

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC,
Petitioner,

v.

NUHN INDUSTRIES LTD.,
Patent Owner.

IPR2024-00004
Patent 11,491,835 B2

Before MEREDITH C. PETRAVICK, MATTHEW S. MEYERS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

MEYERS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Bazooka-Farmstar, LLC (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–40 (the “challenged claims”) of U.S. Patent 11,491,835 B2 (Ex. 1001, “the ’835 patent”). Paper 2 (“Pet.”). Nuhn Industries Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”).¹ After receiving authorization, Petitioner filed a Preliminary Reply (“Pet. Reply,” Paper 10), and Patent Owner filed a Preliminary Sur-reply (“PO Sur-reply,” Paper 11).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2020). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, the Reply, the Sur-reply, and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at

¹ Although Patent Owner certifies that the Preliminary Response “contains 13,844 words as calculated by the ‘Word Count’ feature of Microsoft Word (Prelim. Resp. 94), many of the images reproduced in the brief contain textual quotes that do not appear to be accounted for in Patent Owner’s count. The parties are reminded that circumventing the rules on word count, for example, by providing excessive words in images, may lead to the party’s brief not being considered. *See Consolidated Trial Practice Guide 39–40* (Nov. 2019), <http://www.uspto.gov/TrialPracticeGuideConsolidated>.

least one of claims 1–40. Accordingly, we institute an *inter partes* review of all challenged claims on all asserted grounds pursuant to 35 U.S.C. § 314. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–1360 (2018) (requiring institution on all claims, if any); *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019) (providing guidance in view of *SAS*).²

B. Real Parties-in-Interest

Petitioner identifies itself, as well as Eldon C. Stutsman, Inc. and Stutsman Holdings, Inc. as the real parties-in-interest. Pet. 1; *see also* Paper 5, 1. Patent Owner identifies itself and Nuhn Holdings Ltd. as the real parties-in-interest. Paper 4, 2.

C. Related Proceedings

Petitioner and Patent Owner state that the '835 patent, along with related U.S. Patent No. 10,974,557 (“the '557 patent”), U.S. Patent No. 11,358,425 (“the '425 patent”), and U.S. Patent No. 11,541,708 (“the '708 patent”) are involved in: *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC*, No. 3:22-cv-00015-SMR (S.D. IA) (“the '015 Litigation”); and *Nuhn Industries Ltd. v. Atlas Ag Services, LLC*, No. 1:23-cv-368-JLS (W.D. NY). Pet. 1; Paper 4, 2–4. The '425 patent is also being challenged in IPR2023-01161³ (“the '425 IPR”).

² Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

³ We granted institution of IPR2023-01161 on January 12, 2024.

D. Overview of the '835 patent

The '835 patent is titled, “Amphibious Pumping Vehicle” and “relates to pumps and vehicles equipped for pumping,” but more particularly, “to manure pumps and amphibious vehicles equipped for pumping liquid manure, such as animal manure contained in a farm lagoon.” Ex. 1001, code (54), 1:24–28. According to the '835 patent,

[m]anure produced during animal husbandry, particularly hog and cattle manure, is transferred by washing to a pit or lagoon for storage prior to removal for land application or further processing. During storage, a crust can develop on the surface of the pit or lagoon that must be disrupted prior to or during removal of the manure. Pumps are employed for this purpose with jets that return a percentage of the manure back to the pit or lagoon in the form of a high volume spray to disrupt the crust and recirculate the manure. *Pumps for use in recirculating manure from smaller pits are known*; however, these pumps are typically suitable for accessing the pit or lagoon from its edge and are connected to a tractor or similar land vehicle for operational power. They are therefore limited in their ability to recirculate manure to the middle of large lagoons, which are becoming increasing[ly] common as the size of animal husbandry operations increases.

Id. at 1:32–48 (emphasis added). Thus, the '835 patent identifies that “there is a need for improved pumps and vehicles equipped for pumping for use with large manure lagoons.” *Id.* at 1:49–51.

Figure 1, reproduced below, shows an embodiment of one such vehicle.

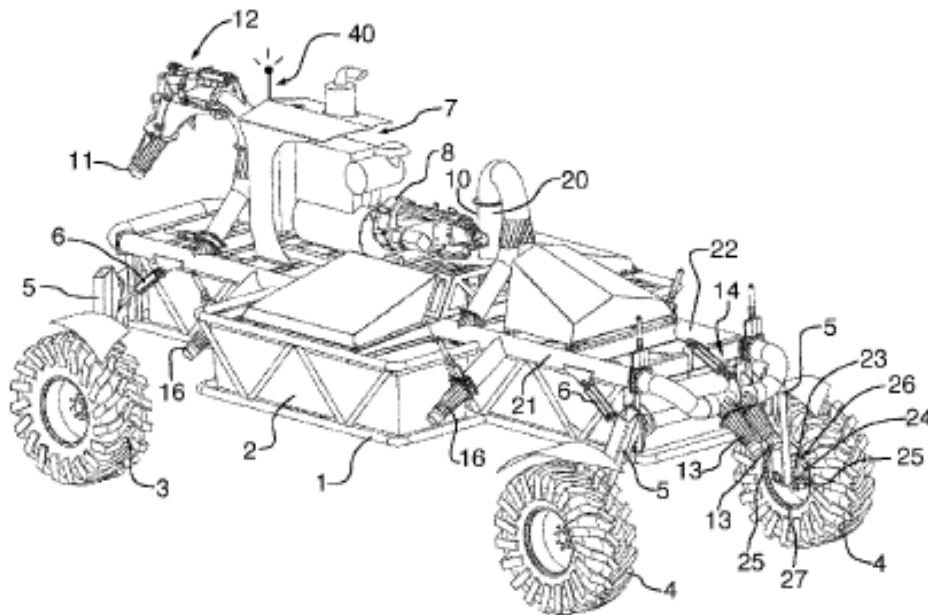


Figure 1 illustrates an amphibious vehicle with the following main components: a buoyant vehicle body (1, 2), a ground engaging propulsion structure of two sets of wheels (3, 4), a power source (7) such as an engine, a plurality of nozzles (11, 13, 16), and a remote control structure (40). Ex. 1001, 5:26–27, 5:36–38, 5:49, 5:53–54, 5:59–60, 7:55–57. The vehicle also includes a “fluid pump” which is fluidly connected to the nozzles, and a valve used to control flow of fluid from the pump to the nozzles. *Id.* at 5:42–48, 5:63–67.

The '835 patent describes using the vehicle in a large manure pit or lagoon to break up the crust that develops on top of the pit or lagoon, “prior to removal [of the manure] for land application or further processing.” Ex. 1001, 1:32–37, 1:44–48, 8:18–20. This is done by remotely driving the vehicle into and through the lagoon over remote control; first using the wheels, and then when floating, pumping fluid using the fluid pump to create fluid flow through the various nozzles. *Id.* at 8:5–14. “Once the vehicle is in the desired position, the valves associated with the first fluid nozzle are opened and” this nozzle can be controlled “so that the fluid is

sprayed widely to break crusts of material floating on the surface of the lagoon. In this manner, fluid is recirculated and directed to desired locations in the lagoon.” *Id.* at 8:14–21. The manure can then be removed from the lagoon. *Id.* at 8:21–27.

E. Illustrative Claim

Petitioner challenges claims 1–40 of the ’835 patent. Pet. 3. Challenged claims 1, 17, 39, and 40 are independent. Claim 1 is illustrative, and is reproduced below.

1. An amphibious vehicle comprising:
 - a floatable vehicle body;
 - a ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor;
 - a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating;
 - a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the liquid manure mover; and,
 - a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure; (2) control a flow of liquid manure from a liquid manure pump; (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating.

Ex. 1001, 8:37–57.

Independent claims 17, 39, and 40 are substantially similar to claim 1 except that claims 17 and 39 recite “(2) control a flow of liquid manure from the liquid manure mover” rather than “. . . from a liquid manure pump.” Ex.

1001, 9:59–60, 11:21–22. Independent claims 39 and 40 are substantially similar to claims 1 and 17, respectively, except that independent claims 39 and 40 further recite “a ground engaging propulsion structure comprising a set of wheels and wherein each wheel is powered by its own variable speed hydraulic motor.” *Id.* at 11:7–9, 12:5–7.

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–40 of the ’835 patent are unpatentable on the following seven grounds:

Claim(s) Challenged	35 U.S.C. §⁴	Reference(s)/Basis
1–10, 13–26, 29–40	102	Carrier ⁵
1–5, 7–21, 23–40	103	Truxor, ⁶ Yoon ⁷ , Carrier
1–5, 7–21, 23–40	103	SenwaTec, ⁸ Yoon, Carrier
1–40	103	Puck, ⁹ Bryham ¹⁰
1–40	102	Puck, Bryham, Bennett II ¹¹

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the ’835 patent’s priority date is after the AIA’s amendments to §§ 102 and 103, this decision refers to the AIA versions of §§ 102 and 103.

⁵ US 2012/0185129 A1, published July 19, 2012 (Ex. 1005, “Carrier”).

⁶ Dorotea Mekaniska AB, Truxor Amphibian Tool Carrier (Ex. 1006, “Truxor”).

⁷ KR 10-2013-0016490, published Feb. 18, 2013 (Ex. 1010). Petitioner provides an English language translation (Ex. 1011, “Yoon”).

⁸ SenwaTec, Schröer Environment and Water Technology, Light Amphibious Boat/Vehicle “Amphi-King®” SWT-AB380 (Ex. 1012, “SenwaTec”).

⁹ US 2014/0112093 A1, published Apr. 24, 2014 (Ex. 1014, “Puck”).

¹⁰ US 7,314,395 B2, issued Jan. 1, 2008 (Ex. 1015, “Bryham”).

¹¹ US 2021/0331752 A1, published Oct. 28, 2021 (Ex. 1017, “Bennett II”).

Petitioner also relies on the Declaration of Eric S. Winkel, Ph.D. (Ex. 1004). Patent Owner relies on the Declaration of Douglas S. Prairie (Ex. 2004).

II. ANALYSIS

A. *Legal Standards*

“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) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Except in limited circumstances not present here, this burden of persuasion does not shift to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

1. *Anticipation*

A prior art reference can only anticipate a claim if it discloses all the claimed limitations “arranged or combined in the same way as in the claim.” *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1361 (Fed. Cir. 2012) (quoting *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008)). “However, a reference can anticipate a claim even if it ‘d[oes] not expressly spell out’ all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would ‘at once envisage’ the claimed arrangement or combination.” *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015) (alteration in original) (quoting *In re Petering*, 301 F.2d 676, 681

(CCPA 1962)); *see also Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1343 (Fed. Cir. 2016) (distinguishing *Net MoneyIN* when the reference in question explicitly contemplated the combination of the disclosed functionalities).

2. *Obviousness*

A claim is unpatentable under 35 U.S.C. § 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 whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which that 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 ordinary skill in the art; and (4) objective evidence of nonobviousness when presented. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art “to combine . . . known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418. A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. Accordingly, a party who petitions the Board for a determination of unpatentability based on obviousness must show that “a skilled artisan

would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (citations omitted).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of invention. *Graham*, 383 U.S. at 17. Factors pertinent to determining the level of ordinary skill in the art include (1) the educational level of the inventor; (2) the type of problems encountered in the art; (3) prior-art solutions to those problems; (4) the rapidity with which innovations are made; (5) the sophistication of the technology; and (6) the educational level of workers active in the field. *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983). Not all factors may exist in every case, and one or more of these or other factors may predominate in a particular case. *Id.* Moreover, these factors are not exhaustive, but merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). Further, the prior art itself may reflect an appropriate skill level. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Petitioner asserts that at the time of the invention, one of ordinary skill in the art “had a bachelor’s degree in mechanical engineering or similar field, and two years of professional experience in marine and off-road

vehicles.” Pet. 31 (citing Ex. 1004 ¶¶ 81–82). Petitioner asserts that one of ordinary skill in the art “would have had a working knowledge of fluid pumps and livestock manure” and that “[l]ack of work experience can be remedied by additional education, and vice versa.” *Id.*

Patent Owner disagrees, arguing that one of ordinary skill in the art is “a livestock farmer or commercial manure applicator familiar with manure agitation equipment or an engineer with at least 2 years of experience designing agricultural equipment and knowledge of manure agitation equipment.” Prelim. Resp. 32 (quoting Ex. 2004 ¶ 64) (emphasis omitted). Patent Owner argues that Petitioner’s “definition inexplicably excludes those most familiar with manure agitation equipment – livestock farmers and the manure application business.” *Id.* at 31.

At this stage of the proceeding, we do not discern a material difference between the parties’ respective definitions of the level of ordinary skill in the art. For example, neither party provides argument that any position in their papers depends on any distinction between their definitions.

However, for the purposes of this Decision, we adopt Petitioner’s level of skill as most closely aligning with the problems and solutions in the ’835 patent and prior art of record. For example, contrary to Patent Owner’s argument, the claims are not limited to livestock farmer or commercial manure applicators. Further, and also contrary to Patent Owner’s argument, Petitioner’s definition allows for “those most familiar with manure agitation equipment – livestock farmers and the manure application business” through the definition’s statement that one of ordinary skill in the art would have “had a working knowledge of fluid pumps and livestock manure” and that

“[l]ack of work experience can be remedied by additional education, and vice versa.”

