

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PERMIAN GLOBAL INC., and MANTICORE FUELS, LLC,
Petitioner,

v.

FUEL AUTOMATION STATION, LLC,
Patent Owner.

IPR2023-01236
Patent 10,815,118 B2

Before CARL M. DeFRANCO, RICHARD H. MARSCHALL, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DeFRANCO, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Fuel Automation Station, LLC (“FAS”) is the owner of U.S. Patent No. 10,815,118 B2 (Ex. 1001, “the ’118 patent”). Permian Global Inc., and Manticore Fuels, LLC (“Permian”) filed a Petition requesting *inter partes* review of claims 1–18 of the ’118 patent. Paper 3 (“Pet.”). FAS filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Per our authorization, Permian filed a reply (Paper 9, “Pet. Reply”), and FAS followed with a sur-reply (Paper 10, “PO Sur-Reply”). Because we determine that Permian demonstrates a reasonable likelihood that at least claims 1–3 of the ’118 patent are unpatentable, we institute *inter partes* review of all claims as challenged in the Petition. *See* 35 U.S.C. § 314(a).

I. BACKGROUND

A. *Related Matters*

The ’118 patent is the subject of a parallel infringement action in *Fuel Automation Station, LLC v. Permian Global, Inc.*, No. 1-22-cv-008001, filed August 10, 2022, in the Western District of Texas. *See* Pet. 1–2. The infringement action is currently stayed pending completion of this proceeding, as well as *inter partes* review proceedings on two related patents, US 10,974,955, and US 9,586,805. *See* Ex. 1038. FAS also notifies us of two related patent applications pending before the Office: U.S. Application 17/682,348, filed February 28, 2022, and U.S. Application No. 18/468,342, filed September 15, 2023. *See* Paper 7, 1.

B. *The ’118 Patent*

The ’118 patent is directed to a mobile distribution station that “serve[s] in ‘hot-refueling’ capacity to distribute fuel to multiple pieces of equipment while the equipment is running, such as fracking equipment at a well site.” Ex. 1001, 1:66–2:4. The distribution station includes a mobile

trailer equipped with pumps, manifolds, and hose reels, with flow passages connected to the manifolds and reels for delivering fuel to the fracking equipment. *Id.* at 2:11–67.

C. The Challenged Claims

Of the challenged claims, claims 1, 10, and 15 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter (with Permian’s nomenclature added for clarity and emphasis added for limitations in dispute):

1. A distribution station comprising:

[1a] a mobile trailer;

[1b] a pump on the mobile trailer;

[1c] a manifold on the mobile trailer and connected with the pump;

[1d] a plurality of reels on the mobile trailer;

[1e] *a plurality of flow passages, each said flow passage being connected to the manifold and running through a respective one of the reels;*

[1f] *a plurality of hoses, each said hose being connected with a respective one of the flow passages via a respective one of the reels;*

[1g] 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;

[1h] a plurality of fluid level sensors, each said fluid level sensor being connected or connectable with a respective different one of the hoses; and

[1i] a controller configured to operate the valves responsive to fluid level thresholds to control fluid flow to the hoses.

Ex. 1001, 8:28–48.

D. The Asserted Challenges

Claims Challenged	35 U.S.C. §	Basis
1–3	102/103	Van Vliet ¹
1–3	103	Van Vliet, Coxreels ²
4–18	103	Van Vliet, Shoap ³
4–9, 15–18	103	Van Vliet, Coxreels, Shoap
12, 13	103	Van Vliet, Shoap, Hosecraft ⁴

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Permian submits that one skilled in the art would have had either:

(1) a Bachelor of Science in Mechanical Engineering, Electrical Engineering, Petroleum Engineering or an equivalent field as well as at least 2 years of academic or industry experience in the oil and gas industry, including well drilling, completion, or production, or (2) at least four years of industry experience in the oil and gas industry including well drilling, completion, or production.

Pet. 16–17 (citing Ex. 1003 ¶¶ 75–78). FAS responds that “at this stage of the proceeding, [it] does not dispute the level of ordinary skill in the art.”

Prelim. Resp. 6. Accordingly, for purposes of institution, we adopt the level of skill in the art as defined by Permian.

¹ US 2011/0197988 A1, published Aug. 18, 2011 (Ex. 1004, “Van Vliet”).

