

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC,
Petitioner,

v.

NUHN INDUSTRIES LTD.,
Patent Owner.

IPR2024-00098
Patent 11,541,708 B2

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

DOUGAL, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Petitioner, Bazooka-Farmstar, LLC, requests that we institute an *inter partes* review challenging the patentability of claims 1–38 (the “challenged claims”) of U.S. Patent 11,541,708 B2 (Ex. 1001, “the ’708 patent”). Paper 2 (“Pet.”). Patent Owner, Nuhn Industries LTD., argues that Petitioner’s request is deficient and should not be granted. Paper 7 (“Preliminary Response” or “Prelim. Resp.”).¹ Petitioner also filed a Preliminary Reply (Paper 8, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply (Paper 9, “Prelim. Sur-reply”).

Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we grant the Petition and institute an *inter partes* review.²

B. *Related Matters*

The parties identify the following pending district court litigations as involving the ’708 patent, or related patents: *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC*, No. 3:22-cv-00015-SMR (S.D. IA); and *Nuhn Industries Ltd. v. Atlas Ag Services, LLC*, No. 1:23-cv-368-JLS (W.D. NY); *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC*, No. 3:22-cv-00064-SMR-

¹ Although Patent Owner certifies the word count of the Preliminary Response (Prelim. Resp. 95), many images in the brief contain quotes that do not appear to be accounted for. The parties are reminded that circumventing the rules, for example, by providing excessive words in images, may lead to a party’s brief not being considered. *See* Consolidated Trial Practice Guide 39–40 (Nov. 2019), www.uspto.gov/TrialPracticeGuideConsolidated.

² Our findings and conclusions at this stage are preliminary, and thus, no final determinations are made.

HCA (S.D. IA); and *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC and Tasch's Custom LLC*, No. 21-cv-1322-BHL (E.D. WI). Paper 3, 2–3; Paper 4, 2–4. The parties also identify the following pending *inter partes* reviews and *ex parte* reexams as involving related patents: IPR2023-01161, IPR2024-00004, 90/019,258 and 90/019,290, and 90/091,224. Paper 3, 3; Paper 4, 4–5

C. The '708 Patent

The '708 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), 1:27–31. According to the '708 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 1:35–51 (emphasis added). Thus, the '708 patent identifies that “there is a need for improved pumps and vehicles equipped for pumping . . . for use with large manure lagoons.” *Id.* at 1:52–54.

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

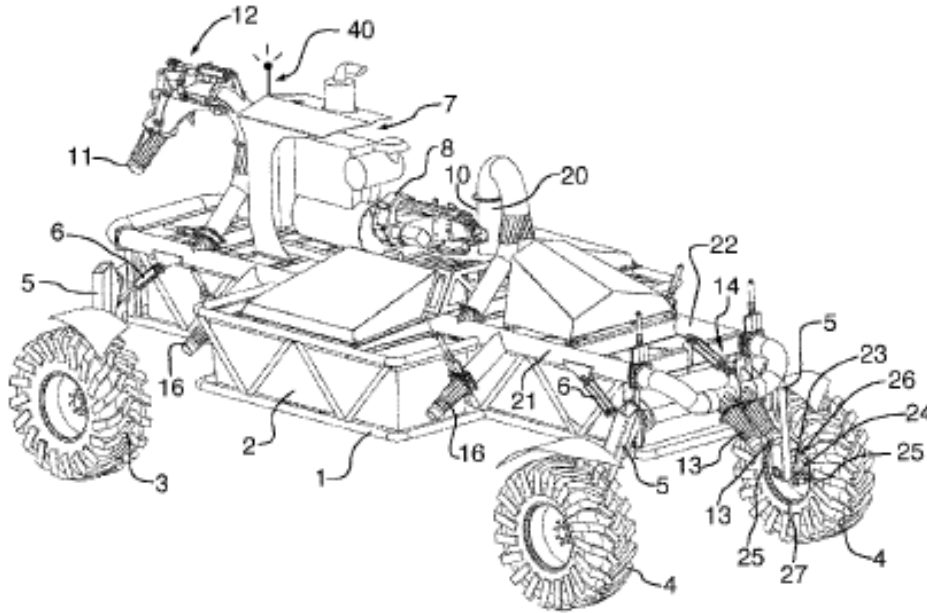


Figure 1 illustrates an amphibious vehicle with the following main components: a buoyant vehicle body (1, 2), a ground engaging propulsion structure of two sets of wheels (3, 4), a power source (7) such as an engine, a plurality of nozzles (11, 13, 16), and a remote control structure (40). Ex. 1001, 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 ’708 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.