C. Claim Construction

Because Petitioner filed the Petition after November 13, 2018, we construe claim terms “using the same claim construction standard” that district courts use to construe claim terms in civil actions under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b). This rule adopts the same claim construction standard used by Article III federal courts, which follow *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny. Under that standard, the words of a claim are generally given their “ordinary and customary meaning,” which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent, including the specification. *See Phillips*, 415 F.3d at 1312–13. “[W]here a party believes that a specific term has meaning other than its plain meaning, the party should provide a statement identifying a proposed construction of the particular term and where the disclosure supports that meaning.” Office Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012); Patent Trial and Appeal Board Consolidated Trial Practice Guide (November 2019)¹² 44.

1. “Liquid Manure Mover” – Means-Plus-Function

a) Applicable Law

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

¹² Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

35 U.S.C. § 112(f).

“[U]se of the word ‘means’ in a claim element creates a rebuttable presumption that § 112, para. 6 applies.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 (Fed. Cir. 2015) (en banc) (addressing the pre-AIA version of § 112(f), which is identical to the AIA version). Conversely, “the failure to use the word ‘means’ also creates a rebuttable presumption . . . that § 112, para. 6 does not apply.” *Id.* at 1348. “[T]he essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* If not, then § 112(f) applies. *Id.*

If § 112(f) applies, then the first step in construing the claim limitation is to define the function recited in the claim. *See In re Aoyama*, 656 F.3d 1293, 1296–97 (Fed. Cir. 2011). “Where there are multiple claimed functions . . . the patentee must disclose adequate corresponding structure to perform all of the claimed functions.” *Media Rights Techs., Inc. v. Cap. One Financial Corp.*, 800 F.3d 1366, 1374 (Fed. Cir. 2015).

The second step is to look at the patent specification and identify the corresponding structure for the claimed function(s). *See Aoyama*, 656 F.3d at 1297. This requires that “the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Id.*

We then construe the claim limitation to cover the corresponding structure, and equivalents thereof. *See* 35 U.S.C. § 112(f).

b) Analysis

The parties agree that the term “liquid manure mover” does not have a sufficiently definite meaning to one of ordinary skill in the art, and as such,

35 U.S.C. § 112(f) applies. Pet. 32–34 (citing Ex. 1004 ¶¶ 76–77); Prelim. Resp. 32. The parties also appear to agree that the function of the “liquid manure mover” is to move manure. Pet. 35; Prelim. Resp. 33. The parties disagree, however, as to what structure disclosed in the Specification corresponds to the “liquid manure mover.” Pet. 36; Prelim. Resp. 33.

Petitioner contends that “[a] proper construction of the claim term ‘liquid manure mover,’ in light of the [S]pecification, is ‘a pump, a conduit, and a nozzle.’” Pet. 34. Petitioner explains

[c]laims 1, 17, and 39–40 state that the liquid manure mover is “hydraulically powered,” “separate from the ground engaging propulsion structure,” and “positioned within liquid manure when the vehicle is floating.” Claims 9–16 and 25–32 state that the liquid manure mover has an adjustable angular orientation and can be connected to a hydraulic cylinder.

Id. at 35. According to Petitioner, “[t]he only structure disclosed in the ’835 [p]atent that moves liquid manure, is hydraulically powered, submerged within the liquid manure, and is connected to a hydraulic cylinder with an adjustable angular orientation is the vehicle pumping system comprising the pump, conduits, and nozzle.” *Id.* at 35–36.

Patent Owner disagrees with Petitioner’s proposed construction. Prelim. Resp. 32–33. Patent Owner highlights various passages from the ’835 patent’s Specification (*id.* at 33 (citing Ex. 1001, 3:1–28)), and argues that the Specification “talks specifically about a manure pump rather than a generic pump, the corresponding structure disclosed in the [S]pecification for a ‘liquid manure mover’ is more appropriately formulated as an ‘immersible liquid manure pump, fluid conduit(s), and fluid nozzle(s).” *Id.* (citing Ex. 2004 ¶ 78).

On the current record, and for purposes of this decision, we decline to adopt Patent Owner’s proposed construction of “immersed liquid manure pump, fluid conduit(s), and fluid nozzle(s),” as the corresponding structure for the “liquid manure mover,” under 35 U.S.C. § 112(f). Patent Owner’s citation to the Specification fails to adequately explain what structure requires the pump to be “immersed,” as opposed to one of the fluid conduits being “immersed,” or sets forth any specific structure delineating what constitutes a “liquid manure” pump. Patent Owner’s argument confuses the structure of a pump, with merely reciting a function as required by the statute. The fact that a device, such as a pump, performs a function, such as being immersed and/or pumping liquid manure is insufficient to show that one of ordinary skill in the art would understand that a pump denotes a particular structure based on the citations to the Specification provided by Patent Owner. In this regard, we note that the Specification is replete with reference to a “fluid pump.” *See, e.g.*, Ex. 1001, 1:55–62, 2:53–3:20. Thus, the term “liquid manure” in a “liquid manure pump” is more appropriately characterized as being related to a potential use or function use rather than a structure.

For these reasons and on the current record, Patent Owner has not adequately shown that the corresponding structure for a “liquid manure mover” is an “immersed liquid manure pump, fluid conduit(s), and fluid nozzle(s).” Instead, based on the current record and for purposes of institution, we agree with Petitioner that the corresponding structure for a “liquid manure mover” appears to be “a pump, a conduit, and a nozzle.”

Although we adopt Petitioner’s proposed construction at this stage of the proceeding, on this record, it is unclear as to whether either parties’

proposed construction for the claim term “liquid manure mover” is proper. For example, in addition to the “liquid manure mover,” claims 1 and 39 also positively recite “a liquid manure pump” (Ex. 1001, 8:50–53, 11:19–22)¹³, which may suggest that a pump, should not be identified as one of the corresponding structure for the term “liquid manure mover,” when properly construed. Here, as Petitioner points out, the claim term “[l]iquid manure mover’ may describe any number of structures, such as, for example, paddles, fans, pistons, jets, stirrers, compressors, turbines, valves, or ejectors, or even a boat’s hull. The term provides no bounds for ascertaining its scope.” Pet. 35 (citing Ex. 1004 ¶ 77).

We encourage the parties to further develop this argument (such as to the extent it would differentiate the prior art) and their positions at trial.

2. “*Liquid Manure Pump*”

Claims 1 and 39 also recites “a wireless remote control configured to enable an operator . . . to: . . . (2) control a flow of liquid manure from a liquid manure pump.” Ex. 1001, 8:50–53, 11:19–22.

Patent Owner contends “that a ‘liquid manure pump’ is ‘a pump that pumps liquid manure’ rather than simply a pump that might be able to pump liquid manure in the theoretical sense.” Prelim. Resp. 34 (emphasis

¹³ Whereas independent claims 1 and 39 further recite “a wireless remote control configured to enable an operator who is remote from the vehicle to . . . (2) control a flow of liquid manure from *a liquid manure pump*” (Ex. 1001, 8:50–53, 11:19–22) (emphasis added)), claims 17 and 40 do not include such a recitation, and thus, the scope of claims 17 and 40 differs. Claims 17 and 40 instead recite “a wireless remote control configured to enable an operator who is remote from the vehicle to . . . (2) control a flow of liquid manure from *the liquid manure mover*.” *Id.* at 9:57–60 (emphasis added).

omitted). To support its contention, Patent Owner directs our attention to reexamination of the '557 patent. *Id.* at 34–35. During reexamination, Patent Owner argues that when it attempted to add a new independent claim reciting “a fluid pump configured to pump liquid manure,” the Central Reexamination Unit (CRU) rejected the new claim under 35 U.S.C. § 305 as enlarging the scope of the claims because the newly added “configured to” language was broader than the original “for pumping” language. *Id.* at 34–35 (emphases omitted; citing Ex. 1032, 26, 38). According to Patent Owner, the CRU determined that “a pump that pumps manure has different requirements than one that pumps water,” and that “the prior art does not reasonabl[y] show an amphibious vehicle that can be mobile on both land and liquid that pumps manure.” *Id.* at 35 (emphasis omitted; citing Ex. 1032, 26).

On the current record, and for purposes of this decision, we decline to adopt Patent Owner’s proposed construction for the term “liquid manure pump.” At the outset, we do not find Patent Owner’s reliance on the '557 patent’s reexamination proceeding to be persuasive at least because it relates to the CRU’s understanding of a “pump configured to pump liquid manure” or a “pump for pumping liquid manure,” which is not the same recitation at issue here, i.e., “liquid manure pump.” We acknowledge that the '835 patent’s Specification discloses that “when [a] fluid is manure comprising solid materials [it] can plug the pump or priming structure” (Ex. 1001, 3:16–17), however, it is unclear whether the '835 patent is referring problems related to priming the pump in a liquid manure environment or pumping liquid manure itself. *See id.* at 3:13–20 (discussing the benefits of immersing a pump into fluid). In addition, Patent Owner does not provide

argument at this stage as to what specific structure is required to pump liquid manure.

At this stage, however, the parties appear to agree that liquid manure includes at least some suspended solids. *See, e.g.*, Pet. 40 (“Liquid manure has the lowest solids content of the various forms of manure and exhibits properties very much like water.”); Prelim. Resp. 40 (citing Ex. 1001, 1:25–53, 3:14–21 (“[T]he ‘835 [p]atent [S]pecification equates ‘liquid manure’ to ‘animal manure contained in a farm lagoon’ and further explains that liquid manure includes solids and a surface crust.”)). Given that both parties agree that liquid manure includes suspended solids, for purposes of this decision, we construe the term “liquid manure pump” only to the extent that it requires a pump with a structure that is capable of pumping liquid with suspended solids. We encourage the parties to further develop this argument (such as to the extent it would differentiate the prior art) and their positions at trial.

No other terms require express construction at this stage. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Alleged Anticipation by Carrier (Ground 1)

Petitioner asserts that claims 1–10, 13–26, and 29–40 are anticipated by Carrier. Pet. 38–50. Petitioner also relies on the testimony of Dr. Winkel to support its arguments. *Id.* (citing Ex. 1004). Patent Owner presents arguments disputing Petitioner’s contentions based on Carrier. *See* Prelim. Resp. 36–44.

1. Overview of Carrier (Ex. 1005)

Carrier is entitled “All-Terrain Hostile Environment Vehicle.” Ex. 1005, code (54). Carrier’s vehicle is “equipped with various aid units such as quick exchange medical, hazardous material, construction, search, rescue, communications, fire fighting, tracking and weapon units which can be deployed in remote areas or areas not accessible by paved roads.” *Id.* ¶ 3. Carrier discloses that conventional military vehicles have limited utility in terrains that may “muddy” or “swampy.” *Id.* ¶ 6. Carrier provides a vehicle that overcome these difficult environments as shown below.

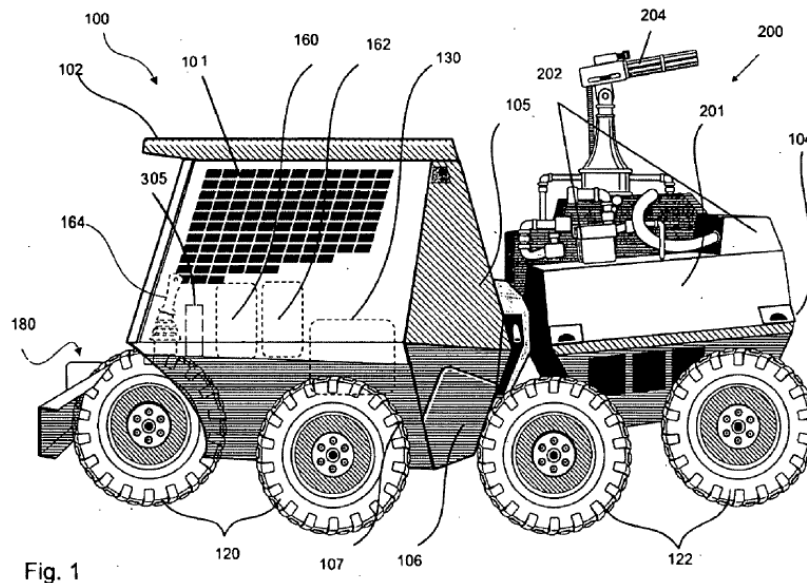


Figure 1 above is a plan view of a vehicle 100. *Id.* ¶ 29. Vehicle 100 includes first chassis 102 “hingedly connected” to second chassis 104 by hinge mechanism 106. *Id.* ¶ 38. Carrier discloses

[e]ach of the first and second chassis 102 and 104 include a plurality of wheels 120 and 122, respectively, which can each preferably be operably connected to a hydraulic or other propel means wheel motor 124 and 126, respectively. The hydraulic or other propel means wheel motors 124 and 126 can preferably be of a direct wheel mount type, such as the Bosch Rexroth MCRS-

380 which are operably connected [to] a transmission and or hydraulic pump or a combination of pumps which are operably connected to an engine 130 which can preferably be operably connected to the first chassis 102 or optionally second chassis 104.