² COXREELS, INC., *Coxreels 1125 Series “Competitor” Hand Crank and Motorized Hose Reels*, <https://web.archive.org/web/20140408035634/http://www.coxreels.com/products/hand-crank/1125-series>, published Apr. 08, 2014 (Ex. 1005, “Coxreels”).

³ US 7,819,345 B2, issued Oct. 26, 2010 (Ex. 1006, “Shoap”).

⁴ HOSECRAFT USA, *Clamps Accessories*, <https://web.archive.org/web/20130702084457/http://www.hosecraftusa.com/accessory-category/HoseClamps>, published Jul. 02, 2013 (Ex. 1007, “Hosecraft”).

B. Claim Construction

The parties dispute the meaning of “*a tube and a sleeve that circumscribes the tube*,” as recited in claims 5, 10, and 15. *See* Prelim. Resp. 8–10; Pet. Reply 2–4. FAS contends that one skilled in the art would have understood this limitation to mean: “a hollow cylinder that conveys fluid [tube] and a physically separate case [sleeve] that encircles [circumscribes] the tube.” Prelim. Resp. 8–9. According to FAS, the plain language of the claim “requires that the sleeve be a *physically separate* structure from the tube” because “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.” *Id.* at 9–10 (emphasis added). In addition, FAS points to the ’118 patent’s description that “[t]he sleeve 64 is generally loosely arranged around the tube 62, although the sleeve 64 may closely fit on the tube 62 to prevent substantial slipping of the sleeve 64 relative to the tube 62 during use and handling.” *Id.* at 9 (citing Ex. 1001, 5:25). Lastly, FAS cites the dictionary definition of “sleeve” as “a case into which an object or device fits,” meaning that, as claimed, the sleeve must be a separate structure into which the tube fits. *Id.* at 8–9 (citing Ex. 2001, 4).

Permian replies that FAS’s proposed construction is not supported by the intrinsic record and, instead, “improperly adds new limitations . . . to the claims” by requiring that the claimed sleeve and tube be physically separate structures. Pet. Reply 2–3. “[W]orse,” according to Permian, “‘physically separate’ is not found in any of the definitions that [FAS] cites” and “[t]his limitation is supported by nothing other than bare, circular attorney argument.” *Id.* at 3. We disagree.

Claim construction begins and ends with the actual words of the claim. Here, by its plain terms, the claim language contemplates that the tube and the sleeve are separate and distinct structures where one “circumscribes” the other. Tellingly, rather than address FAS’s analysis of the claim language itself, Permian resorts to attacking the extrinsic dictionary definitions cited by FAS. Pet. Reply 2. But, of course, those dictionary citations do not define a tube and a sleeve in terms of being physically separate structures. Construing a claim limitation that includes multiple elements—such as the one disputed here—is not a matter of defining each term alone. Rather, it is a matter of construing those terms together in the context of the entire claim. Permian never addresses that context, which is part of the intrinsic record. Thus, without more, we agree with FAS that the claim language “the sleeve circumscribes the tube” would be rendered meaningless if the tube and sleeve were construed as encompassing the same structure. *See* Prelim. Resp. 9–10.

Moreover, the fact that the tube and sleeve are listed separately in the claim raises a presumption that those elements are separate and distinct structures absent evidence to the contrary, such as the specification indicating that they can be the same structure. *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254–55 (Fed. Cir. 2010) (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention” where “nothing in the specification” suggests otherwise (internal quotations and brackets omitted)); *HTC Corp. v. Cellular Comms. Equipment, LLC*, 701 Fed. Appx. 978, 982 (Fed. Cir. 2017) (“The separate naming of two structures in the claim strongly implies that the named

entities are not one and the same structure,” especially where “[t]he specification reinforces the inference.”); *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1382 (Fed. Cir. 2022) (“Nor is there any language in the written description that overcomes that presumption [that the claimed components are distinct].” (citation omitted)).

Here, Permian disregards the fact that the specification of the ’118 patent describes the claimed “sleeve” and “tube” only in terms of being physically separate structures. For instance, the specification states:

As an example, the tube 62 may be a flexible *elastomeric* tube and the sleeve 64 may be a flexible *fabric* sleeve. The sleeve 64 is generally loosely arranged around the tube 62, although the sleeve 64 may closely fit on the tube 62 to prevent substantial slipping of the sleeve 64 relative to the tube 62 during use and handling. Optionally, to further prevent slipping and/or to secure the sleeve 64, bands may be tightened around hose 40. As an example, one or more steel or stainless steel 30 bands can be provided at least near the ends of the hose 40.

