10, a POSITA would not have understood Van Vliet and Cable to have "an inside wall that defines first and second compartments." .....	26
C.	Ground 5: There is no reason to combine Van Vliet and AFD.....	28
1.	Petitioner does not sufficiently explain how AFD discloses an aisle walkway down the middle of the mobile trailer.....	28
2.	It is not clear that AFD has hoses deployed form both sides.....	30
D.	Ground 2: Petitioner fails to explain how Van Vliet discloses or renders obvious claim 17[f] "a first group of the hoses are deployable from the first trailer side wall and a second group of the hoses are deployable from the second trailer side wall." .....	33
1.	Anticipation .....	33
2.	Obviousness.....	35
VIII.	CONCLUSION .....	37

## TABLE OF AUTHORITIES

<b>Cases</b>	<b>Page(s)</b>
<i>Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH</i> , IPR2019-01469 (PTAB Feb. 13, 2020).....	1, 9, 10, 16
<i>Becton, Dickinson and Co. v. B. Braun Melsungen AG</i> , IPR2017-01586 (PTAB Dec. 15, 2017) .....	9, 10
<i>DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.</i> , 469 F.3d 1005 (Fed. Cir. 2006) .....	8
<i>Ex Parte Clapp</i> , 227 U.S.P.Q. 972 (BPAI 1985) .....	17, 20
<i>Google Inc. v. EveryMD.com LLC</i> , IPR2014-00347 (May 22, 2014).....	1, 34
<i>Harmonic Inc. v. Avid Tech., Inc.</i> , 815 F.3d 1356 (Fed. Cir. 2016) .....	7
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) .....	8
<i>World Bottling Cap, LLC v. Crown Packaging Tech., Inc.</i> , Case IPR2015-00296 (PTAB May 27, 2015).....	7, 33
 <b>Rules</b>	 <b>Page(s)</b>
37 C.F.R. §1.104(c).....	15
37 CFR § 42.104(b) .....	7

<b>Other Authorities</b>	<b>Page(s)</b>
35 U.S.C. § 312(a) .....	7
35 U.S.C. § 314(a) .....	6
35 U.S.C. § 325(d) .....	9

## TABLE OF EXHIBITS

Exhibit	Description
FAS2001	U.S. 9,346,662
FAS2002	13/028,991 Assignment Record
FAS2003	Waterman, "Better Safe Than Sorry"

## 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.

Petitioner's primary prior art reference, Van Vliet, is the same prior art that was presented to the Office during prosecution. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). Petitioner relies on Van Vliet in every asserted ground of the Petition. The patent Examiner, however, explicitly rejected that the claims were anticipated by, or obvious over, Van Vliet. To compensate, Petitioner argues that the Office erred, but that argument is actually based on Petitioner's disagreement with the Examiner's treatment of Van Vliet and not any actual evident error by the Office. Indeed, if 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. *Id.*

Next, Petitioner does not meet its burden of fully explaining and supporting its grounds. *Google Inc. v. EveryMD.com LLC*, IPR2014-00347, Paper 9, slip op. at 23–25 (May 22, 2014). For instance, Petitioner alleges that certain features not

present in Van Vliet are obvious as a matter of design choice but Petitioner fails to sufficiently explain how - or for that matter even set forth a legal framework for its analysis.

Additionally, as to Petitioner's proposed combination of Van Vliet and Cable, there would be no reason to combine these references. For instance, Cable and Van Vliet include mostly different equipment and while Van Vliet addresses fuel, Cable handles six different fluids, none of which is fuel. Moreover, Petitioner does not account for Cable's hoses deploying from the rear of the truck in contrast to Van Vliet's hoses that deploy from the side.

Further, as to Petitioner's proposed combination of Van Vliet and AFD, there is no reason to combine these references. AFD does not disclose an aisle walkway down the middle as Petitioner contends and so the Petition suffers from an absence of proof as to AFD. Petitioner points only to circumstantial features in an AFD photo, which do not require or necessitate a middle aisle walkway. Nor do maintenance, safety, or access to shut-off valves prove that AFD must have a middle aisle walkway as Petitioner also suggests. Indeed, other prior art fuel delivery systems cited by Petitioner -- which would be subject to the same or similar concerns as relied upon by Petitioner -- demonstrate arrangements without a middle aisle walkway. Thus, maintenance, safety, and access do not mean that that a system *must*



be arranged to have a middle aisle walkway. Moreover, as the photo in AFD is cropped, it is not clear that AFD has hoses deployed from both sides.

As a result, none of Petitioner's Grounds 1-8 support institution.

## **II. BACKGROUND**

### **A. Fracking and Refueling**

Hydraulic fracturing, known as "fracking," was developed as far back as 1865. EX1019 at 1. Although originally conducted with gunpowder, modern fracking involves pumping water and sand into the ground to fracture rock formations. The cracks formed in the rock are held open by the sand so that natural gas can escape and flow into the well for collection. EX1016 at 4.

Pumps are generally operated 24/7 at the surface of the well to provide the water and sand. The pumps are continually refueled, i.e., "hot-refueling," to avoid shut-downs and thus enable continuous fracking operations. EX1001 at 22, col. 1, ll. 6-18. The area around the pumps is dangerous, as the pumps and other equipment run at high temperatures, produce high noise levels, and present hazards from fuel and vapors. EX1004 at 6, [0002]. Thus, fuel distribution stations are used to continuously and automatically refuel the pumps, without a need to have personnel in the hazardous zone at the pumps to connect hoses and check fuel tank fuel levels.

### **B. Overview of the '805 Patent**

The patent at issue here, the '805 Patent, is directed to a distribution station that is used to deliver fuel to pumps or other equipment on a fracking wellsite for

sustained operation. Ex. 1001 at 26, col. 9, ll. 56-58.

Fig. 2 of the '805 Patent, copied below, shows an overview of an example 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 23, col. 3, ll. 36-40. Fuel is provided to one or more pumps 30 from an external source. *Id.*, col. 3, ll. 62-64. The pumps 30 are connected via a line 32 with a high precision register 34 for metering fluid. *Id.*, col. 3, ll. 61-67. 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. 4, ll. 8-21. 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. 5, ll. 27-36. 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). Each hose 40 is connected to one of the fuel cap sensors 50, which measure the fuel level in the equipment. *Id.*, col. 5, ll. 37-47. 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. 5, ll. 50-55. 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. 5, ll. 60-67. The signals are communicated to the controller 52. *Id.* 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. 6, ll. 1-9. 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. 6, ll. 26-34. Multiple control valves 44 may be open at one time, to provide fuel to multiple fuel tanks at one time. *Id.*, col. 6, ll. 40-45.