Id. ¶ 39.

Carrier discloses that its second “chassis 104 can include functional engines firefighting equipment 200 including a water tank, 201, dual engine pumps 202 and hoses with nozzles 204 all of which are operatively interconnected.” Ex. 1005 ¶ 50. Carrier further discloses “a screen to filter debris that would otherwise clog hoses, pump 202 to refill the tank 201 from lakes, ponds, or streams.” *Id.* ¶ 63. Carrier describes that “fighting equipment 200 can be equipped with quick release pump systems that can provide various pressure and volume outputs to flow sufficient volumes of water.” *Id.* ¶ 51. In addition, Carrier discloses that “fighting equipment 200 can be self powered (i.e., dual engines 202) or can be powered by the vehicle engine 130 through stacked hydrostatic PTO (Power Take Off) or hybrid electrical drive systems” and be controlled remotely. *Id.* ¶¶ 51, 59.

2. *Analysis of Claim 1*

Petitioner asserts claim 1 is anticipated by Carrier. Pet. 39–42 (citing Exs. 1001, 1004, 1005). We use Petitioner’s notations to identify the claim elements.

a) *[1.0] An amphibious vehicle comprising:*

Petitioner asserts that Carrier discloses an “‘amphibious’ vehicle.” Pet. 39 (citing Ex. 1005 ¶ 79).

b) *[1.1] a floatable vehicle body;*

Petitioner asserts that Carrier discloses “a floating vehicle hull.” Pet. 39 (citing Ex. 1005 ¶ 26).

- c) *[1.2] ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor;*

Petitioner asserts that Carrier discloses an that “the vehicle may include ‘preferably eight wheels’ that are driven by hydraulic motors.” Pet. 39 (citing Ex. 1005 ¶¶ 26, 45, 54).

- d) *[1.3] a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating;*

Petitioner asserts that Carrier discloses “a firefighting system including pumps, hoses (conduits), and nozzles.” Pet. 39 (citing Ex. 1005 ¶¶ 50–51). Petitioner further asserts that Carrier’s “firefighting system is separate from the ground engaging propulsion structure” and “powered by the vehicle engine through stacked hydrostatic drive systems.” *Id.* (citing Ex. 1005 ¶ 51). Petitioner adds that Carrier discloses that its “firefighting system ‘is capable of pumping water from a lake or stream onto a fire.’” *Id.* (citing Ex. 1005 ¶ 61). According to Petitioner, Carrier discloses that “at least a portion of the pump, conduits, and/or nozzles (liquid manure mover) are positioned within the liquid manure (or lake or stream) when the vehicle is floating to draft fluid from the fluid source.” *Id.* at 39–40.

Relying on the declaration testimony of Dr. Winkel, Petitioner contends that “[m]anure is categorized based on its solids content as a liquid, slurry, semisolid, or solid” and “[l]iquid manure has the lowest solids content of the various forms of manure and exhibits properties very similar to water.” Pet. 40 (citing Ex. 1004 ¶ 211). Also relying on Dr. Winkel’s declaration testimony, Petitioner takes the position that “[c]onventional water pumps are used for pumping liquid manure,” and argues, that because Carrier discloses that its “high-volume firefighting pump” is “capable of

pumping water from a lake or a stream” (*id.* (citing Ex. 1005 ¶ 61)), Carrier “necessarily discloses a hydraulically powered system (pump, conduits, and nozzles) separate from the ground engaging propulsion structure that can move liquid manure,” as required by limitation [1.3]. *Id.* (citing Ex. 1004 ¶ 211).

To further support its position, relying on Dr. Winkel’s declaration testimony, Petitioner contends that “before the priority date of the ’835 [p]atent, screens had been used in conjunction with liquid manure pumping to prevent larger solids from entering the pump while allowing smaller solids to pass through the pump.” Pet. 41 (citing Ex. 1004 ¶ 213). Petitioner asserts that Carrier discloses “a screen to filter debris” (Pet. 41 (citing Ex. 1005 ¶ 63)), and as such, “[t]he screen, in combination with the pump, helps Carrier’s pump to pump liquid manure as taught in the prior art.” *Id.* (citing Ex. 1004 ¶ 214). Thus, Petitioner concludes that Carrier discloses the subject matter of limitation [1.3].

e) [1.4] a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the liquid manure mover; and;

Petitioner asserts that Carrier discloses “an engine connected to and powering a hydraulic pump.” Pet. 41 (citing Ex. 1004 ¶ 39). Petitioner further asserts that “[t]he power source, through the hydraulic system, powers the wheel motors” (*id.* (citing Ex. 1004 ¶ 39)) and “the fluid pump is ‘powered by the vehicle engine 130 through stacked hydrostatic PTO (Power Take Off).’” *Id.* (citing Ex. 1004 ¶¶ 39, 51).

f) [1.5] a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion

structure; (2) control a flow of liquid manure from [a liquid manure]¹⁴ pump; (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating.

Petitioner asserts that Carrier discloses “a wireless remote control” and that “the operations of each unit described herein can be performed by remote control.” Pet. 42 (citing Ex. 1005 ¶ 64); *see also id.* ¶¶ 58–59, 65, 79).

3. Patent Owner’s Contentions regarding Claim 1

Patent Owner contends that Petitioner’s ground of unpatentability based on Carrier is deficient because Carrier fails to disclose “a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating,” as recited by limitation [1.3]. *See* Prelim. Resp. 36; *see also id.* at 37–44 (citing Ex. 2004). In addition, Patent Owner argues that Carrier cannot the wireless remote control limitations, as recited by limitation [1.5] because Carrier does not “disclose a liquid manure pump let alone any structure that ‘control[s] a flow of liquid manure.’” *Id.* at 43 (citing Ex. 2004).

4. Discussion of Claim 1

At this stage of the proceeding, we do not determine whether Carrier discloses a “liquid manure mover” or “liquid manure pump.” This question is best left for trial after further development of the record as to what

¹⁴ Petitioner’s Claim Listing improperly reproduces limitation 1.5 to recite “the fluid pump.” Pet. 112 (Claims Appendix). Limitation 1.5 properly recites “a liquid manure pump.” Ex. 1001, 8:53.

structure is required of a pump that is capable of pumping liquid with suspended solids.

E. Alleged Obviousness over Truxor and Yoon or Carrier (Ground 2)

Petitioner asserts that claims 1–5, 7–21, and 23–40 are unpatentable as obvious over Truxor and Yoon or Carrier. Pet. 50–67. Petitioner also relies on the testimony of Dr. Winkel to support its arguments. *Id.* (citing Ex. 1004). Patent Owner presents arguments disputing Petitioner’s assertions. *See* Prelim. Resp. 44–59 (citing Ex. 2004).

We address Petitioner’s contentions and Patent Owner’s arguments below, beginning with the motivation to combine Truxor and Yoon or Carrier. We first provide a brief overview of the asserted references.

1. Overview of Truxor (Ex. 1006)

Truxor is a brochure that describes two different models of amphibious vehicles that are designed to power various tool attachments. Ex. 1006, 2. For example, Truxor discloses that its multi-function amphibious machine may be fitted with a dredge pump illustrated below. *Id.* at 5.



In the above illustration, Truxor's amphibious vehicle is shown in a source of water with what appears to be a dredging tool actively dredging material from the bottom of the water source. *Id.* at 10. Tuxor describes that its dredge pump is a "Doro Pump" that "is operated by a hydraulic motor and has a capacity of 10–40 m³/h." Truxor discloses

[t]he Doro Pump is available with two types of feeds to the pump inlet: wheel feeding or screw feeding. The wheel feeder has a rotating wheel with horizontal cutters and vertical teeth which aerate the sediment and cut off roots to facilitate the feeding into the inlet of the pump. The rotating wheel gives a greater flow of sediment to the pump inlet when the sediment is soft.

Id. More particularly, Truxor discloses

[w]hen dredging harder sediments, screw feeding can give a more stable flow to the pump inlet. For sediment containing solid objects, e.g. stones, bits of wood, etc., screw feeding is recommended. The in-feed is important to give the pump an even flow of sediment, which can also be facilitated by knives mounted on the suction intake of the pump.

Id. In addition, Truxor discloses that "[t]he Doro Pump can be delivered with a hydraulically run telescopic arm as an accessory which will increase the dredging depth and facilitate the manoeuvring [sic]." *Id.*

Truxor also discloses other dredge pumps. For example, the "dredge pump 2500" for pumping sediment that may be equipped with a suction funnel. Ex. 1006, 11. Truxor also discloses "the "Sala Roll Pump" that "[p]umps light sediment with a minimum amount of water" and "works with a strong vacuum and high pressure" that "allows sediment to be transported long distances." *Id.* Truxor describes that the "Sala Roll Pump" that "[t]he dredging pipe is mounted on to the lift arm which can be pressed down into the sediment." *Id.*

2. Overview of Yoon (Ex. 1011)

Yoon (Ex. 1010) is a Korean patent publication entitled “An Amphibious Water Treatment Device” which was designed “to provide a pumping system to be used with water treatment devices that are placed in streams, storage tanks, reservoirs, and so on where industrial waste materials are contained, and to provide an amphibious water treatment device to treat wastewater and sludge discharged by sludge filtering systems.” Ex. 1011, code (54), ¶ 18 (English language translation). Figure 2 of Yoon, reproduced below, shows an example of the amphibious water treatment device. *Id.* ¶ 42.

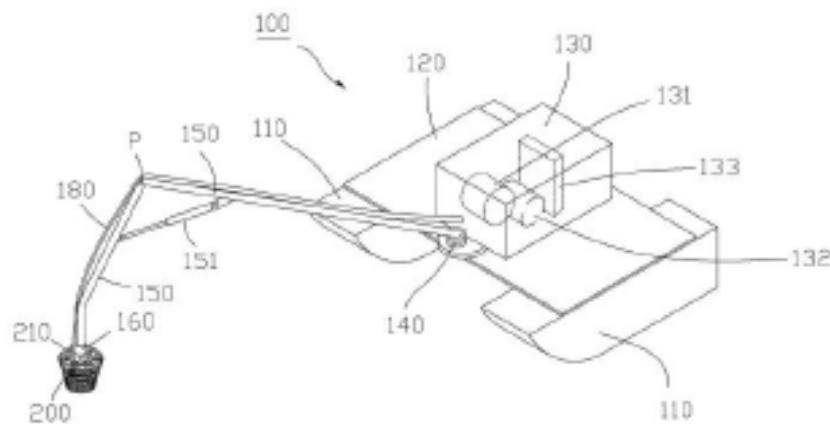


Figure 2 illustrates Yoon’s amphibious water treatment device (100) with a pair of floaters (110, 110), main body (130) with water pump (131) and controller (133), rotating link component (150) at the front with a water motor (160) and sludge filtering device (200) on the end. *Id.* ¶ 47. The sludge filter device surrounds water motor (160) and allows “only light floating materials [to] pass.” *Id.*

Yoon also teaches that “a remote receptor (not illustrated) is installed on the controller (133) . . . in order for the operator to control work using a remote controller from the land.” *Id.* ¶ 48.

3. *Motivation to Combine Truxor and Yoon or Carrier*

Petitioner asserts that Truxor discloses “an amphibious pumping/dredging vehicle used in ponds, lakes, and hazardous environments” that may be controlled locally using “joysticks for steering and the operation of the tools.” Pet. 51 (citing Ex. 1006, 3). Petitioner contends that Truxor’s operators wear “specialized safety equipment” while operating the vehicle. *Id.* (citing Ex. 1006, 1, 5).

Petitioner asserts that “Yoon discloses an amphibious water treatment vehicle for pumping sludge and manure in waste material reservoirs” that may be controlled via a remote-control that “allow[s] the operator to control the vehicle from land.” Pet. 52 (citing Ex. 1011 ¶ 48). Petitioner contends that

Yoon teaches preventing “industrial disasters” by implementing remote-control technology on amphibious vehicles used in dangerous conditions, such as in areas that “contain materials that are harmful to humans and generate foul odor.” [Ex. 1011 ¶ 13]. As recognized by Yoon, dangers of manure lagoons and the toxic gasses emitted therefrom are well documented.

Id. (citing Ex. 1004 ¶¶ 114–121).

According to Petitioner, one of ordinary skill in the art “would have been motivated to add wireless remote-control functionality to Truxor in view of the teachings of Yoon or Carrier to provide a safer way of controlling the Truxor vehicle during dangerous dredging, excavation, and decontamination.” Pet. 51 (citing Ex. 1004 ¶ 247). In addition, one of ordinary skill in the art “would have understood that wireless remote-control systems were well known in the art and that such remote control systems could be used with nearly any type of equipment with predictable results.”

Id. (citing Ex. 1004 ¶¶ 130–132).