* * *

In this example, the [sensor communication] line 66 is routed 40 through the hose 40 between (radially) the tube 62 and the sleeve 64. *The sleeve 64 thus serves to secure and protect the line 66, and the sleeve 64 may limit spill and spewing if there is a hose 40 rupture.*

Ex. 1001, 5:21–44 (emphases added).

Those descriptions in the specification—(1) that the tube and sleeve are made of different materials, (2) that the sleeve fits loosely over the tube, (3) that a sensor line is routed between the tube and sleeve, and (4) that the sleeve prevents spillage in the event of the tube’s rupture—clearly indicate that the sleeve and tube must be physically separate structures in order for the sleeve to serve as a protective cover for the tube and sensor line.

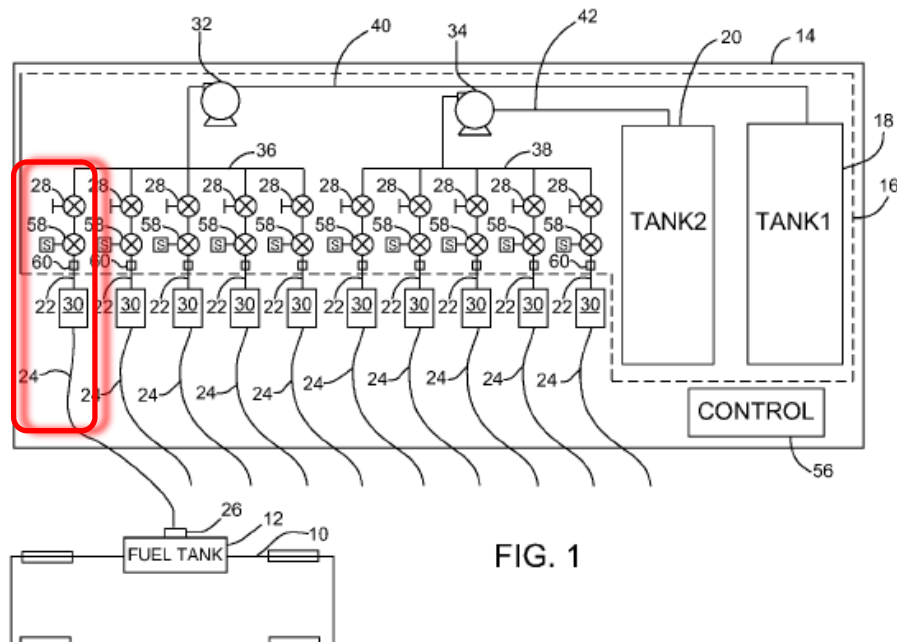
Nowhere do we discern, nor does Permian mention, where the specification

indicates that the tube and sleeve could also be the same structure. Rather, the only reasonable construction of the claim language, in light of the specification, is that claims 5, 10, and 15 assume physically separate structures for the claimed “tube” and “sleeve.” Thus, we reject the notion that FAS’s proposed construction improperly adds new limitations to the claims.

C. Permian's Challenge of Claims 1–3

1. Anticipation/Obviousness Based on Van Vliet

Permian challenges claims 1–3 as anticipated and/or rendered obvious by Van Vliet. *See* Pet. 23–35. FAS responds by disputing Permian’s showing as to claim elements 1(e) and 1(f), which recite “each said flow passage . . . running through a respective one of the reels” and “each said hose being connected with a respective one of the flow passages via a respective one of the reels.” *See* Prelim. Resp. 27–32. For those claim elements, Permian relies on Figure 1 of Van Vliet, as annotated by Permian and reproduced below. *See* Pet. 26–28.



According to Permian, annotated Figure 1 “shows that the reels 30 are fluidly connected to the hoses [24] and manifolds [36, 38]” and one skilled in the art “would have understood, *based on this diagram . . .* that the reel 30 is part of the fluid stream, and, therefore, the flow passage passes through the reel.” Pet. 27–29 (emphasis added).