An aisle walkway (A) runs down the middle of the trailer 22 between the support racks 42a that hold the reels 42. *Id.*, col. 4, ll. 41-51. Workers walk through the walkway to operate the station 20. *Id.* In that regard, there may be multiple workers who need space to pass by each other without bumping into each other or the equipment. The width of the walkway, as taught in the '805 Patent, relates to the performance of the station. *Id.*, col. 4, ll. 52-59. For instance, reels with small reel diameter take up less space and may permit a wider walkway, but smaller reels can only accommodate a relatively short length hose of a given hose diameter, which limits the distance that the hoses can be extended to reach the pumps. On the other

hand, reels with larger reel diameters take up more space and limit the size of the walkway, but larger reels can accommodate longer lengths of hoses of the given hose diameter that permit farther extension to reach the pumps. *Id.*, col. 4, ll. 60 to col. 5, ll. 6. There is thus a multi-faceted interplay between the performance of the station and the size and number of reels, arrangement of reels, and size/location of an aisle. The '805 Patent recognizes that a middle aisle walkway, with the reels arranged on the opposed sides of the trailer, provides good station performance in combination with good packaging and aisle size for worker movement. *Id.*, col. 5, ll. 7-26.

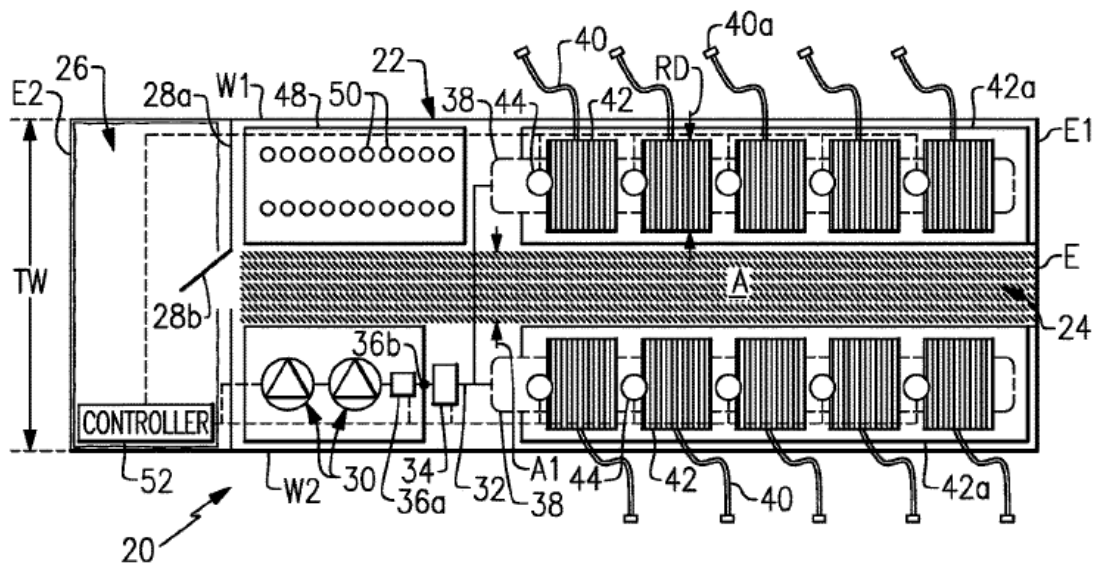


FIG.2

### 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 that do not rely on the level of ordinary skill in the art. 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 characterize a person of ordinary skill in the art ("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).

Petitioner asserts the ordinary and customary meanings of the claim terms and does not present any express constructions. Petition at 20.

No claim construction is necessary for the PTAB to deny institution. To the extent that construction of any term becomes necessary if the PTAB decides to institute review, Patent Owner reserves the right to further address claim construction issues.

## **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, these factors weigh in favor of denying institution.

**A. With respect to Ground 2, Van Vliet is the same prior art presented to the Office during prosecution.**

**1. *Advanced Bionics* Step 1**



As Petitioner acknowledges, Van Vliet was reviewed by the patent Examiner during prosecution of the '805 Patent. Petition at 8. Therefore, there is no disagreement that Step 1 is answered in the affirmative, as Van Vliet is the same prior art as was presented to the Office during prosecution.

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

Petitioner relies on Van Vliet as its primary reference in all grounds, to provide a baseline system. Petition at 5. Petitioner alleges in Ground 2 that Van Vliet alone discloses or renders obvious all of the features of claim 17 of the '805 Patent. Petition at 5, 47. The challenge of claim 17 under Ground 1 also relies on Van Vliet alone as applied in Ground 2. Petition at 46.

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

Petitioner offers reasons it disagrees with the Examiner's treatment of Van Vliet, but differences of opinion do not equate to Office error.

Petitioner disagrees with the Examiner's treatment of Van Vliet because it is not clear to Petitioner that the Examiner substantively considered Van Vliet relative to the '805 Patent's claims. In that regard, Petitioner asserts that the Examiner never

cited paragraph [0024] of Van Vliet during prosecution. Petition at 11. 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 has no reason to cite to it. In fact, the latter inference finds support in Patent Office examination procedures. 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"). To this point, the Examiner explicitly indicates in the file history of the '805 Patent that he considered Van Vliet Patent 9,346,662, which granted from the same application that was published as Van Vliet US2011/0197988 asserted by Petitioner (EX1004). See Ex. 1011 at 22 (bottom of page stating in all caps "ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH"). Moreover, in the reasons for allowance in the Notice of Allowance for the '805 patent, the Examiner specifically identified Van Vliet (US PGPub 2011/0197988) and stated that the claims were allowed

"because the prior art of record cannot anticipate Applicant's claimed invention by a single reference nor render Applicant's claimed invention obvious by the combination of more than one reference."

EX1011 at 15.

But the Examiner did not stop there. He further stated,

"For example US PGPub 2011/0197988 [Van Vliet] discloses a mobile fuel delivering system having a plurality of hoses connected to a plurality of manifolds, but **doesn't disclose reels arranged on opposed sides of the trailer or hoses deployable from first and second walls of the trailer.**"

*Id.* (emphasis provided)

Thus, the Examiner made it perfectly clear that he not only evaluated Van Vliet against patentability of the claims, but that he concluded that the claims were not anticipated or rendered obvious by Van Vliet. Petitioner's inference that the Examiner erred on Van Vliet is improbable and is plainly inconsistent with the Examiner's explicit statements to the contrary.