Petitioner further asserts that “Carrier discloses an amphibious pumping vehicle for hazardous material decontamination” and “remote-control system on the vehicle for controlling the pump and for driving the vehicle on land and in water.” Pet. 52 (citing Ex. 1005 ¶¶ 3, 7, 50–51, 59, 64–65). Petitioner contends that Carrier describes the advantages of its vehicle being remotely controlled. *Id.* at 52–53 (citing Ex. 1005 ¶¶ 59, 65). According to Petitioner, one of ordinary skill in the art “would have been motivated to combine the amphibious dredging and water treatment device of Truxor with remote-control technology, like that of Yoon or Carrier, to eliminate the risk of harm to operators of the vehicle.” *Id.* at 53 (citing Ex. 1004 ¶¶ 247–254). Petitioner adds that one of ordinary skill in the art knew, in fact, “to add remote control to Truxor to make it safer.” *Id.* (citing Exs. 1023, 1024). Thus, Petitioner concludes

[i]t would have been obvious to apply the known technique of remote control to the known device described by Truxor, which, as recognized by Melnikov, was ready for the improvement. The combination would have yielded the predictable result of permitting operation of the Truxor vehicle while stationing the operator at a safe location and would have provided a reasonable expectation of success.

Id. (citing Ex. 1004 ¶¶ 235–254).

4. *Analysis of Claim 1*

Petitioner asserts that claim 1 is unpatentable as obvious over Truxor and Yoon or Carrier. Pet. 54–59 (citing Exs. 1001, 1004, 1005, 1006, 1011). We use Petitioner’s notations to identify the claim elements.

a) [1.0] *An amphibious vehicle comprising:*

Petitioner asserts that Truxor discloses “an amphibious vehicle.” Pet. 55 (citing Ex. 1006).

b) [1.1] a floatable vehicle body;

Petitioner asserts that Truxor discloses “a vehicle body comprising pontoons made of saltwater-durable aluminum.” Pet. 55 (citing Ex. 1006, 3).

c) [1.2] ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor;

Petitioner asserts that Truxor discloses “an amphibious vehicle equipped with tracks for maneuvering in either aquatic or land environments.” Pet. 55 (citing Ex. 1006, 2–3). According to Petitioner, “Truxor describes how the vehicle includes a hydraulic system and has ‘hydraulic operation of all equipment.’” *Id.* (citing Ex. 1006, 3); *see also id.* (citing Ex. 1006, 15 (depicting hydraulic motors)).

d) [1.3] a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating;

Petitioner asserts that Truxor discloses a “dredging pump attachment” for its amphibious vehicle. Pet. 56 (citing Ex. 1005, 2, 10). Petitioner asserts that the dredging pump described by Truxor is “The Doro Pump,” which is operated by a hydraulic motor “and includes a conduit, a nozzle, and fluid pump.” *Id.* (citing Ex. 1006, 10). Petitioner explains that the dredging pump in Truxor “may include screw feeds and wheel feeds to provide cutters and teeth to cut vegetation and facilitate pumping and dredging hard and soft sediments.” *Id.* (citing Ex. 1006, 10).

Relying on the declaration testimony of Dr. Winkel, Petitioner argues that even though “liquid manure can be pumped by irrigation or water pumps, the Doro Pump provides an increased ability to pump manure of different forms and consistencies, including liquid manure, slurry, and

semisolid manure, which have higher solids contents than liquid manure.” Pet. 57 (citing Ex. 1004 ¶ 261). Petitioner contends that “[d]redge systems were known in the art for pumping higher solid concentration manure, and the Doro Pump dredger could readily, and necessarily pump liquid manure.” *Id.* (citing Ex. 1004 ¶ 261). Petitioner also asserts that Truxor’s “fluid pump is submerged while the vehicle is floating and is separate from the ground engaging propulsion structure.” *Id.* (citing Ex. 1006, 5). Petitioner concludes that Truxor’s “Doro Pump system (including the dredging pump, conduit, and nozzle) performs the function of moving liquid manure and is therefore a liquid manure mover.” *Id.*

- e) *[1.4] a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the liquid manure mover; and;*

Petitioner asserts that Truxor discloses “a hydraulic system, powered by a diesel engine, with hydraulic operation of all equipment.” Pet. 58 (citing Ex. 1006, 2). Petitioner further asserts that Truxor’s hydraulic pump drives hydraulic motors that powers the fluid pump and paddle tracks.” *Id.* (citing Ex. 1006, 3, 10; Ex. 1004 ¶ 262).

- f) *[1.5] a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure; (2) control a flow of liquid manure from [a liquid manure]¹⁵ pump; (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating.*

Petitioner asserts that “Truxor teaches an amphibious vehicle with paddle tracks that vary the speed and direction of the vehicle on land and

¹⁵ Petitioner’s Claim Listing improperly reproduces limitation 1.5 to recite “the fluid pump.” Pet. 112 (Claims Appendix). Limitation 1.5 properly recites “a liquid manure pump.” Ex. 1001, 8:53.

water, and a pump that can be used to pump liquid manure.” Pet. 58 (citing Ex. 2–5, 10). Petitioner further asserts that “Yoon and Carrier each disclose a remote-control system for amphibious pumping vehicles enabling operators to remotely control the vehicle and its attachments.” *Id.* (citing Ex. 1011 ¶ 48; Ex. 1005 ¶¶ 59, 64–65; Pet. 42). Based on the reasons discussed above in (*see* § II.E.3), Petitioner contends that the combination of Truxor and Yoon or Carrier “would have allowed for remote control of the ground engaging propulsion structure, flow of fluid from the pump, and the speed and direction of the vehicle when floating or ground.” *Id.* at 59 (citing Pet. 51–54).

5. *Patent Owner’s Contentions regarding Claim 1*

Patent Owner contends that Petitioner’s ground of unpatentability based on Truxor and Carrier or Yoon is deficient. *See* Prelim. Resp. 44–59 (citing Ex. 2004). Patent Owner argues first that Truxor fails to disclose or suggest a “liquid manure mover,” that when properly construed, requires “an ‘immersible liquid manure pump, fluid conduit(s), and fluid nozzle(s)’” or a “liquid manure pump. *Id.* at 44–45; *see also id.* at 46–50. Patent Owner argues next that Petitioner fails to establish that one of ordinary skill in the art “would have had a reasonable expectation of success in achieving the claimed invention through a combination of Truxor with Yoon or Carrier.” *Id.* at 51–59. We address each argument in turn.

a) *Liquid Manure Mover / Liquid Manure Pump*

Patent Owner argues that the Truxor’s “vehicle is not a manure agitation vehicle and its marketing brochure does not teach or suggest that it is.” Prelim. Resp. 45. Patent Owner acknowledges that Truxor discloses a dredge pump attachment “designed for pumping light sediments,” but argues

that “[t]here are absolutely no references to manure, farm lagoons, or livestock farming in Truxor’s marketing brochure” or any teaching or suggestion that Truxor’s Doro pump “pump[s] manure.” *Id.* at 46–48 (citing Ex. 1006, 1, 10; Ex. 1027, 123). Instead, Patent Owner contends that Petitioner improperly resorts to unsupported and conclusory testimony from Dr. Winkel to “**add** to the teachings of Truxor by explaining that the Doro Pump attachment provides an increased ability to pump manure and performs the function of moving liquid manure.” *Id.* at 48–49.

Having considered the conflicting positions of the parties, we conclude that, at this stage of the proceeding, Petitioner has shown a reasonable likelihood that it would prevail in establishing that Truxor’s dredge pump is capable of pumping liquid with suspended solids. At this stage of the proceeding, we credit Dr. Winkel’s declaration testimony that “[d]redge systems were known in the art for pumping higher solid concentration manure.” Ex. 1004 ¶ 261 (citing Ex. 1037, 3; Ex. 1052, 2; Ex. 1060, 64).

We disagree with Patent Owner that Dr. Winkel’s declaration testimony is unsupported and conclusory. Prelim. Resp. 47–49. Instead, we find Dr. Winkel’s opinion to be supported by reference to Exhibits 1037, 1052, 1060. In our view, Exhibit 1052, for example, provides adequate evidence to support Dr. Winkel’s statement that “[d]redge systems were known in the art for pumping higher solid concentration manure.” Ex. 1004 ¶ 261. Exhibit 1052 is a publication entitled “Solids Removal From Livestock Manure Lagoons,” and discloses a dredge that is “used to remove solids from municipal and industrial lagoons.” Ex. 1052, 2; *see also* Exhibit 1060, 64 (“In some cases where solids have settled in a semisolid or slurry

waste storage, the storage structure may require dredge agitation equipment.”). We also disagree with Patent Owner’s contention that Petitioner’s reliance on Dr. Winkel’s declaration testimony is improper because it lacks a “comparative analysis” between pumps. Prelim. Resp. 48–49. Based on the current record, we see no reason for any additional comparative analysis.

Concerning the prosecution history, it is unclear why Patent Owner argues that claim 1 requires that the liquid manure pump must actually pump manure. Prelim. Resp. 50; *see also id.* at 32–36, 49–50 (Patent Owner similarly argues that the Specification discusses pumping manure). Claim 1 is a system claim, not a method claim, and thus is not directed to a method of pumping manure. The fact that an examiner mentioned (or the Specification discusses) “a pump that pumps liquid manure” during prosecution does not change the claim in the manner suggested so that a pump that is capable of pumping manure would not satisfy the claim. *Id.*; *see In re Swinehart*, 439 F.2d 210, 213 (CCPA 1971) (“‘Functional’ terminology may render a claim quite broad. By its own literal terms a claim employing such language covers any and all embodiments which perform the recited function.”); *see also* Prelim. Resp 32–33 (Patent Owner arguing that “a liquid manure mover” is a functional limitation).

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that Truxor teaches the noted limitations of claim 1, including a liquid manure mover or a liquid manure pump.

b) Reasonable Expectation of Success in Combining Truxor and Carrier or Yoon

Patent Owner asserts that the Petition does not provide sufficient reason to show why one of skill in the art “would have had a reasonable expectation of success” in combining Truxor and Carrier or Yoon. Prelim. Resp. 51–52. Patent Owner identifies a number of reasons why it argues a reasonable expectation of success has not been shown. *Id.* at 52–59.

Patent Owner first argues that Petitioner’s reliance on Melnikov, as evidence to support its contention that one of ordinary skill in the art would have had a reasonable expectation of success in adding Carrier or Yoon’s remote-control functionality to Truxor is misplaced. Prelim. Resp. 52. Petitioner cited Exhibit 1024¹⁶ (“Melnikov”) to demonstrate that using a human operator in a Truxor vehicle was a drawback. Pet. 53–54 (citing Ex. 1025, 4). According to Petitioner, “Melnikov describes adding remote control to Truxor-like amphibious machines with a pump for spraying liquid biopreparations.” *Id.* (citing Ex. 1025, 4–5).

Patent Owner acknowledges that Melnikov teaches using a remote control and that using a human operator in Truxor’s vehicle is a drawback. Prelim. Resp. 52. However, Patent Owner argues that Melnikov doesn’t teach adding a remote to a Truxor-like vehicle. *Id.* Rather, Patent Owner argues that Melnikov designed a new and different propulsion system and pump that are remote controlled. *Id.* at 52–53. Patent Owner argues that if it would have been obvious to add a remote control to Truxor, this is what Melnikov would have done, rather than come up with new designs. *Id.* at 53–54.

¹⁶ English language translation of Ex. 1023.

Patent Owner's argument does not discredit Petitioner's position or reasoning. Patent Owner admits that Melnikov teaches exactly what Petitioner relies on it as teaching. Patent Owner does not contest that Truxor would be safer without a human operator and thus does not contest the reason to combine. Rather Patent Owner identifies that Melnikov teaches a propulsion system and pump with a design different from Truxor. Though, Melnikov may also suggest to one of skill in the art to make additional changes, this does not diminish the ability of Melnikov to suggest any number of changes individually, or collectively.

Further, Patent Owner does not argue, and we see no reason to believe, that adding remote control to Truxor is not within the ability of one of skill in the art. *See KSR Int'l Co.*, 550 at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Patent Owner then identifies a number of drawbacks with using a remote control with Truxor's vehicle and reasons that would dissuade one of ordinary skill in the art from adding remote-control capability to Truxor. Prelim. Resp. 54–59. Patent Owner argues that “remotely controlling the positioning and operation of a submerged pump on the end of a boom arm would be problematic given the difficulty of observing its operation from a remote location.” *Id.* at 54–55 (citing Ex. 2004 ¶ 130). Patent Owner argues that “[t]he difficulties with converting . . . hydraulic controls to wireless remote control is well documented and would be known to a POSITA.” *Id.* at 57 (citing Ex. 2004 ¶ 126). And Patent Owner argues that adding remote controls to Truxor would increase the known titling or rollover risk associated with vehicle such as Truxor. *Id.* at 58–59 (citing Ex. 1007, 128; Ex. 1004 ¶ 249; Ex. 2004 ¶¶ 134–135, 257, 336).

Though Patent Owner identifies these potential drawbacks, there are almost always tradeoffs to different designs. On the record before us, this does not discredit Petitioner’s reasoning that adding remote control to Truxor would increase the safety of the operator. Ex. 1004 ¶ 247. *See also Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“[A] given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”).

c) Claim 1 – Conclusion

After our review of Petitioner’s assertions with respect to claim 1 and the supporting evidence (as summarized above), we determine that Petitioner has established a reasonable likelihood of prevailing.