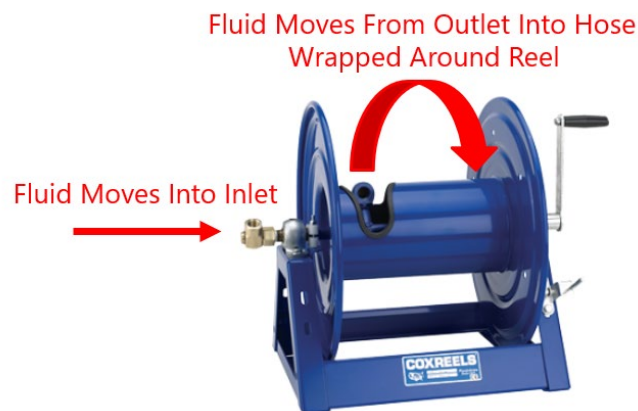
We disagree. Although indisputably Van Vliet’s schematic diagram shows flow passages through manifolds 36, 38 and hoses 24, nowhere do we discern where or how Van Vliet definitively discloses the flow passages as “running through” reels 30, as required by claim 1. Indeed, even Permian’s expert acknowledges that Van Vliet’s schematic diagram “is a high-level representation and is not intended to depict the physical appearance or form” of the system’s components. Ex. 1003 ¶ 112 n.146. At most, the diagram indicates the hose’s flow passage as *wrapping around* the reel, rather than “running through” the reel, as claimed. And, while Van Vliet describes that “hoses 24 are preferably *stored on reels 30*,” nowhere does it mention or otherwise suggest that the hoses are fluidly connected to the reels. Ex. 1004 ¶ 15 (emphasis added). To the contrary, Van Vliet explains that “each hose 24 is connected to a fuel outlet 22 *by a dry connection 60* and to a cap 26 *by a dry connection 62*.” *Id.* ¶ 22 (emphases added). In other words, Van Vliet’s hose 24 cannot be connected to reel 30 if the ends of the hose are connected to dry connections 60 and 62, which indisputably are not part of the reel. In that case, the hose’s flow passage is not capable of “running through” the reel, as required by claim 1.

Nor does Permian’s self-made flow chart persuade us otherwise, as it is based on conjecture and presupposes the very fact it attempts to prove. *See* Pet. 28. More blatantly, Permian’s flow chart disregards Van Vliet’s

clear disclosure that, as explained above, the ends of hose 24 are connected directly to dry connections 60 and 62 without any mention of a connection to reel 30. Thus, without more, Permian does not persuade us that Van Vliet alone discloses or otherwise suggests claim elements 1(e) and 1(f).

2. Obviousness Based on Van Vliet and Coxreels

To the extent Van Vliet fails to disclose claim elements 1(e) and 1(f), Permian points to Coxreels, reproduced below and annotated by Permian, for teaching “a reel for storing hoses that has a built-in ‘fluid path’” having a “swivel inlet” and “a ‘low profile outlet riser, open drum slot design for flat smooth hose wrap.’” Pet. 37–39 (citing Ex. 1005, 1).



According to Permian, “[Coxreels] was a common and well-known design and operation of hose reels at the time of the ’118 patent.” *Id.* at 39 (citing Ex. 1003 ¶ 159). With that in mind, Permian asserts that one skilled in the art “would have deemed it obvious to use a hose reel as disclosed in *Coxreels* for the reels in *Van Vliet*, and fluidly connect a manifold 36, 38 of *Van Vliet* via the fluid outlet 22 upstream of the reel body to a hose 24 of *Van Vliet* downstream of the reel body through a flow passage in the reel body of *Coxreels*.” *Id.* at 39–40 (citing Ex. 1003 ¶ 160). The reason one skilled in the art would have done so, Permian contends, is twofold: *first*,

“*Coxreels* is in the same field of endeavor as *Van Vliet* (as well as the ’118 Patent) and is directed to solving the same problem—using reels to support hoses for use in distributing hydrocarbon liquids,” and, *second*, “[one skilled in the art] designing a system of *Van Vliet* would have looked to commercially-available reel components like those described in *Coxreels* . . . as a cost-effective and readily-available option.” *Id.* at 35–39.