Even further, the Examiner, Jason K. Niesz, was not only aware of Van Vliet from prosecution of the '805 Patent, but he also had previously examined Van Vliet's patent application (annotated cover page of Van Vliet Patent 9,346,662 copied below). FAS2001. Given the inference under 37 C.F.R. § 1.104(c)(2) that Examiner Niesz performed his duties of considering the prior art, the explicit indication on the IDS that Examiner Niesz considered Van Vliet, the explicit statements in Examiner Niesz's reasons for allowance, and the fact that Examiner Niesz examined Van Vliet's patent application, there is zero doubt that Examiner Niesz was thoroughly familiar with Van Vliet and fully comprehended its disclosure. Simply, the Office made no error in issuing the '805 Patent over Van Vliet, nor can any error be inferred from the above circumstances.

(12) <b>United States Patent</b> <b>Van Vliet et al.</b>		(10) <b>Patent No.:</b> <b>US 9,346,662 B2</b>
		(45) <b>Date of Patent:</b> <b>May 24, 2016</b>
(54) <b>FUEL DELIVERY SYSTEM AND METHOD</b>		3,028,010 A 4/1962 Headrick
		3,547,141 A 12/1970 Claude
(75) Inventors: <b>J. Todd Van Vliet</b> , Edmonton (CA); <b>Scott M. Van Vliet</b> , Okotoks (CA); <b>Glen M. Brotzel</b> , Sherwood Park (CA)		3,618,643 A 11/1971 Thomson et al.
		4,059,134 A * 11/1977 Violette ..... 141/59
		4,139,019 A 2/1979 Bresie et al.
		4,591,115 A 5/1986 De Carlo
(73) Assignee: <b>Frac Shack Inc.</b> , Edmonton (CA)		4,638,842 A 1/1987 Hawley et al.
		4,671,329 A 6/1987 Kovacevich, Jr.
		4,770,317 A 9/1988 Podgers et al.
( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1251 days.		5,295,521 A * 3/1994 Bedi ..... 141/59
		5,388,622 A 2/1995 Phillips
		(Continued)
(21) Appl. No.: <b>13/028,991</b>		FOREIGN PATENT DOCUMENTS
(22) Filed: <b>Feb. 16, 2011</b>		WO 01/77006 10/2001
		WO 2006/005686 1/2006
(65) <b>Prior Publication Data</b>		(Continued)
US 2011/0197988 A1 Aug. 18, 2011		OTHER PUBLICATIONS
<b>Related U.S. Application Data</b>		EPW Inc. Pamphlet on Auto Limited II Overfill Protection; Auto Limiter II Automatic Shut-Off Valve for UST's.
(60) Provisional application No. 61/305,320, filed on Feb. 17, 2010.		(Continued)
(30) <b>Foreign Application Priority Data</b>		
Feb. 16, 2010 (CA) ..... 2693567		<b>Primary Examiner — Jason K Niesz</b>

Petitioner also asserts that although Examiner Niesz considered Van Vliet, Van Vliet's disclosure of deploying hoses through the side walls is not depicted in the figures and is a further refinement described in the text. Petition at 10. Petitioner does not explain how this supports its argument. Insofar as Petitioner is suggesting that the further refinement described only in the text may have caused the Examiner to fail to appreciate Van Vliet, Petitioner does not explain what in particular about Van Vliet would necessarily cause those features to be beyond apprehension by the Examiner. Moreover, Examiner Niesz explicitly stated that Van Vliet does not have reels arranged on opposed sides of the trailer or hoses deployable from first and

second walls of the trailer. As Examiner Niesz also had examined the patent application of Van Vliet, he clearly had thorough knowledge of Van Vliet's disclosure and thus all of its embodiments. Therefore, there is no doubt that not only is Van Vliet the same prior art from prosecution, but also that Examiner Niesz considered it and rejected the same assertions that Petitioner now makes in several of its grounds.

Petitioner provides no factual support tending to show that Examiner Niesz actually failed to appreciate any aspect of Van Vliet. Even Petitioner is unsure whether there was an error, and Petitioner is thus relegated to speculating that the Examiner "likely failed" to appreciate Van Vliet's teaching. Petition at 11. Again, such an assertion is inconsistent with the proper inference under 37 C.F.R. §1.104(c)(2) that Examiner Niesz performed his duties and is inconsistent with the Examiner's express statement for allowance. Accordingly, just because Examiner Niesz did not appreciate Van Vliet in the same manner as Petitioner would like does not mean that Examiner Niesz failed to consider Van Vliet or that there was an error.

Petitioner's failure to demonstrate that the Examiner erred with regard to Van Vliet is fatal to Step 2. Ground 2 asserts that claims 17 and 18 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. Accordingly, Ground 2 does not favor institution under *Advanced Bionics*. The challenge of claim 17 under Ground 1 also relies on Van Vliet as applied in Ground 2 and also does not favor institution for same reasons. Moreover, insofar as Petitioner relies on Van Vliet in the same or similar manner in any other ground in the Petition, such grounds also do not favor institution.

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

For the additional reasons that follow, Grounds 1-8 do not support institution.

The '805 Patent contains two representative independent claims, i.e., claims 1 and 17. EX1001. The table below shows the grounds that Petitioner asserts against each of claims 1 and 17. 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 and 17. Moreover, as Patent Owner identifies in its arguments below, several of the grounds rely on other grounds and are thus interdependent.

Claim	Asserted Ground: Prior Art
Independent claim 1	Ground 1: §103 Van Vliet + Cable + design choice Ground 5: §103 Van Vliet + AFD

Independent claim 17	Ground 1: relies on Ground 2  Ground 2: §102/103 Van Vliet alone  Ground 5: §103 Van Vliet + AFD
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**A. Ground 1: Petitioner does not sufficiently explain how "design choice" renders claim 1[h] obvious.**

Petitioner contends that it would have been obvious to a POSITA to use the reel-and-aisle arrangement of Cable in Van Vliet as a matter of "design choice." Petition at 34-35. To support a conclusion that a claim is an obvious matter of design choice, a "convincing line of reasoning" must be presented as to why one of ordinary skill in the art would have found the claimed feature to have been obvious. *Ex Parte Clapp*, 227 U.S.P.Q. 972, 973 (BPAI 1985).

For several reasons, Petitioner falls short of meeting its burden of establishing claim 1[h] is an obvious matter of design choice. 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 conclusory argument of counsel.