6. Claims 2–5, 7–21, and 23–40

Petitioner argues that the combination of Truxor and Yoon renders obvious claims 2–5, 7–21, and 23–40. Pet. 59–67. Patent Owner does not address the dependent claims. Having determined that Petitioner has met its burden for institution with respect to claim 1, we decline to address the remaining claims.

F. Alleged Obviousness over SenwaTec and Yoon or Carrier (Ground 3)

Petitioner asserts that claims 1–5, 7–21, and 23–40 are unpatentable as obvious over SenwaTec and Yoon or Carrier. Pet. 67–80. Petitioner also relies on the testimony of Dr. Winkel to support its arguments. *Id.* (citing Ex. 1004). Patent Owner presents arguments disputing Petitioner’s assertions. *See* Prelim. Resp. 59–80 (citing Ex. 2004).

We address Petitioner’s contentions and Patent Owner’s arguments below, beginning with the motivation to combine SenwaTec and Yoon or Carrier. We first provide a brief overview of SenwaTec.

1. *Overview of SenwaTec (Ex. 1012)*

SenwaTec is a brochure describing the “Light Amphibious Boat/Vehicle ‘Amphi-King®’ SWT-AB380.” Ex. 1012, 1. A version of the vehicle is shown in the Figure reproduced below. *Id.*



The above figure from SenwaTec, shows an amphibious vehicle in a water source with a forward crane with an attached tool that appears to include a nozzle. SenwaTec teaches that its crane is capable of working below the water level and may be equipped with a “powerful centrifugal pump” that is “hydraulically driven” and “deliver[s] 40 kW of pumping power.” *Id.* at 2–3. SenwaTec also teaches that the vehicle includes a diesel engine and a hydraulics system. *Id.* at 3.

2. *Motivation to Combine SenwaTec and Yoon or Carrier*

Petitioner assert that “[t]he motivation to combine SenwaTec with the remote-control teachings of Yoon or Carrier is identical to the motivations explained above with respect to the combination of Truxor and Yoon or Carrier.” Pet. 68. According to Petitioner, one of ordinary skill in the art

“would have understood that Amphi-King (the product described in SenwaTec) was used for pumping liquid manure in manure lagoons, as described in pre-2013 publications” (*id.* (citing Exs. 1025–1027; Ex. 1013 ¶¶ 6–7, 12–19)), known that “that such environments are unpleasant and potentially dangerous for human operators” (*id.* (citing Ex. 1003 ¶ 296)), and thus, “been motivated to combine the remote-control technology taught by Yoon or Carrier with the teachings of SenwaTec and would have had a reasonable expectation of success for the same reasons” (*id.* at 69).

3. *Analysis of Ground 3*

Petitioner asserts that claim 1 is unpatentable as obvious over SenwaTec and Yoon or Carrier. Pet. 69–74 (citing Exs. 1001, 1004, 1005, 1011, 1012, 1026, 1027). We use Petitioner’s notations to identify the claim elements.

a) *[1.0] An amphibious vehicle comprising:*

Petitioner asserts that SenwaTec discloses an “amphibious vehicle.” Pet. 70 (citing Ex. 1012, 1).

b) *[1.1] a floatable vehicle body;*

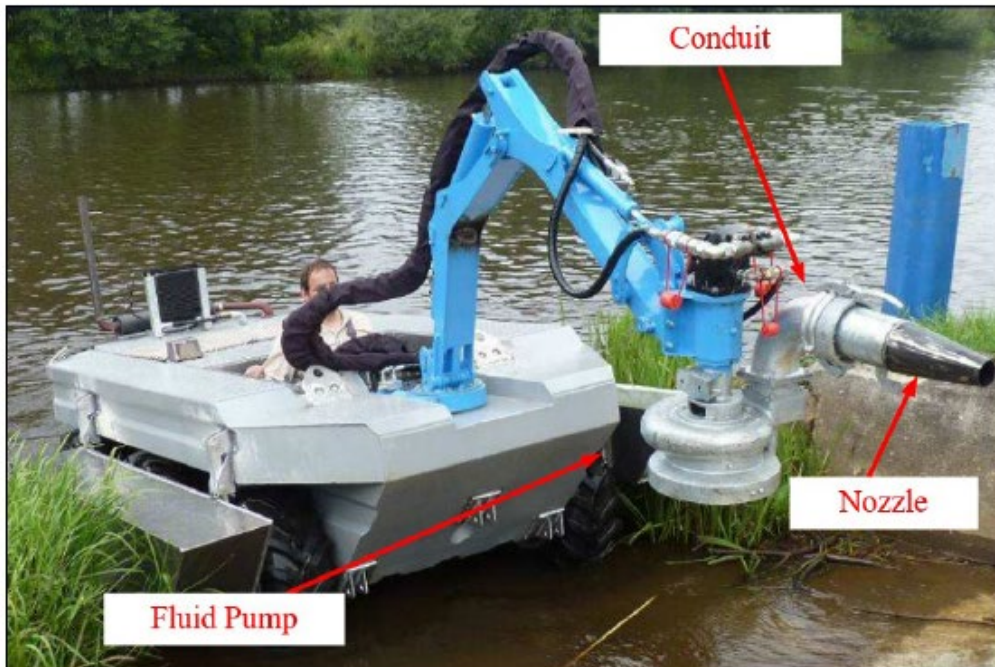
Petitioner asserts that Truxor discloses “a floating hull with ‘[r]obust marine aluminum construction.’” Pet. 70 (citing Ex. 1012, 3).

c) *[1.2] ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor;*

Petitioner asserts that SenwaTec discloses “an amphibious vehicle with wheels allowing it to be maneuvered in aquatic or land environments” along with “a six-wheel drive mechanism powered through ‘[t]ransmission over variable volume hydraulic pump and wheel motors.’” Pet. 70 (citing Ex. 1012, 2–3).

- d) [1.3] a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating;

Petitioner reproduces an annotated version of SenwaTec's amphibious vehicle below. Pet. 70 (citing Ex. 1012, 2).



The above figure from SenwaTec, is annotated by Petition to identify a fluid pump, conduit, and nozzle. Petitioner contends that one of ordinary skill in the art “would have understood that dredge systems were known in the art for pumping higher solid concentration manure, and therefore, the SenwaTec dredging pump would have necessarily pumped liquid manure.” *Id.* at 71 (citing Ex. 1004 ¶ 304).

According to Petitioner, one of ordinary skill in the art would have “understood that the pump described in the SenwaTec publication (‘Centrifugal pump with HARDOX inner casing, 6” suction x 6” discharge’) would be capable of pumping liquid manure, as confirmed by various pre-

2013 publications and advertisements.” Pet. 71 (citing Ex. 1012, 3; Ex. 1026, 2; Ex. 1027, 3). Petitioner further asserts that, in SenwaTec, “[t]he pump, conduit, and the nozzle are separate from the ground engaging propulsion structure and are a liquid manure mover,” and one of ordinary skill in the art “would understand, as confirmed in the various pre-2013 publications and advertisements (below), that the pump is submerged while the vehicle is floating and is separate from the ground engaging propulsion structure.” *Id.* (citing Ex. 1004 ¶ 304; Ex. 1026, 2; 1027, 3).

- e) [1.4] a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the liquid manure mover; and;*

Petitioner asserts that SenwaTec discloses “an engine and hydraulic system including a hydraulic pump” that together “transmits power from the engine to the wheels and the dredging pump. Pet. 73 (citing Ex. 1004 ¶ 305; Ex. 1012, 1, 3).

- f) [1.5] a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure; (2) control a flow of liquid manure from [a liquid manure]¹⁷ pump; (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating.*

Petitioner asserts that “SenwaTec teaches an amphibious vehicle with wheels that can be used to vary the speed and direction of the vehicle on land,” “a hydraulic auger for steering and propelling the vehicle while floating,” and “a dredging pump that can pump liquid manure.” Pet. 73 (citing Ex. 1012, 1–3). Petitioner further asserts that “Yoon and Carrier each

¹⁷ Petitioner’s Claim Listing improperly reproduces limitation 1.5 to recite “the fluid pump.” Pet. 112 (Claims Appendix). Limitation 1.5 properly recites “a liquid manure pump.” Ex. 1001, 8:53.

disclose a remote-control system for amphibious pumping vehicles enabling operators to remotely control the vehicle and its attachments.” *Id.* (citing Ex. 1011 ¶ 48; Ex. 1005 ¶¶ 59, 64–65; Pet. 42). Based on the reasons discussed above in (*see* § II.F.3), Petitioner contends that one of ordinary skill in the art “would have been motivated to implement the remote-control systems disclosed in Yoon or Carrier (also explicitly stated in Melnikov) so a user could control the pump and vehicle of SenwaTec from a safe location.” *Id.* at 74 (citing Pet. 68–69).

4. *Patent Owner’s Contentions regarding Claim 1*

Patent Owner contends that Petitioner’s ground of unpatentability based on SenwaTec and Carrier or Yoon is deficient. *See* Prelim. Resp. 59–80 (citing Ex. 2004). Patent Owner argues that SenwaTec fails to disclose or suggest a “liquid manure mover,” that when properly construed, requires “an ‘immersible liquid manure pump, fluid conduit(s), and fluid nozzle(s)’” or a “liquid manure pump. *Id.* at 71–75. According to Patent Owner, Petitioner’s challenge, with respect to various pre-2013 publications and advertisements, extends impermissibly beyond SenwaTec’s disclosure, and must be disregarded. *Id.* at 59–71. Patent Owner argues next that Petitioner fails to establish that one of ordinary skill in the art “would have had a reasonable expectation of success in achieving the claimed invention through a combination of SenwaTec with Yoon or Carrier.” *Id.* at 76–59. We address each argument in turn.

a) *Liquid Manure Mover / Liquid Manure Pump*

Similar to Patent Owner’s argument with respect to Truxor, Patent Owner argues that SenwaTec does not relate “to manure, farm lagoons, or animal husbandry (livestock farming)” and does not disclose or suggest “that

its dredge pump attachments pump manure.” Prelim. Resp. 71–75. However, as previously discussed, we credit Dr. Winkel’s declaration testimony that that one of ordinary skill in the art “would have understood that dredge systems were known to be capable of pumping slurry and semisolid manure with considerably higher solids content and different (more solid) physical properties than liquid manure, as dredging systems have long been used for this purpose.” Ex. 1004 ¶ 304 (citing Ex. 1017, 3; Ex. 1052, 1060, 64); Pet. 71. On the current record, we find Dr. Winkel’s opinion to be adequately supported by citation to at least Exhibit 1052. Thus, at this stage, we credit Dr. Winkel’s declaration testimony opining that a dredge pump, like that in Truxor or SenwaTec, is capable of pumping liquid manure.

Petitioner also argues that there is evidence that SenwaTec’s pump was actually used for pumping manure as shown “by various pre-2013 publications and advertisements.” Pet. 71 (citing Ex. 1012, 3; Ex. 1026,¹⁸ 2; Ex. 1027, 2); *see also id.* at 68 (citing Ex. 1013 ¶¶ 6–7, Exs. 1025–1027) (similar discussion)).

Patent Owner contests the applicability of Petitioner’s supporting evidence. Prelim. Resp. 59–71. More particularly, Patent Owner argues that SenwaTec is limited to Exhibit 1012 and that Exhibit 1013 (“Lonnemann Declaration”) does not amount to additional disclosure (prior art under 35 U.S.C § 311(b)) that may be used as part of SenwaTec. *Id.* at 59–60, 64, 69. We agree with Patent Owner that SenwaTec’s disclosure is limited to Exhibit 1012, but do not agree with Patent Owner that Petitioner is attempting to combine the Lonnemann Declaration with Exhibit 1012 to

¹⁸ English language translation of Exhibit 1025.

make SenwaTec a collective of multiple references. We also find that the Lonnemann Declaration, as well as Exhibits 1025–1027 are used as supporting evidence in considering the knowledge, motivations, and expectations of a POSITA regarding the prior art. *See Yeda Research & Dev. Co. v. Mylan Pharm., Inc.*, 906 F.3d 1031, 1041 (Fed. Cir. 2018)).

Thus, they are not relied on as prior art under 35 U.S.C § 311(b) as asserted by Patent Owner. Prelim. Resp. 59–60, 64, 69.

In the Lonnemann Declaration, Mr. Lonnemann testifies that one of SenwaTec’s customers (UD Umweltdienste) used the SenwaTec vehicle “for pumping manure and agitating manure lagoons.” Ex. 1013 ¶ 5; *see also id.* ¶¶ 6–7 (citing Exs. A (Exs.1025/1026) & B (Ex. 1027)).

Patent Owner argues that “[t]he Lonnemann Declaration does not provide any foundation for why Lonnemann has personal knowledge to testify about how UD Umweltdienste, a different company altogether, used the SenwaTec vehicle.” Prelim. Resp. 60. Patent Owner further argues that “those Exhibits do not, on their face, demonstrate that UD Umweltdienste used the SenwaTec vehicle for pumping manure.” *Id.*

First, we disagree that “[t]he Lonnemann Declaration does not provide any foundation for why Lonnemann has personal knowledge to testify about how UD Umweltdienste . . . used the SenwaTec vehicle.” Reviewing paragraphs 5–7 of the Lonnemann Declaration, it is clear that Mr. Lonnemann is testifying based on his understanding of what is shown in Exhibits 1025–1027.