D. Illustrative Claim

Of the challenged claims, claims 1, 17, 21, and 23 are independent. Claims 1 are 23 are illustrative:

1. An amphibious vehicle comprising:

a floatable vehicle body;

a ground engaging propulsion structure;

a power source configured to provide power to move the vehicle both when the vehicle is ground engaging and when the vehicle is floating in a liquid manure lagoon;

a wireless remote control configured to enable an operator remote from the vehicle to: (1) control the power source; (2) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (3) control at least one of the speed and direction of the vehicle when the vehicle is floating in the liquid manure lagoon; and,

an impeller in a liquid manure pump, the liquid manure pump comprising a bottom fluid inlet configured to be immersed in the liquid manure when the vehicle is floating, whereby the impeller is configured to draw liquid manure to be pumped through the bottom fluid inlet, the liquid manure pump comprising a housing with the bottom fluid inlet in the housing.

Ex. 1001, 8:39–58.

23. An amphibious vehicle comprising:

a floatable vehicle body comprising buoyant elements having foam filled buoyant chambers, the buoyant elements comprising a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel;

a ground engaging propulsion structure;

a power source configured to provide power to move the vehicle both when the vehicle is ground engaging and when the vehicle is floating in a liquid manure lagoon; and,

a wireless remote control configured to enable an operator remote from the vehicle to: (1) control the power source; (2) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (3) control at least one of the speed and direction of the vehicle when the vehicle is floating in the liquid manure lagoon.

Id. at 10:62–11:15, Cert. of Correction.

E. Evidence

Petitioner’s grounds of unpatentability rely on the following evidence:

Name	Patent Document	Exhibit
Carrier	US 2012/0185129 A1 (July 19, 2012)	1005
Yoon	KR 10-2013-0016490 (Feb. 18, 2013)	1010/1011 ³
Puck	US 2014/0112093 A1 (Apr. 24, 2014)	1014
Bryham	US 7,314,395 B1 (Jan. 1, 2008)	1015
Bennett-II	US 2021/0331752 A1 (Oct. 28, 2021)	1017

Name	Non-Patent Document	Exhibit
Truxor	Dorotea Mekaniska AB, Truxor Amphibian Tool Carrier	1006
SenwaTec	SenwaTec, Schröer Environment and Water Technology, Light Amphibious Boat/Vehicle “Amphi-King®” SWT-AB380	1012
Manure-Manager	Manure Manager, Jan./Feb. 2011	1019

³ English language translation.

F. Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 31–34), supported by the declaration of Eric Winkel, Ph.D., P.E. (Ex. 1004):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 8–18, 21–28, 35–38	103	Truxor, Yoon
1, 8–18, 21–28, 35–38	103	Truxor, Carrier
1, 8–18, 21–28, 35–38	103	SenwaTec, Yoon
1, 8–18, 21–28, 35–38	103	SenwaTec, Carrier
1, 8–18, 23–28, 35–38	103	Puck, Bryham
1, 8–18, 21–28, 35–38	103	Puck, Bryham, Bennett II
1–38	103	Truxor, Yoon, Manure-Manager
1–38	103	Truxor, Carrier, Manure-Manager
1–38	103	SenwaTec, Yoon, Manure-Manager
1–38	103	SenwaTec, Carrier, Manure-Manager
1–38	103	Puck, Bryham, Manure-Manager
1–38	103	Puck, Bryham, Bennett II, Manure-Manager
23	102	Bennett II

II. ANALYSIS

A. Summary

We first address the grounds of unpatentability. We then address the parties’ arguments concerning our discretion to deny institution.

B. Legal Standards

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). At this preliminary stage, we determine whether the information presented in the Petition shows a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims would have been anticipated or obvious over the prior art. *See* 35 U.S.C. § 314(a).

“A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Moreover, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003).

A claim is unpatentable as obvious 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 said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of obviousness or nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition’s challenges.

C. 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 the

invention (POSA). *Id.* at 13, 17. Petitioner asserts that a person 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. A POSA would have had a working knowledge of fluid pumps and livestock manure. Lack of work experience can be remedied by additional education, and vice versa.

Pet. 30 (citing Ex. 1004 ¶ 60).

Patent Owner disagrees, arguing that a POSA 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. 23 (quoting Ex. 2004 ¶ 64) (emphasis omitted). Patent Owner further argues that “Petitioner’s definition . . . inexplicably excludes those most familiar with manure agitation equipment – livestock farmers and the manure application business.” *Id.* at 22 (citing Ex. 2004 ¶ 59).

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 ’708 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 “[a] POSA 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.”

D. Claim Construction

In *inter partes* review, we construe claims “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b).

Patent Owner argues that language in independent claims 17, 21, and 23 should be interpreted to mean “a buoyant element is positioned in the space between the front and rear wheels on each of the right and left sides of the vehicle body.” Prelim. Resp. 24 (quoting Ex. 2004 ¶ 77) (emphasis omitted). Petitioner disagrees. Prelim. Reply 1–4.