Second, to the extent Petitioner provides any analysis of design choice in its petition, Petitioner's sole line of reasoning is that Van Vliet contemplates various arrangements of its equipment and states that the spatial orientation of the equipment

is a matter of design choice that will depend on space requirements. Petitioner at 34-35. This "reasoning" is insufficient. For one, as discussed above (Section V.A.2), the Examiner already determined during prosecution that the claims are not obvious in view of Van Vliet, which includes the inference that they are not obvious as a matter of design choice. Additionally, Petitioner's analysis fails to follow any legal framework or to explain how a POSITA would have found the particular claimed arrangement obvious based on Van Vliet's mere generic statement of space requirements. For instance, Petitioner does not explain what "space requirements" in particular would either necessitate or suggest the claimed arrangement.

Moreover, Petitioner's own exhibits highlight that it has not presented a convincing line of reasoning. In particular, Petitioner's exhibit EX1017 represents a convincing line of reasoning that space requirements would not lead to the claimed arrangement. Exhibit EX1017 shows and describes a fuel delivery system of a company previously named Frac Shack<sup>1</sup>, operated by Todd Van Vliet, in which all of the hoses and reels are on one side (left-hand side photo, copied/annotated below, left). As shown in the third photo from the left in exhibit EX1017 (copied below, right), such an arrangement appears to leave ample space for operators and access to

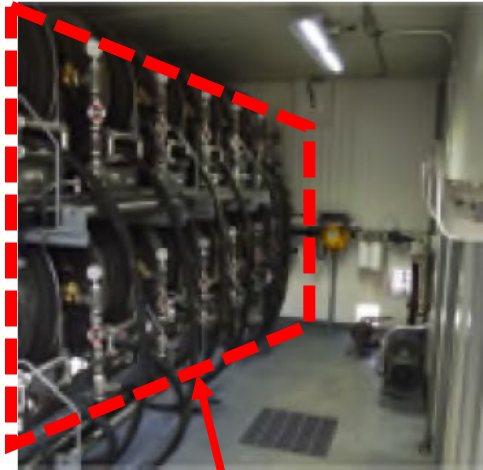
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<sup>1</sup> Frac Shack is the owner of Van Vliet's invention and has since changed its name to Energera. FAS2002; FAS2003.

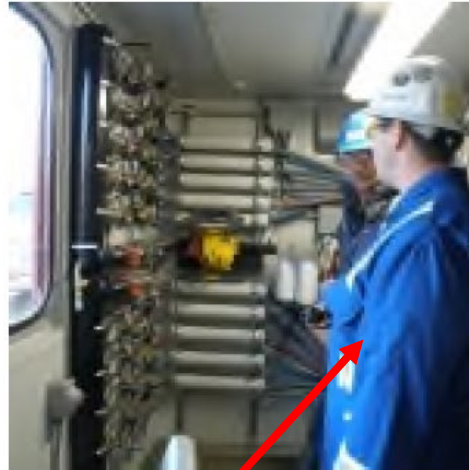


the equipment. Thus, insofar as there were "space requirements," they led Frac Shack and Van Vliet to a different arrangement, not Patent Owner's claimed arrangement.

Photos from EX1017:



ten hoses, ten reels



operators

Lastly, insofar as Petitioner relies on its expert, that reliance is ineffective to rescue Petitioner's conclusion of design choice. 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 10-18). Therefore, the conclusions of Petitioner's expert were not informed 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. See *Ex Parte Clapp, supra*. Accordingly, Petitioner has in effect failed to demonstrate a *prima facie* case under Ground 1 for how "design choice" renders claim 1[h] obvious.

For these reasons, Ground 1 does not support institution as to claims 1-16. Insofar as Grounds 3 and 4 rely on Ground 1, Grounds 3 and 4 also do not support institution.

**B. Ground 1: There is no reason to combine Van Vliet and Cable.**

**1. A POSITA would not look to Cable to modify Van Vliet.**

Petitioner's own argument belies its proposed combination of Van Vliet and Cable. In Ground 1 Petitioner asserts that the arrangement of equipment on Van Vliet's trailer is a matter of *space requirements* (Petitioner at 35) – yet Petitioner does not support that supposition. Without taking full stock of the equipment that is in the space, Petitioner proposes to arrange Van Vliet's trailer (e.g., a Sea-Can trailer having a typical width of 96 inches; Petition at 38) according to an arrangement of a van truck as in Cable that includes mostly different equipment and that is used for a different purpose than Van Vliet.

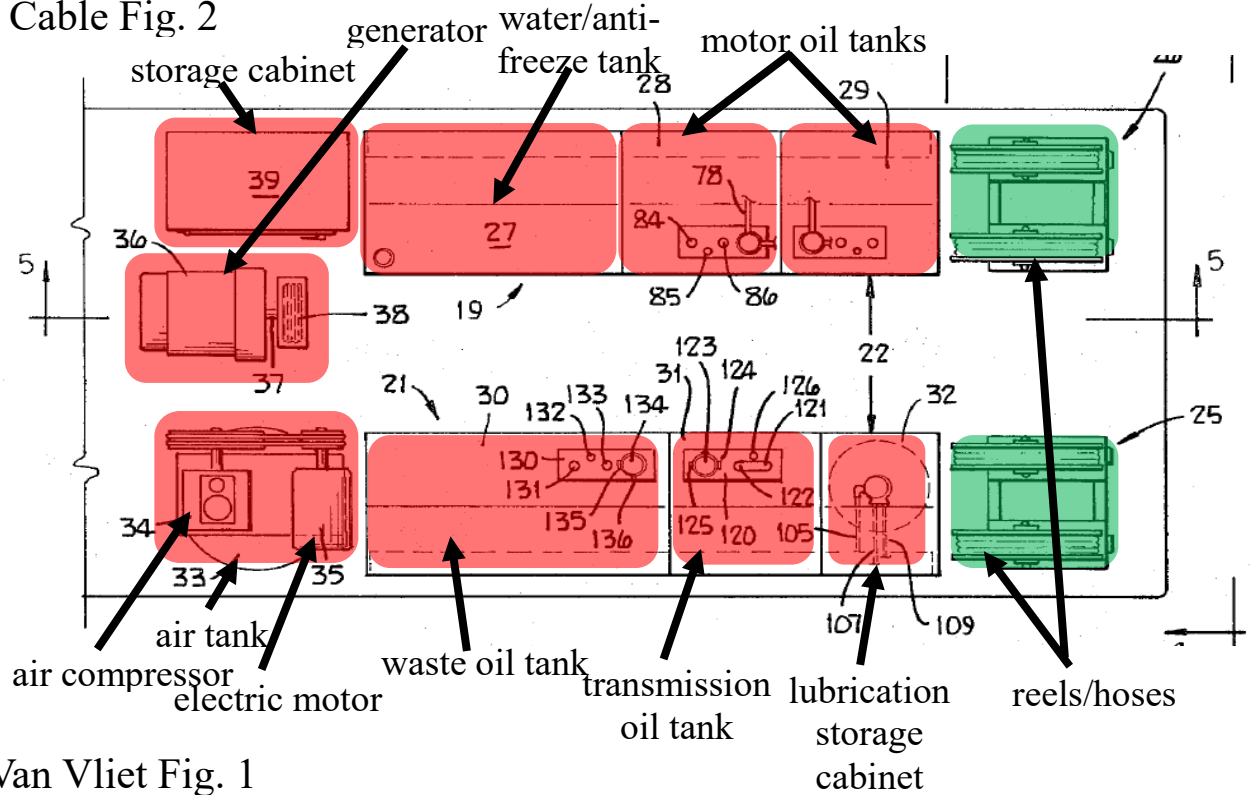
Cable's lubrication system includes equipment that is mostly different from the equipment in Van Vliet's trailer. The visual below shows a side-by-side comparison of the equipment in Cable and Van Vliet. Equipment that is found in