Second, we agree that Exhibits 1025–1027 “do not, on their face, demonstrate that UD Umweltdienste used the SenwaTec vehicle for pumping manure.” Prelim. Resp. 60. Patent Owner correctly notes that

Exhibit 1026, the English language translation of Exhibit 1025, discusses a “sewage pond” which it infers is processed from “toilet waste,” but does not talk about manure. *Id.* at 61–62 (citing Ex. 1026, 3). Patent Owner argues that “sewage ponds and manure lagoons are very different.” *Id.* at 62 (citing Ex. 2004 ¶ 35). This argument is supported by the Patent Owner’s declarant, Mr. Prairie. Ex. 2004 ¶ 35 (citing and discussing Exs. 2019, 2022, 2023). Patent Owner also correctly notes that Exhibit 1026 does not even discuss pumping or show which tool is attached to the SenwaTec vehicle. Prelim. Resp. 62–63. Thus, we agree with Patent Owner that Exhibits 1025 and 1026 do not clearly show that the SenwaTec vehicle was used for pumping manure.

With respect to Exhibit 1027, Patent Owner argues that “there is simply no verifiable information in the record proving that the video informs a POSITA that the SenwaTec vehicle was used to pump manure as opposed to mud, human sewage, or something else.” Prelim. Resp. 69–70. We agree. Exhibit 1027 simply shows the SenwaTec vehicle in a pond of some sort, and then spraying some unidentified fluid.¹⁹ Ex. 1027.

Although we agree with Patent Owner that Petitioner overstates what is shown in Exhibits 1025–1027, we find that this additional evidence is not necessary at this stage. As discussed above initially, Petitioner identifies that SenwaTec teaches a dredge pump and we determine that the dredge pump appears capable of pumping liquid with suspended solids.

¹⁹ One of the screenshots includes the following in German “Verflüssigung auch von dicken Schlamm” which Google translates as “liquefaction even of thick mud.” Ex. 1027, 3.

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that SenwaTec teaches the noted limitations of claim 1, including a liquid manure mover or a liquid manure pump.

b) Reasonable Expectation of Success in Combining SenwaTec and Carrier or Yoon

Patent Owner also argues that Petitioner failed to demonstrate a reasonable expectation of success in combining SenwaTec with Carrier or Yoon, in a similar manner discussed with respect to the combination of Truxor and Carrier or Yoon. Prelim. Resp. 76–80. However, we are not persuaded by Patent Owner’s arguments for the same reasons discussed above. For example, Patent Owner does not argue, and we see no reason to believe, that adding remote control functionality to SenwaTec’s vehicle is not within the ability of one of skill in the art. *See KSR Int’l Co.*, 550 at 421. Further, even if Patent Owner identifies potential drawbacks, there are almost always tradeoffs to different designs. On the record before us, this does not discredit Petitioner’s reasoning that one of ordinary skill in the art would have been motivated to add remote control functionality to SenwaTec based on the teachings of Carrier or Yoon.

c) Claim 1 – Conclusion

After our review of Petitioner’s assertions with respect to claim 1 and the supporting evidence (as summarized above), we determine that Petitioner has established a reasonable likelihood of prevailing.

5. Claims 2–5, 7–21, and 23–40

Petitioner argues that the combination of SenwaTec and Carrier or Yoon renders obvious claims 2–5, 7–21, and 23–40. Pet. 74–80. Patent Owner does not address the dependent claims. Having determined that

Petitioner has met its burden for institution with respect to claim 1, we decline to address the remaining claims.

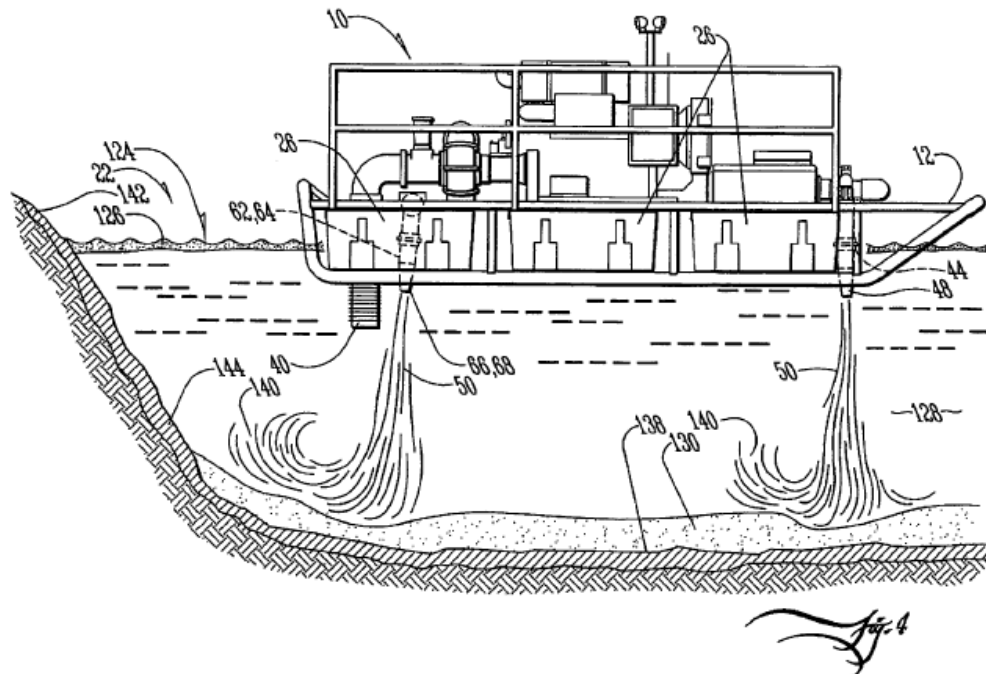
G. Alleged Obviousness over Puck and Bryham (Ground 4)

Petitioner asserts that claims 1–40 are unpatentable as obvious over Bryham and Puck. Pet. 80–101. Petitioner also relies on the testimony of Dr. Winkel to support its arguments. *Id.* (citing Ex. 1004). Patent Owner presents arguments disputing Petitioner’s assertions. *See* Prelim. Resp. 89–91 (citing Ex. 2004).

We address Petitioner’s contentions and Patent Owner’s arguments below, beginning with the motivation to combine Puck and Bryham. We first provide a brief overview of the asserted references.

1. Overview of Puck (Ex. 1014)

Puck is entitled “Floating Manure Agitator” and is directed to a vehicle that floats in a manure lagoon and “may be remotely controlled to agitate manure supernatant into a slurry.” Ex. 1014, codes (54), (57). Puck’s floating manure agitator has a power source coupled to “a liquid manure pump such as a slurry pump” that is “capable of handling both solid and liquid material.” *Id.* ¶ 25. The floating manure agitator (10) is shown on manure lagoon (22) in Figure 4, reproduced below.



The illustrated floating manure agitator (10) in Figure 4 has an intake pipe (40) connected to the slurry pump that directs the liquid manure through downward facing nozzles (48, 66, 68) into the manure lagoon. *Id.* ¶¶ 26–27, 29. In this way, the floating manure agitator can be used “to agitate manure (124), that has separated into crust (126), supernatant (128) and sludge (130), into a slurry (50).” *Id.* ¶ 34.

Puck also teaches that its system can be controlled by remote control. Ex. 1013 ¶¶ 31, 35.

2. Overview of Bryham (Ex. 1015)

Bryham is entitled “Amphibious Vehicle” and is directed to “an inflatable boat . . . [that] has a self propelled and steerable retractable undercarriage system, enabling the vehicle to enter and exit the water under its own power.” Ex. 1015, codes (54), (57). Figure 1 of Bryham is reproduced below showing the amphibious vehicle.

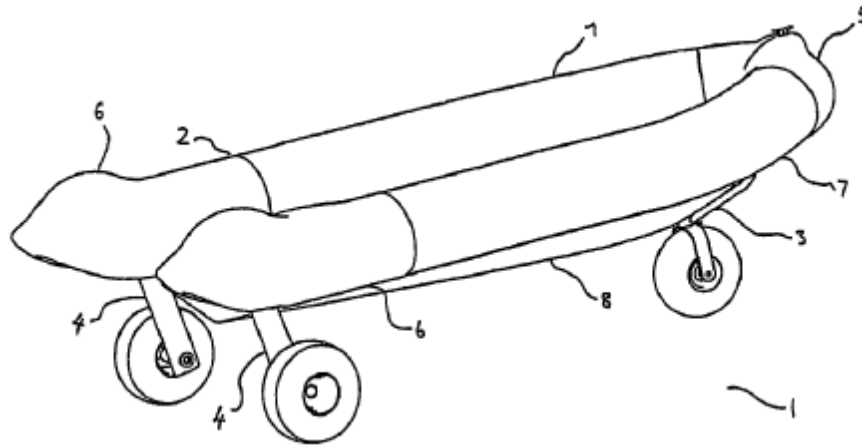


Figure 1 depicts Bryham’s amphibious vehicle that includes an inflatable craft (2) with three undercarriage assemblies (3, 4) including wheels. Ex. 1015, 11:55–59.

3. Motivation to Combine Puck and Bryham

Petitioner notes that “Puck describes a cumbersome, manual process of launching a floating manure boat on and off a trailer into a manure lagoon.” Pet. 81 (citing Ex. 1014 ¶¶ 34, 38). Petitioner identifies that “Bryham presents a solution for launching vessels that does not require a user stepping in a lagoon” (*id.* at 82(citing Ex. 1015, 1:17–23)), “which provides strong motivation to add the ground engaging structure of Bryham to Puck’s boat.” *Id.* According to Petitioner, one of ordinary skill in the art “would have been motivated to add the powered, steerable wheels of Bryham to Puck’s boat to solve the problems users, especially single users, faced launching and retrieving Puck’s boat within a toxic manure lagoon.” *Id.* at 80 (citing Ex. 1004 ¶ 333). Petitioner further contends that one of ordinary skill in the art

would have recognized that Puck could be readily modified to include the wheels of Bryham and would have been motivated to do so. [Ex. 1004 ¶¶]339–342. This obvious combination provides a reasonable expectation of success in creating a safer,

more efficient means of transporting, launching, and retrieving Puck's boat into a manure lagoon.

Id. at 83 (citing Ex. 1004 ¶ 342).

4. *Analysis of Claim 1*

Petitioner asserts that claim 1 is unpatentable as obvious over Puck and Bryham. Pet. 83–89 (citing Exs. 1001, 1004, 1014, 1015). We use Petitioner's notations to identify the claim elements.

a) *[1.0] An amphibious vehicle comprising:*

Petitioner asserts that “Bryham teaches creating an amphibious vehicle by adding steerable, hydraulically powered wheels to jet boats.” Pet. 83 (citing Ex. 1015, 2:19–45). Petitioner also asserts that Puck discloses “a ‘standard hull’ jet boat for use in a manure lagoon.” *Id.* (citing Ex. 1014, Abstract, ¶ 22). Based on these teachings, Petitioner concludes that one of ordinary skill in the art “would have been motivated to add Bryham's ground engaging propulsion structure to Puck's jet boat creating an amphibious vehicle facilitating safer, easier, and better-for-equipment ingress and egress from a manure lagoon.” *Id.* (citing Ex. 1004 ¶ 343).

b) *[1.1] a floatable vehicle body;*

Petitioner asserts that “Puck discloses ‘a floating manure agitator [that] is provided with a floating vessel and a power source.’” Pet. 84 (citing Ex. 1014 ¶ 11).

c) *[1.2] ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor;*

Petitioner asserts that “Bryham teaches a ‘ground engagement means’ comprising a set of wheels and a ‘hydraulic motor 108 . . . which can . . . drive the ground engagement means.’” Pet. 84 (citing Ex. 1015, 2:66–67, 16:4–6).

d) [1.3] a hydraulically powered liquid manure mover separate from the ground engaging propulsion structure, the liquid manure mover positioned within liquid manure when the vehicle is floating;

Petitioner asserts that “Puck discloses a ‘liquid manure pump such as a slurry pump (38).’” Pet. 84 (citing Ex. 1014 ¶ 25). Petitioner points out that the slurry pump in Puck “may be a ‘Cornell Redi-Prime centrifugal pump capable of handling both solid and liquid material’” that is connected to a conduit and nozzle. *Id.* (citing Ex. 1014 ¶¶ 25, 28). Petitioner reproduces Figure 4 of Puck, annotated to depict “nozzles 48, 66, 68 (yellow) and intake pipe 40 (pink) of the pump arranged below the liquid manure surface.” *Id.* at 86 (citing Ex. 1014, Fig. 4).