FAS responds that Permian’s reasons for combining *Van Vliet* and *Coxreels* amount to “conclusory statements,” “hindsight over-generalization,” and “provide[] no underlying factual basis or citation.” Prelim. Resp. 34–36. Although we tend to agree with FAS that Permian’s first reason may be all those things, Permian’s second reason nonetheless carries the day at this preliminary stage. In particular, the current record supports Permian’s assertions that one skilled in the art “designing a system of *Van Vliet* would have looked to commercially-available reel components like those described in *Coxreels* . . . as a cost-effective and readily-available option” and “would have recognized the advantage of using *Coxreels* reel in *Van Vliet*’s mobile fuel delivery system.” Pet. 35–36 (citing Ex. 1003 ¶¶ 150–153).

For instance, Permian proffers the testimony of its expert, which is un rebutted at this stage, that one skilled in the art would have selected *Coxreels*’ reel as a readily-available option because “*Coxreels* [was] specifically market[ed] for use in the Oil industry” and provides the advantage of “a non-crimping, flat smooth hose wrap.” Ex. 1003 ¶¶ 150–152 (citing Exs. 1005, 1035); *see also* Pet. 38 (“*Coxreels* also describes a ‘low profile outlet riser, open drum slot design *for flat smooth hose wrap*’” (second emphasis added)). That evidence, at least on the current record,

provides sufficient support for Permian’s reason to combine the teachings of Van Vliet and Coxreels with a reasonable expectation of success of arriving at the claimed invention.

Aside from “motivation” for the asserted combination, FAS does not further dispute Permian’s showing as to how the combination of Van Vliet and Coxreels renders obvious the subject matter of claims 1–3. *See* Prelim. Resp. 34–39. After reviewing Permian’s showing, including Permian’s mapping of the disputed and undisputed claim elements, we find that Permian demonstrates a reasonable likelihood that challenged claims 1–3 are unpatentable as obvious over the combined teachings of Van Vliet and Coxreels. *See* Pet. 37–43. Thus, Permian meets the threshold for institution.

D. Permian’s Challenge of Claims 5–18

Permian challenges claims 4–18 as rendered obvious by Van Vliet and Shoap, and, additionally, challenges claim 4–9 and 15–18 as rendered obvious by Van Vliet, Shoap, and Coxreels, and claims 12 and 13 as rendered obvious by Van Vliet, Shoap, and Hosecraft. *See* Pet. 43–73. In response, FAS disputes that Shoap teaches the claim limitation that each hose includes “a tube and a sleeve that circumscribes the tube” and otherwise argues that “[one skilled in the art] would not be motivated to modify Van Vliet with Shoap.” *See* Prelim. Resp. 39–46. We note that Permian relies on *unrebutted* expert testimony to argue why one skilled in the art would view Shoap as teaching, or would see as a matter of design choice to suggest, the disputed “tube” and “sleeve” limitation. *See* Pet. 47–49 (citing Ex. 1003 ¶¶181–184). Thus, we do not see the need to further address Permian’s challenges of claims 4–18. Further analysis of these challenges is best left for trial after full development of the record.

E. FAS's Request for § 325(d) Discretionary Denial

FAS requests that we exercise discretion to deny the Petition under 35 U.S.C. § 325(d). *See* Prelim. Resp. 10–26. We decline. Contrary to FAS's argument, we do not perceive Coxreels as “cumulative” of either Amann or Harman. *Id.* at 12–18. Coxreels clearly shows more details about the position of the inlet *and* outlet on the reel's spindle than either of those references, which are merely cited but not relied on by the Examiner. *See* Ex. 2002, 25 (depicting fluid line 70 as terminating at the reel without further disclosure of whether the fluid line is connected directly to the reel or to hose 26); Ex. 2003, 2 (same). Thus, FAS does not persuade us that exercising our § 325(d) discretion is appropriate where, on their face, the asserted references do not appear to be cumulative of the references cited during prosecution.

III. CONCLUSION

For the above reasons, we determine that the information presented in Permian's Petition demonstrates a reasonable likelihood that at least claims 1–3 of the '118 patent are unpatentable as obvious over Van Vliet and Coxreels. And because “[e]qual treatment of claims and grounds for institution purposes has pervasive support in *SAS*,” we institute on all the claims as challenged in the Petition. *See* 37 C.F.R. § 42.108(a),(c); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (citing *SAS Institute v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018)).

IV. ORDER

Accordingly, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–18 of the '118 patent is *instituted*; and

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FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of trial, which will commence on the entry date of this Decision.

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