both Cable's and Van Vliet's systems is identified in green, while equipment that is found only in Cable or only in Van Vliet, respectively, is identified in red.

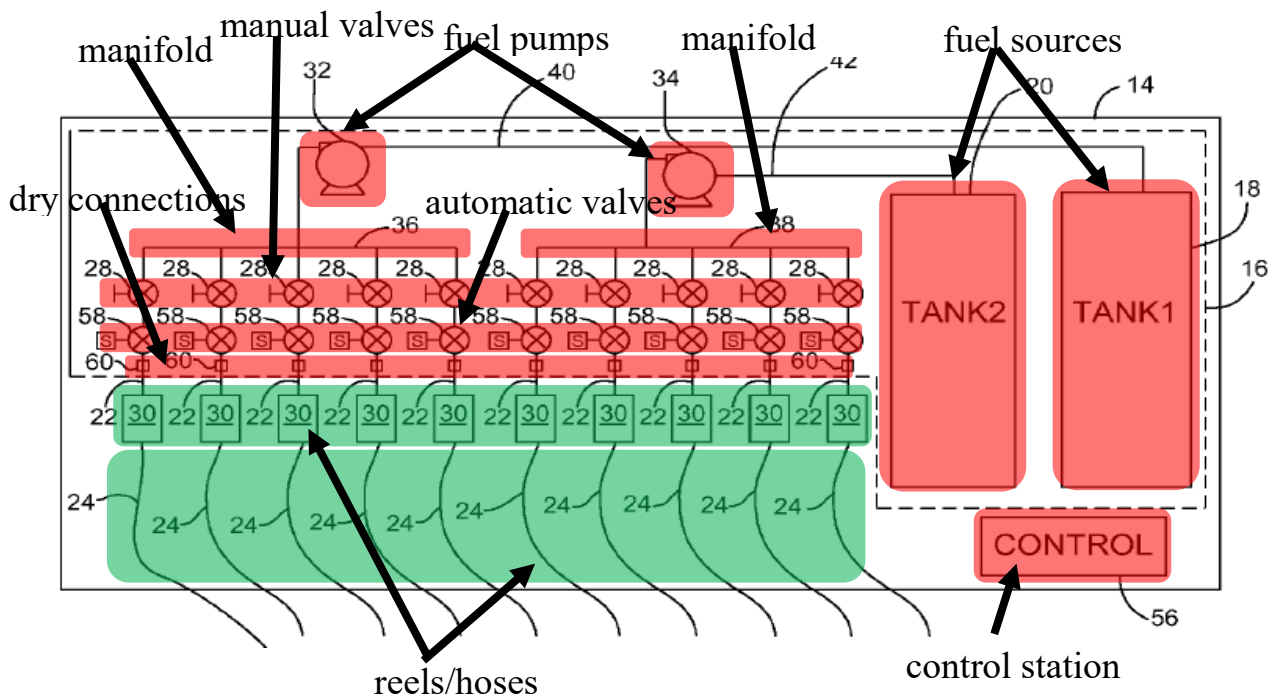
For instance, the arrangement shown in Cable includes a storage cabinet 39, a generator 36, an air compressor 34, an air tank 33, an electric motor 35, a water/anti-freeze tank 27, motor oil tanks 28/29, a waste oil tank 30, a transmission oil tank 31, and a lubrication storage cabinet 32. None of these pieces of equipment of Cable are found in Van Vliet.

Conversely, Van Vliet's fuel delivery system also includes many pieces of equipment that are not found in Cable's lubrication system, such as fuel sources 18/20, fuel pumps 32/34, manifolds 36/38, manual valves 28, automatic valves 58, dry connections 60, and control station 56.