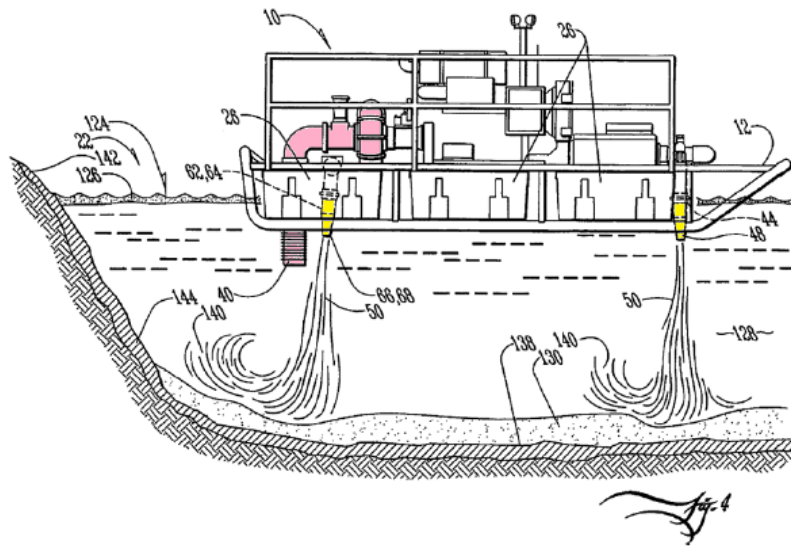


Figure 4, annotated, illustrates a side elevation of Puck’s floating manure agitator on a manure lagoon. Ex. 1014 ¶ 16. Petitioner explains that “[t]he slurry pump, conduits, and nozzles move liquid manure and are a liquid manure mover” and “is separate from the ground engaging propulsion structure.” Pet. 86. Petitioner also asserts that Puck’s “liquid manure pump is [c]oupled to the power source.” *Id.* (citing Ex. 1014 ¶ 25).

Petitioner contends that “Bryham discloses a hydraulic drivetrain” (Pet. 87 (citing Ex. 1015, 16:1–6)), and

[i]t would have been obvious to use the hydraulic transmission of Bryham to power the liquid manure pump of Puck from the Puck power source, as a hydraulic transmission is one of a finite number of options for transmitting power on a moving vehicle and has a high likelihood of success, given its widespread use for this purpose.

Id. (citing Ex. 1015, 16:1–6; *KSR*, 550 U.S. at 421).

- e) *[1.4] a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the liquid manure mover; and;*

Petitioner asserts that “Bryham discloses a hydraulic drivetrain” and “Puck discloses a power source in the form a ‘two-thousand horsepower’ diesel engine and that the ‘slurry pump [(of the liquid manure mover)] is coupled to the power source.” Pet. 87 (citing Ex. 1015, 16:1–6; Ex. 1014 ¶¶ 11, 24–25). According to Petitioner,

[r]ather than loading the vehicle with multiple engines, [one of ordinary skill in the art] would have been motivated to use this high-powered internal combustion engine to power the hydraulic pump, ground engagement means, and the fluid pump of Bryham and Puck—the high-powered engine of Puck would easily power each of these components, and doing so would be cheaper, lighter, and more efficient than providing separate engines for each component.

Id. (citing Ex. 1004 ¶ 351).

- f) *[1.5] a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure; (2) control a flow of liquid manure from [a liquid manure]²⁰ pump; (3) control at least one of the speed and direction of the vehicle*

²⁰ Petitioner’s Claim Listing improperly reproduces limitation 1.5 to recite “the fluid pump.” Pet. 112 (Claims Appendix). Limitation 1.5 properly recites “a liquid manure pump.” Ex. 1001, 8:53.

when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating.

Petitioner asserts that “Puck teaches a vessel with a wireless remote-control that controls the flow of liquid manure from the slurry pump and the speed and direction of the vehicle while it is floating.” Pet. 88 (citing Ex. 1014 ¶¶ 9, 11, 27, 35, 37). Petitioner notes that the remote steering in Puck “is accomplished by a ‘remote control coupled to the steering wheel.’” *Id.* (citing Ex. 1014, claim 9).

Petitioner also notes that Bryham’s amphibious vehicle is controlled by a steering wheel. Petitioner argues that one of ordinary skill in the art “would have recognized that the remote-control steering system would control the speed and direction of the vehicle of Puck with Bryham’s powered, steerable wheels while the vehicle is ground engaging.” *Id.* (citing Ex. 1004 ¶ 353). Petitioner adds that it would also be obvious to one of ordinary skill in the art to “configure the remote-control steering system of Puck to control the speed and direction of the ground engagement means of Bryham while the vehicle is ground engaging” in order to “allow the vehicle to enter and exit the lagoon without a user on-board.” *Id.* (citing Ex. 1004 ¶ 354). Relying on the declaration testimony of Dr. Winkel, Petitioner asserts that “[r]emote-control technology is well-known and readily adaptable to power wheeled vehicles,” and thus, concludes that one of ordinary skill in the art “would have been familiar with the use of remote-control technology to power the ground engaging means of Bryham.” *Id.* at 89 (citing Ex. 1004 ¶ 354).

5. Patent Owner’s Contentions regarding Claim 1

Patent Owner contends that Petitioner’s ground of unpatentability based on Puck and Bryham is deficient. *See* Prelim. Resp. 81–91 (citing Ex.

2004). Patent Owner argues that Puck fails to disclose or suggest a “liquid manure mover” that is “positioned within liquid manure when the vehicle is floating” and that “[n]either Puck nor Bryham disclose a power source that provides power to both ground engaging propulsion structure and a liquid manure mover,” as required by claim 1. *Id.* at 81–83. Patent Owner adds that one of ordinary skill in the art would not have been motivated to combine the remote-control steering system of Puck with the ground engagement means of Bryham. *Id.* at 83–84. Patent Owner last argues that Petitioner fails to establish that one of ordinary skill in the art would have had a reasonable expectation of success in achieving the claimed invention through a combination of Puck and Bryham. *Id.* at 83–90. We address each argument in turn.

a) Liquid Manure Mover

Patent Owner argues that “[t]he slurry pump 38 disclosed in Puck is mounted high in the vessel hull and is therefore not “positioned within liquid manure when the vehicle is floating” as required by the Challenged Claims.” Prelim Resp. 81. Patent Owner further argues Puck’s “slurry pump 38” is not an “immersible liquid manure pump,” and as such, does not constitute the requisite corresponding structure required by the term “liquid manure mover” when properly construed. *Id.* at 82.

As set forth above, on the current record, we do not construe the “liquid manure mover” as requiring an “immersible liquid manure pump.” Instead, for purposes of this decision, we construe the “liquid manure mover” to constitute “a pump, a conduit, and a nozzle,” (*see* § II.C.1), which as discussed above, is disclosed by Puck. Thus, we disagree with Patent Owner that claim 1 requires the pump to be immersible or for it to be

“positioned within liquid manure when the vehicle is floating.” Instead, claim 1 recites that it is “the liquid manure mover [that is] positioned within liquid manure when the vehicle is floating.” Ex. 1001, 8:42–45.

After review of the arguments and evidence, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that Puck teaches the noted limitations of claim 1, including a liquid manure mover or a liquid manure pump.

b) Power Source

Patent Owner argues that “[n]either Puck nor Bryham disclose[s] a power source that provides power to **both** ground engaging propulsion structure and a liquid manure mover as required.” Prelim. Resp. 82–83. Patent Owner argues that “Petitioner’s sole basis for alleging that this element is met is its expert’s conclusory statement that a POSITA would be motivated to use Puck’s power source to also power the wheels being added from Bryham.” *Id.* at 83 (citing Ex. 1004 ¶ 351). According to Patent Owner, Petitioner’s expert fails to “show or explain why ‘doing so would be cheaper, lighter, and more efficient than’ than using separate electric motors.” *Id.* (citing Ex. 1015, 16:13–27).

We disagree. Petitioner reasons that “the high-powered engine of Puck would easily power each of these components, and doing so would be cheaper, lighter, and more efficient than providing separate engines for each component.” Pet. 87 (citing Ex. 1004 ¶ 351). Thus, Petitioner explains that using one engine “would be cheaper, lighter, and more efficient than providing *separate engines* for each component.” *Id.* This is a reasonable statement that is sufficiently supported at this stage.

c) Remote Control

Patent Owner argues that the testimony of Petitioner’s declarant is conclusory and that the combination is complicated and not a simple plug and play situation. Prelim. Resp. 83–84.

Patent Owner does not argue, however, that the combination of Puck and Bryham would have been beyond the ability of one of skill of the art and we see no reason to determine that it would be. *See KSR Int’l Co.*, 550 at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). Further, Puck already teaches steering and driving by remote control when floating in a manner that is more complicated than steering and driving a set of wheels. *See, e.g.*, Ex. 1014 ¶¶ 27, 31–33.

d) Reasonable Expectation of Success in Combining Puck and Bryham

Patent Owner also argues that Petitioner failed to demonstrate a reasonable expectation of success in combining Puck and Bryham. Prelim. Resp. 84–91. Patent Owner argues that one of ordinary skill in the art would not have been motivated to combine Puck and Bryham to make launching Puck’s “boat easier, safer and without having to put the trailer (let alone one’s feet) in the corrosive manure lagoon.” *Id.* at 85 (citing Pet. 80; Ex. 1004 ¶ 333). According to Patent Owner, Puck already “discloses a system where the manure agitation boat can be launched and retrieved without backing the trailer into the manure lagoon.” *Id.* In addition, Patent Owner argues that if one of ordinary skill in the art “were concerned that the ‘corrosive’ environment of a manure lagoon might damage Puck’s trailer and trailer wheels/bearings, that concern would lead them away from adding Bryham’s wheels to Puck’s manure lagoon agitation boat.” *Id.* at 86.

We have reviewed Patent Owner’s arguments and cited evidence and determine, on the current record, that Petitioner provides sufficient arguments and evidence, at this stage of the proceeding, to support its reasoning that a person having ordinary skill in the art would have been motivated to modify Puck’s boat to add the powered, steerable wheels of Bryham, as Petitioner proposes. We credit Dr. Winkel’s declaration testimony that one of ordinary skill in the art would have derived motivation from a desire to avoid “having to place a trailer or one’s feet into the hazardous and corrosive manure lagoon.” Ex. 1004 ¶ 333. While we acknowledge Patent Owner’s argument that Figure 9 of Puck depicts “a system where the manure agitation boat can be launched and retrieved **without backing the trailer into the manure lagoon**” (Prelim. Resp. 85–86), this does not overcome Petitioner’s evidence that there are known issues with using trailers to launch and load vessels that would be overcome by adding wheels to the vehicle of Puck. *See, e.g.*, Ex. 1015, 1:17–67.

Equally unpersuasive are Patent Owner’s arguments directed to the corrosive effect of the manure environment on a trailer as an example of why one of ordinary skill in the art would not add wheels to Puck’s boat. Prelim. Resp. 86–87. Instead, the current record adequately demonstrates that those skilled in the art are not greatly concerned about the corrosive effect of the environment on wheels and related structures, whether on a vehicle or trailer, based on the disclosures of other prior art references, such as Truxor, SenwaTec, and Yoon.

Patent Owner further argues that one of ordinary skill in the art would not have had a reasonable expectation of success in adding Bryham’s wheels to Puck’s boat because “Puck does not have a conventional boat hull

structure like that disclosed in Bryham.” Prelim. Resp. 89. However, Patent Owner’s argument is not persuasive at least because Puck discloses that its boat may “may be constructed with a more standard hull, such as those known in the art.” Ex. 1014 ¶ 22.

Patent Owner last argues that one of ordinary skill in the art would not have been motivated to combine Puck and Bryham because of steering and stability problems. Prelim. Resp. 90–91. However, Patent Owner does not argue, and we see no reason to believe, that adding wheels based on the disclosure in Bryham to the boat taught by Puck is not within the ability of one of skill in the art. *See KSR Int’l Co.*, 550 at 421. Further, even if Patent Owner identifies potential drawbacks (Prelim. Resp. 90), there are almost always tradeoffs to different designs. On the record before us, this does not discredit Petitioner’s reasoning that one of ordinary skill in the art would have been motivated to add wheels to Puck’s boat. Ex. 1004 ¶¶ 335–337.

e) Claim 1 - Conclusion

After our review of Petitioner’s assertions with respect to claim 1 and the supporting evidence (as summarized above), we determine that Petitioner has established a reasonable likelihood of prevailing.

6. Claims 2–40

Petitioner argues that the combination of Puck and Bryham renders obvious claims 2–40. Pet. 89–101. Patent Owner does not address the dependent claims. Having determined that Petitioner has met its burden for institution with respect to claim 1, we decline to address the remaining claims.

H. Alleged Obviousness over Puck, Bryham, and Bennett II (Ground 5)

Petitioner asserts that claims 1–40 are unpatentable as obvious over Bryham, Puck, and Bennett-II. Pet. 101–105. Petitioner also relies on the testimony of Dr. Winkel to support its arguments. *Id.* (citing Ex. 1004). Patent Owner presents arguments disputing Petitioner’s assertions. *See* Prelim. Resp. 91–92 (citing Ex. 2004).

1. Overview of Bennett-II (Ex. 1017)

Bennett II is entitled “Tracked All-Terrain Vehicle.” Ex. 1017, code (54). Bennett II discloses that its vehicle “is configured for both land and amphibious operation” and “may be operated by remote control.” *Id.* ¶ 43.