Cable Fig. 2



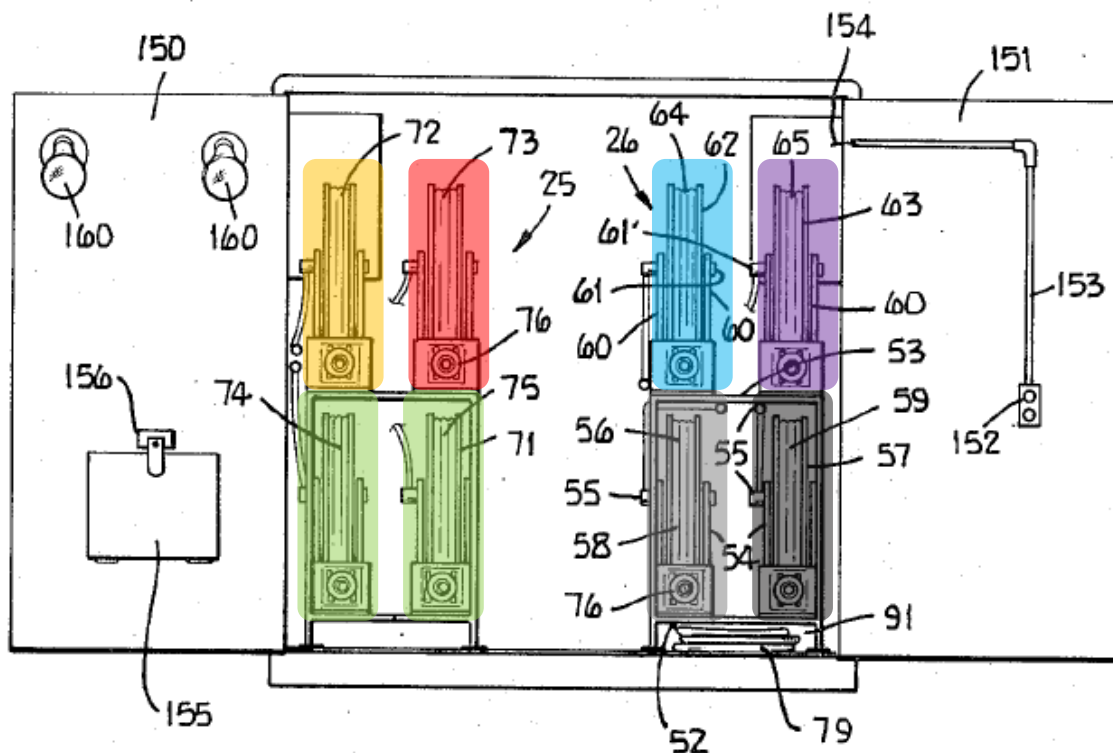
Van Vliet Fig. 1



Most of the equipment taking up space in the systems, except for the reels and the hoses, is different between Cable and Van Vliet. Insofar as Petitioner asserts that Cable and Van Vliet both generally have tanks, valves, and pumps, Petitioner does not explain in its Petition why a POSITA would consider Cable's equipment, such as *water* valves, *lubrication/oil/water* tanks, and *lubrication/oil/water* pumps, to be particularly informative of Van Vliet's *fuel* valves, *fuel* tanks, and *fuel* pumps. For instance, as oil and fuel would inherently be of different viscosities, it is unclear that the same type and size pumps would be used for both. Accordingly, with the understanding that most of the equipment is different between Cable and Van Vliet, a POSITA would not be motivated to look to Cable for a suitable arrangement of the equipment that is to go in Van Vliet's trailer.

Additionally, the mere commonality of reels and hoses is insufficient to motivate a POSITA to modify Van Vliet with Cable's arrangement of reels. For instance, the visual below shows an annotated excerpt from Cable Fig. 4 in which each reel of Cable is highlighted in a color. Each different color represents a different fluid that Cable delivers. For example, hose 72 highlighted in orange handles waste oil (EX1005, col. 6, ll. 35-36); hose 73 highlighted in red handles transmission oil (EX1005, col. 6, ll. 21-27); hoses 74 and 75 highlighted in green handle chassis lubrication (EX1005, col. 6, ll. 13-16); hose 64 handles air (EX1005, col. 67 ll. 28-30); hose 65 handles water (EX1005, col. 4, ll. 35-38); hose 58 handles a first motor

oil (EX1005, col. 4, ll. 48-67); and hose 59 handles a different viscosity of motor oil (*Id.*). As depicted, only two of the hoses/reels handle the same [common] fluid, i.e., the hoses/reels highlighted in green, and those hoses/reels are both on the same side of Cable's van truck. Thus, Cable does not teach that reels/hoses that handle a common fluid are arranged on opposite sides of the van truck or aisleway. Accordingly, a POSITA would not be prompted by Cable to arrange Van Vliet's hoses (that all deliver fuel) on opposite sides of the trailer. EX1004, [0015].



**Fig. 4.**

For these reasons, Ground 1 does not support institution as to claims 1-16.

**2. Petitioner does not account for Cable's hoses deploying from the rear of the truck.**

Petitioner relies on Cable to argue that it would be obvious to arrange Van Vliet's reels on opposed sides of the trailer. Van Vliet discloses that its hoses are run out through an opening in *the* trailer wall. EX1004, [0024]. Indeed, Van Vliet's Fig. 1 shows all of the hoses 24 extending through one of the side walls. Cable, on the other hand, discloses that its hoses are extendable from the rear of its truck. EX1005, col. 3, ll. 1-5; Fig. 1. Cable's truck, like Van Vliet's trailer is rectangular (EX1004, Fig. 1; EX1005, Fig. 2). Thus, the "long" side of Van Vliet's trailer, i.e., the side through which the hoses deploy, would be analogous to either one of the "long" sides of Cable's truck, through which no hoses are deployed. Conversely, Cable's rear side would be analogous to the "short" end sides of Van Vliet's trailer (the left- and right-hand sides in Fig. 1), through which Van Vliet deploys no hoses. Thus, relative to the shapes of the trailer and truck, Cable's hoses deploy through a different side than the side through which Van Vliet's hoses deploy. As Van Vliet desires hoses to deploy from the one side in order to run the hoses to the equipment at the wellsite, it is not clear why a POSITA would look to Cable's hoses that deploy out the rear to modify Van Vliet or that Van Vliet's hoses, if deployed from a rear side as in Cable, could even serve that function. Indeed, it is possible that one would want hoses deployed only from the rear of the truck as in Cable, say if it needed to back the truck up to a vehicle that is to be serviced. Petitioner fails to address Cable's hose

deployment through the rear and explain how it would be informative to an arrangement in Van Vliet in which the hoses deploy from one side, not the rear.

For at least these reasons, Ground 1 does not support institution. Insofar as Grounds 3 and 4 also rely on the combination of Van Vliet and Cable, those grounds also fail to support institution.

**3. As to claims 7-10, a POSITA would not have understood Van Vliet and Cable to have "an inside wall that defines first and second compartments."**

Petitioner contends that a POSITA would have understood the cabin of Van Vliet to be separated by an inside wall from the compartment where the reels and manifolds are located. Petition at 41. Van Vliet does not disclose an inside wall or door, and Petitioner does not explain what factual basis there is for concluding that Van Vliet has this. Van Vliet discloses that "[a] cabin (not shown) may be added to the system" (emphasis provided). EX1004, [0032]. Van Vliet does not, however, indicate that this cabin would necessarily be added inside of the trailer, as opposed to a cabin that is just added somewhere near the trailer. Indeed, another of Petitioner's references, AFD, appears to disclose a cabin that it is separate from the main trailer. EX1007 at 2. Thus, insofar as a POSITA is making inferences about Van Vliet's cabin, the inference, based on AFD, would be that Van Vliet's cabin would be separate from the trailer, and there would thus be no inside wall or door in the main trailer as Petitioner assumes.



Petitioner further asserts that a POSITA would have understood that Cable includes an inside wall between its compartments. Petition at 41. Cable discloses no such wall and, again, Petitioner does not explain what factual basis there is for concluding that Cable has this. Fig. 1 of Cable shows the entire van truck with a cutaway portion so that a portion of the inside rear is visible, but no inside wall is shown. Fig. 2 of Cable shows the floor plan of the rear of the truck, but no wall is shown and the broken line on the left side of the figure indicates that the forward portion of the truck is not even shown. Thus, there does not seem to be any factual basis in Cable, nor does Petitioner point to any, to support a conclusion that there is necessarily an inside wall.