2. Analysis of Claim 1

Petitioner asserts that claim 1 is unpatentable as obvious over Puck, Bryham, and Bennett-II. Pet. 101–105. More particularly, Petitioner contends that “[s]hould the Board find that the remote-control steering system of Puck would not have been obviously modified to control the Bryham wheels . . . , Bennett-II teaches remote control of the ground engaging propulsion structure.” *Id.* at 102. According to Petitioner, “it would have been obvious . . . to provide . . . remote control and a valve for improved steering and propulsion as taught by Puck and to use the remote control on land and water as taught by Bennett for ease of use The combination combines known features to achieve predictable results.” *Id.* (quoting Ex. 1031, 13–14) (a prior determination by an Examiner).

In response, Patent Owner argues that Bennett-II’s drivetrain is different from Bryham’s, and thus Bennett-II teaches nothing to one of ordinary skill in the art about how to “modify Puck’s remote-control system

to control Bryham’s 3-wheeled ground engagement system.” Prelim. Resp. 91–92 (citing Ex. 2004 ¶ 209).

Patent Owner does not argue, and we see no reason to believe, that such a modification is not within the ability of one of skill in the art. *See KSR Int’l Co.*, 550 at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Having reviewed the parties’ arguments and evidence, we determine that Petitioner has established a reasonable likelihood of showing that claim 1 is unpatentable over the combination of Puck, Bryham, and Bennett II.

3. *Claims 2–40*

Petitioner argues that the combination of Puck and Bryham renders obvious claims 2–40. Pet. 104–105. Patent Owner does not address the dependent claims. Having determined that Petitioner has met its burden for institution with respect to claim 1, we decline to address the remaining claims.

I. *Discretion Under 35 U.S.C. § 325(d)*

1. *Incremental Filings*

Patent Owner argues that the Petition should be denied under 35 U.S.C. § 325(d). Prelim. Resp. 16–25. Patent Owner first argues that discretionary denial is appropriate in view of Petitioner’s “incremental filings.” *Id.* at 17 (citing *In re Vivint, Inc.*, 14 F.4th 1342, 1350 (Fed. Cir. 2021)). Patent Owner argues that Petitioner “waited until after Patent Owner filed its Preliminary Response in the ‘425 IPR on October 10, 2023 before filing this IPR Petition on October 13, 2023 challenging the claims of the ’835 [p]atent,” and that “[t]his was strategic as Grounds 1–5 of the ’835 [patent’s] IPR rely on the same art and substantially the same arguments as

Grounds 1–5 of the ’425 [patent’s] IPR.” *Id.* According to Patent Owner, by waiting until after Patent Owner filed its Preliminary Response in the ’425 patent’s IPR, Petitioner was able to review Patent Owner’s arguments and correct deficiencies. *Id.* Patent Owner further argues that this petition was filed for “tactical reasons and delay” rather than securing full expeditious administrative review of patentability because Petitioner could have filed a request for a post-grant review. PO Sur-reply 1.

In response, Petitioner argued that the staggered filings of the different petitions are due to Patent Owner’s filing of separate lawsuits relative to the challenged patents. Pet. Reply 1. And as Petitioner argues, it could not have filed this petition when the petition was filed for the ’425 patent’s IPR because Petitioner would have been barred under 35 U.S.C. § 311(c). *Id.* Additionally, we do not fault Petitioner for filing a request for an *inter partes* review rather than for a post-grant review. There is no requirement for Petitioner to file a request for post-grant review rather than a for an *inter partes* review.

For the reasons discussed above, we decline to exercise our discretion under § 325(d) to deny the Petition due to Petitioner’s “incremental filings.”

2. *Advanced Bionics*

The Director has discretion to institute an *inter partes* review, and has delegated that discretion to the Board. *See* 35 U.S.C. § 314(a); *see also* 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 325(d), in determining whether to institute an *inter partes* review, we “may take into account whether, and reject the petition . . . because, the same or substantially the same . . . arguments previously were presented to the Office.”

In evaluating arguments under § 325(d), we use a two-part framework,

(1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition . . . is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”); see also *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (Dec. 15, 2017) (precedential as to § III.C.5, first paragraph) (discussing non-exclusive factors to consider when applying the framework under 35 U.S.C. § 325(d)) (“*Becton, Dickinson*”).

The nonexclusive *Becton, Dickinson* factors are:

- (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, IPR2017-01586, Paper 8, 17–18. *Becton, Dickinson* factors (a), (b), and (d) relate to the first part of the *Advanced*

Bionics framework (whether the same or substantially the same art or arguments previously were presented to the Office), and *Becton, Dickinson* factors (c), (e), and (f) relate to the second part of that framework (previous Office error). *Advanced Bionics*, IPR2019-01469, Paper 6 at 9–11.

We discuss both parts of the *Advanced Bionics* framework together below relative to the different cited art.

Patent Owner argues that the same or substantially the same art previously was presented to the Office because Carrier, Puck, and Bennett-II were considered during both prosecution and reexamination. Prelim. Resp. 19. Patent Owner argues that the relevant teachings of Yoon are cumulative of the teachings of Carrier as demonstrated by both being used interchangeably in the different grounds of the Petition. *Id.* Patent Owner argues that Truxor and SenwaTec are cumulative to Carrier for the same reason. *Id.* at 19–20. Patent Owner argues that in the first reexamination request of the '557 patent, Carrier II²¹ and Puck were asserted and that Carrier II is cumulative to Carrier. *Id.* at 20; *id.*, fn. 7. Patent Owner argues that Petitioner at that time “argued in the alternative that if Carrier II fails to disclose the claimed ‘fluid pump for pumping liquid manure,’ then this limitation is present in the manure lagoon agitator disclosed in Puck.” *Id.* at 21. Patent Owner also argues that references from the first reexamination of the '557 patent and the '425 patent were provided in the Information Disclosure Statements during prosecution of the '835 patent. *Id.* at 22.

Petitioner argues that “Truxor, SenwaTec, and Yoon are new references and are materially different from the art in the prosecution history, which did not include amphibious sludge pumping vehicles.” Pet.

²¹ US 7,478,817, issued January 20, 2009 (Ex. 1019, “Carrier II”).

106 (citing Ex. 1001, 1–2). Petitioner argues that “Bryham is a new, materially different reference given its teachings of the problems solved by adding powered, steerable wheels to boats.” *Id.*

Petitioner previously filed a request for reexamination of the ’425 patent including grounds based on Carrier, Puck, and Bennett.²² Ex. 2001, i. The reexamination request argued that claims 1–7 and 12–19 were anticipated by Carrier for the same reasons presented in the Petition. *Compare id.* at Ex. 2001, 37–44 with Pet. 38–50. The reexamination request argued that claims 1–21 were obvious over Puck and Bennett for the same reasons presented in the Petition concerning Puck and Bryham with or without Bennett II. *Compare* Ex. 2001, 68–77 with Pet. 80–105. Further, the Petition relies on Bryham and Bennett-II for essentially the same teachings and for the same reasons to combine with Puck. Pet. 80–83, 102–103. The reexamination request also acknowledges that the combination of Puck and Bennett was addressed by an Examiner in a parent patent application to the ’425 patent. Ex. 2001, 69.

Thus, under *Advanced Bionics*, Carrier, Puck, and Bennett II are all art that is the same or substantially the same art previously presented to the Office. Further the arguments regarding Carrier, Puck, and Bennett II are the same or substantially the same arguments previously were presented to the Office.

(1) Puck and Bryham with or without Bennett II

As discussed above, Puck and Bryham with or without Bennett II is the same or substantially the same as art previously presented to the Office

²² Bennett shares a common specification with Bennett II. *Compare* Ex. 1016 with Ex. 1017.

and the Petition presents arguments regarding these references that were previously presented to the Office. *Compare* Ex. 2001, 68–77 with Pet. 80–105; *see also* Prelim. Resp. 19–20.

However, we agree with Petitioner that the Office erred in a manner material to the patentability of challenged claims. Pet. 106. We agree with Petitioner’s position that:

The Examiner . . . erred in accepting Respondent’s argument during the prosecution of the parent ’557 Patent and ’422 [(sic)] Patent that Puck does not suggest remotely operating a vehicle on the ground when combined with an amphibious vehicle. EX1030, 7, 16, 20; EX1031, 13-16, 27. Puck’s invention generally discloses a “manure agitation *vehicle* that may be remotely controlled” which implies that other components of a vehicle (e.g., wheels) would be controlled by Puck’s remote control. EX1014, ¶[0009 (emphasis added). Adding wheels to Puck while remotely controlling the steering wheel would provide remote control of the ground engaging propulsion structure.

Pet. 106–107. We further agree that the Office continued to error “by allowing the ’557 patent claims (and later allowing the ’835 patent claims) after finding Bennett does teach remote control of the ground engaging propulsion structure when combined with Puck.” *Id.* at 107.

It is for this reason that we decline to exercise our discretion to deny institution.

(2) *Carrier*

As discussed above, Carrier is the same art previously presented to the Office and the Petition presents arguments regarding Carrier that were previously presented to the Office. *Compare* Ex. 2001, 37–44 with Pet. 38–50; *see also* Prelim. Resp. 19.

As discussed in our analysis of the ground based on Carrier, we do not determine whether Petitioner has established a reasonable likelihood in that Carrier anticipates claim 1. Rather, we determined that this question is best left for trial after further development of the record as to what structure is required of a pump that is capable of pumping liquid with suspended solids. We, thus, determine, at this time, that Petitioner has not sufficiently demonstrated that the Office erred in a manner material to the patentability of challenged claims when it previously evaluated Carrier.

However, this determination does not warrant denial of institution as the Petition contains a number of other grounds based upon other prior art and arguments. We decline to exercise discretion to deny institution based upon those other grounds.

(3) Truxor with Yoon or Carrier, and SenwaTec with Yoon or Carrier

Petitioner argues that “Truxor, SenwaTec, and Yoon are new references and are materially different from the art in the prosecution history, which did not include amphibious sludge pumping vehicles.” Pet. 106. Petitioner further argues that “the USPTO has not considered adding remote control to such hazardous material processing vehicles.” *Id.*

Patent Owner argues that Truxor, SenwaTec, and Yoon are all cumulative of Carrier and Carrier’s water pump for firefighting. Prelim. Resp. 19–20. However, Patent Owner does not address the differences in the water pump identified by Petitioner and that of Truxor, SenwaTec, and Yoon, all of which teach vehicles for pumping sludge. As discussed herein, the differences in the references often hinge on the type of pump disclosed and the pumps in Truxor, SenwaTec, and Yoon do not appear to be cumulative of the pump in Carrier. As the same or substantially the same art

and arguments have not previously been presented to the Office with respect to these references, we decline to exercise our discretion to deny institution.

For these reasons, we do not exercise our discretion under 35 U.S.C. § 325(d).

J. Discretion Under 35 U.S.C. § 314(a)

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition in light of the related district court litigation. Prelim. Resp. 25–30; PO Sur-reply1–3. Section 314(a) states that

[t]he Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Under § 314(a), we have discretion to deny institution of an *inter partes* review. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). We consider several factors when determining whether to deny institution under § 314(a) based on a parallel district court proceeding, specifically

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). On June 21, 2022, the Director of the United States Patent and Trademark Office issued an *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (“Guidance Memo”)²³ to clarify “the [Board’s] current application of *Fintiv* to discretionary institutions where there is parallel litigation” and to “confirm[] that the precedential import of *Fintiv* is limited to the facts of that case.” Guidance Memo 2. In particular, the Memorandum states that the Board

will not deny institution of an IPR or PGR under *Fintiv* (i) when a petition presents compelling evidence of unpatentability; (ii) when a request for denial under *Fintiv* is based on a parallel ITC proceeding; or (iii) **where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.**

Id. at 9 (emphasis added).

Petitioner stipulates that “if the Board institutes trial, Petitioner will not pursue in the ’015 Litigation any ground raised or that could have been reasonably raised in this petition.” Pet. 109 (citing Ex. 1033; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential)).

Patent Owner responds arguing that Petitioner’s stipulation is ineffective because it would not prohibit Petitioner

from later raising invalidity challenges at the district court based on evidence of the Truxor, SenwaTec, Puck, and/or Bryham vehicles themselves, as opposed to the “printed publications”

²³ Available at:

https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf

cited in this IPR, since invalidity defenses based on prior art products are ineligible in IPR proceedings and could not have been asserted.

Sur-reply 2.

In response, Petitioner asserts that its *Sotera*-style stipulation is in line with the Guidance Memo, and as such, “[d]iscretionary denial is prohibited.” Pet. Reply 2. We agree with Petitioner.

For these reasons, the PTAB will not discretionarily deny institution of an *inter partes* review in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.

Accordingly, we decline to exercise discretion to deny the Petition in light of Petitioner’s *Sotera* stipulation. *See* Guidance Memo 7.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review of claims 1–40 of the ’835 patent is instituted on the grounds asserted in the Petition; and

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

IPR2024-00004
Patent 11,491,835 B2

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