Moreover, the "box" shape of the van truck in Cable's Fig. 1 suggests that Cable's truck is a step van -- a commonly known light- or medium-duty commercial truck. An example of an interior of a step van from 1963 (prior to Cable's filing) is shown below<sup>2</sup>. As shown, the step van has no interior wall or door behind the driver compartment. Thus, step vans do not necessarily have inside walls or doors separating the compartments. Accordingly, a POSITA would not have understood Van Vliet and Cable to have "an inside wall that defines first and second compartments."

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<sup>2</sup> Available at <https://tinyurl.com/sb4kbnmz>.



**C. Ground 5: There is no reason to combine Van Vliet and AFD.**

**1. Petitioner does not sufficiently explain how AFD discloses an aisle walkway down the middle of the mobile trailer.**

Petitioner relies on AFD for teaching or suggesting "an aisle walkway down the middle of the mobile trailer." Petition at 63-66. Petitioner does not contend that AFD explicitly discloses an aisle walkway down the middle. Rather, Petitioner points to other circumstantial features in a cropped photograph that are allegedly indicative of an aisle walkway. However, none of the features, either alone or in total, are dispositive of a middle aisle walkway in AFD.

First, Petitioner asserts that AFD *must* be arranged to have an aisle walkway between the reels for maintenance and safety, such as to provide access to shut-off valves. Petition at 65. However, Petitioner does not explain how maintenance,

safety, or access to valves requires an aisle walkway down the middle. Petitioner's expert posits that reels would not be arranged along one side because it would result in a tripping hazard (citing EX1031 OSHA Standard). Petitioner's expert, however, fails to explain what the cited OSHA Standard is or what relevance it has, if any, to the refueling system of AFD. Moreover, Petitioner's contention is inconsistent with its own other exhibits. Exhibit EX1017 depicts (see above Section VII.A. discussing EX1017) an arrangement of hoses/reels on one side of a trailer and an adjacent open area for access by operators to the hoses/reels. Exhibit EX1006 also does not have an aisle walkway down the middle. Exhibit EX1006 shows and describes an arrangement of a refueling system that is open on one side to a plurality of reels and hoses to reduce unnecessary complexity in hardware and implementation. EX1006, [0004], Fig. 1. As these are refueling systems, they would be subject to the same or similar maintenance, safety, and access concerns that Petitioner relies on, yet they do not have an aisle walkway down the middle.

Second, Petitioner contends that AFD's set of stairs and flap for access to the main body of the trailer would be interpreted by a POSITA to mean that AFD has an aisle walkway down the middle. Petition at 65. However, mere presence of stairs and a flap would not particularly require that there be an aisle walkway down the middle. The most that stairs and flap could demonstrate is that there is access of some kind to the main body. However, even if there is access, Petitioner does not

explain how access alone requires any particular arrangement in the trailer, let alone one that necessarily has an aisle walkway down the middle. Moreover, Petitioner seems to ignore the most apparent reason for the stairs, which would be to provide access to the elevated control room (with windows) to the right-hand side of the stairs, not necessarily to provide access to an aisle walkway down the middle.

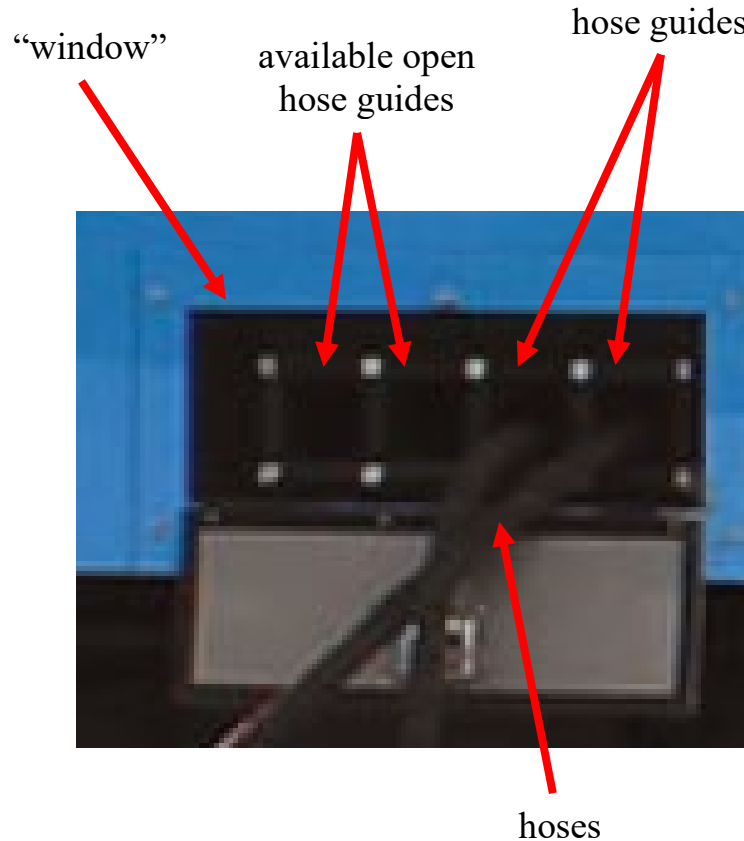
For at least these reasons, Ground 5 as to independent claim 1 does not support institution.

**2. It is not clear that AFD has hoses deployed from both sides.**

Petitioner claims that the AFD unit has hoses deployed from both sides of the unit and relies on the photograph of the refueling system in AFD at 2. Petition at 63-66, 71-72. In particular, Petitioner contends that AFD's system has hoses coming out of the far side of the main body. *Id.* However, as the far side is not visible, it is not clear where those hoses are deployed from. In fact, since the photo of AFD's system at p. 2 has no background, what is clear is that the photo was modified/cropped to at least remove the background. Indeed, the other two photos on pgs. 3-4 of AFD show other equipment and structures in the background. It is thus quite possible that there could have been another system or piece of equipment behind the trailer, but which was removed when the photo was modified. Accordingly, the hoses visible underneath the system in the first photo are not necessarily from the system that is

shown in the photo, as they may instead be from another system that was cropped out.

Additionally, there is evidence in AFD's photo that 24 hoses would be deployed from the one (visible) side. The annotated excerpt below is from the first photo in AFD, specifically the "window" where hoses deploy through the trailer wall. Each of the six windows visible in the photo look similar in this regard. As shown, there is a bank of rectangular "hose guides" through which the hoses deploy. In each window, there are four hoses guides, two with hoses coming out and two open available hose guides without hoses coming out. There are thus evidently two more hoses that could be deployed through the two unused hose guides in each of the six windows, which would be a total of 24 hoses (as AFD discloses) all deployed through one side. Accordingly, the depiction of 24 hoses guides all on one side suggests deployment of all the hoses through one side, not opposed sides as Petitioner concludes.



The hose guides also challenge Petitioner’s claim that the AFD unit deploys hoses from the far (non-visible) side. AFD’s own marketing materials advertises that its unit can accommodate 24 hoses. On the visible side of the AFD unit from the photograph, there are hose guides for a total of 24 hoses. If the AFD unit has hoses deployed from the far, non-visible side, then one would expect there to also be banks of hose guides on the far side, in which case AFD’s marketing literature would tout the benefits of being able to accommodate more than 24 hoses. Indeed, if the two sides were equivalent, then the AFD unit would have 48 hose guides to

accommodate a total of 48 hoses. Petitioner does not explain why AFD would not have disclosed the additional capacity.

For at least these reasons, Ground 5 as to independent claims 1 and 17 does not support institution. Insofar as Grounds 6-8 also rely on AFD, those grounds also do not support institution.

**D. Ground 2: Petitioner fails to explain how Van Vliet discloses or renders obvious claim 17[f] "a first group of the hoses are deployable from the first trailer side wall and a second group of the hoses are deployable from the second trailer side wall."**

**1. Anticipation**

Petitioner argues that a POSITA would have understood Van Vliet's paragraph [0024] to disclose the features of claim 17[f].<sup>3</sup> However, Petitioner does not explain how [0024] would be understood to disclose those features. This is a problem because it is Petitioner's burden to explain 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). Petitioner fails to meet that burden.

Petitioner provides quotes from Van Vliet and then concludes, without any analysis, that the claim features are disclosed. Petitioner's expert relies on the same quotes and the same or similar conclusory statements, thus also providing no

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<sup>3</sup> See Appendix for Petitioner's identification of claim 17[f]. Petition at 84.

meaningful analysis. Indeed, the relied upon quote from [0024]<sup>4</sup> does not explicitly state a physical arrangement of hoses and manifolds. Rather, the "arrangement" mentioned is explicitly that of the fracturing equipment ("arrangement the well operator has requested that the fracturing equipment be placed around the well").

Petitioner's expert attempts to justify the alleged interpretation of Van Vliet by concluding that the configuration (with hoses through two opposite wall) is "consistent with the disclosure of Van Vliet." EX1003, ¶231. However, this is a straw man. Whether the alleged (conclusory) interpretation is consistent with Van Vliet or not is irrelevant to the inquiry. The correct inquiry is whether Van Vliet discloses the claim features either expressly or inherently. Neither Petitioner nor its expert explain how those features are express or inherent from the quoted text.

There is no meaningful analysis to bridge the quotes and claim features. Summaries, quotations, and citations from the prior art, without sufficient explanation of the significance, place the burden on the PTAB to sift through the information presented. *Google Inc. v. EveryMD.com LLC*, IPR2014-00347, Paper 9, slip op. at 23–25 (May 22, 2014). Without such explanation, Petitioner's argument

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<sup>4</sup> "The hoses 24 are run out to equipment 10 through an opening in the trailer wall in whatever arrangement the well operator has requested that the fracturing equipment be placed around the well. For example, one manifold 36 may supply fluid to equipment 10 lined up on one side of a well, while another manifold 38 may supply fluid to equipment 10 lined up on the other side."



is based only on conclusory statements and thus fails to support anticipation under Ground 2.

## **2. Obviousness**

In the alternative that Van Vliet does not disclose claim 17[f], Petitioner contends that the features are obvious in view of Van Vliet. Petition at 47-48.

In support, Petitioner first incorrectly asserts that Van Vliet teaches that its hose arrangement may be "whatever arrangement the well operator has requested." However, Petitioner again provides no explanation for this assertion. Moreover, the assertion is inconsistent with the quote from [0024] that Petitioner relies on. That quote (see footnote 4 above) does not explicitly discuss a hose arrangement. Indeed, contrary to Petitioner's assertion, the referenced "arrangement" is explicitly that of the equipment being in whatever arrangement the well operator has requested that the fracturing equipment be placed around the well. Nor does the second-sentence example in the quote convey an arrangement of hoses or manifolds. Rather, the phrase, "one manifold 36 may supply fluid to equipment 10 lined up on one side of a well, while another manifold 38 may supply fluid to equipment 10 lined up on the other side" explicitly refers to the source of the fluid supply and does not mention any particular physical arrangement of hoses or manifolds.

Next, Petitioner speculates that the features of claim 17[f] would be the "most obvious" arrangement. Petition at 48. However, Petitioner does not explain why.

Moreover, the conclusion is inconsistent with Petitioner's other cited prior art. Van Vliet depicts the hoses extending through one side of the trailer (EX1004, Fig. 1), and exhibit EX1017 depicts (see above Section VII.A. discussing EX1017) an arrangement of hoses/reels on one side of a trailer. If claim 17[f] was the *most obvious* arrangement, the arrangements in those citations would have been different instead of one-sided (hoses all extending from one side). Those citations are thus *prima facie* evidence that the claimed arrangement is/was not the "most obvious."

Petitioner's expert asserts that the claimed arrangement is obvious in order to connect the manifolds to opposite sides of the well. EX1003, ¶233. There is no explanation, however, why that configuration would be necessary, especially since the arrangements shown in Van Vliet and exhibit EX1017 are one-sided. Petitioner's expert created a diagram showing an arrangement with hoses deployed from both sides. EX1003, ¶231. That diagram and argument, however, is entirely contrived by the expert. Moreover, it ignores that EX1017, an actual system provided by Frac Shack and Todd Van Vliet, has a one-sided arrangement. See footnote 1, *supra*. Moreover, it also ignores that Van Vliet explicitly discloses that its hoses are run out through an opening in *the* trailer wall, not multiple walls or opposite walls, to get to the fracturing equipment around the well. EX1004, [0024]. Accordingly, Petitioner's obviousness argument and contrived arrangement does not support institution.

For at least these reasons, Ground 2 as to claim 17 does not support institution.

## **VIII. CONCLUSION**

For the foregoing reasons, Patent Owner respectfully submits that the instant Petition should be denied.

Respectfully Submitted,

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Dated: November 29, 2023

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**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 7,985 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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