The claim language at issue is outlined below:

Claim 17	Claim 21	Claim 23
	a first buoyant element on a first side of the vehicle body and a second buoyant element on a second side of the vehicle body	
the first front wheel and the first rear wheel are on a first side of the vehicle and the second front wheel and the second rear wheel are on a second side of the vehicle;	the first front wheel and the first rear wheel are on the first side of the vehicle body and the second front wheel and the second rear wheel are on the second side of the vehicle body,	
a first buoyant element situated between the first front wheel and the first rear wheel and a second buoyant element between the second front wheel and the second rear wheel	the first buoyant element is between the first front wheel and the first rear wheel and the second buoyant element is between the second front wheel and the second rear wheel	a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel

Ex. 1001, 9:43–46, 9:50–53, 10:24–26, 10:29–37, 10:64–11:2; *see also* Prelim. Resp. 23–24.

We first address the *absence* in claim 23 of the first and second sides limitations (the second row of claim limitations above). We then address the construction of the term “between” as used in the limitations of the third row above in claims 17, 21, and 23.

1. Claim 23 and First and Second Sides

As can be seen above, claim 23, unlike claims 17 and 21, does not include a limitation specifying that the first front wheel and the first rear

wheel are on a first side of the vehicle and the second front wheel and the second rear wheel are on a second side of the vehicle. Though the Patent Owner Preliminary Response does not address claim 23 directly, it implicitly argues that this limitation should be read into the claim because Figure 3 of the Specification shows an example where one set of wheels is on one side and a second set of wheels is on the other side. Prelim. Resp. 24–26.

Patent Owner, in arguing that claims 17, 21, and 23 should be understood to have the same scope for the above-noted limitations, ignores basic tenants of claim construction, such as that the claims themselves define the invention (*Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988)), that when two independent claims have different words or phrases, they are presumed to have a different scope (*Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005)), that “it is improper to read limitations from the written description into a claim” (*Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1049 (Fed. Cir. 2019)), and that “the specification . . . only compel[s] departure from the plain meaning in two instances: lexicography and disavowal” (*GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014)). Patent Owner provides no reason why we should act contrary to the normal application of claim construction.

Further, Petitioner notes that claim 35 which depends from claim 23 includes the first and second sides limitations present in claims 17 and 21. Prelim. Reply 1. Petitioner correctly states that Patent Owner’s “position is contradicted by the doctrine of claim differentiation, which states that ‘the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.’” *Id.* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314–15 (Fed. Cir. 2005)). Patent Owner’s response is to argue that the embodiment of

Figure 3 should be read into claim 23, consistent with their prior position, while again ignoring the basic tenants of claim construction. Prelim. Sur-reply 5–6.

Claim 23 does not include a limitation that would require the first front wheel and the first rear wheel on a first side of the vehicle and the second front wheel and the second rear wheel on a second side of the vehicle. For all of the above reasons, we decline to read these limitations into claim 23.

2. *Between*

Patent Owner argues that language in independent claims 17, 21, and 23 should be interpreted to mean “a buoyant element is positioned in the space between the front and rear wheels on each of the right and left sides of the vehicle body.” Prelim. Resp. 24 (quoting Ex. 2004 ¶ 77) (emphasis omitted).

Petitioner disagrees, but does not expressly provide a construction of the term “between.” Prelim. Reply 1–4. Petitioner does argue “that ‘between’ does not require intersecting a line drawn between two points.” Prelim. Reply 3. Petitioner further characterizes Patent Owner’s position as “attempt[ing] to rewrite [the] claims to require *at least a portion* of the buoyant element intersects the rectangular space ‘between’ defined by the outer bounds of the wheels on one side of the vehicle.” *Id.*

Neither party expressly addresses the plain and ordinary meaning of “between” or argues that “between” is defined in the ’708 patent. The website Merriam-Webster.com defines “between” as “in the time, space, or interval that separates.” Ex. 3002, 1. The concept of “in the space that separates” is consistent with Patent Owner’s position that a buoyant element is positioned in the space between the wheels. Prelim. Resp. 24.

The Specification of the '708 patent does not appear to use the term “between” in the same context as the claims, but as noted by Patent Owner, Figure 3 does illustrate a first buoyant element between, or in the space that separates, a first set of tires on one side of the vehicle and a second buoyant element between, or in the space that separates, a second set of tires on the opposite side. *Id.* at 24–25; *see also* Ex. 1001, Fig. 2 (illustrating buoyant elements between the wheels). Patent Owner’s declarant testifies that “[a] POSITA would understand the two buoyant elements shown in FIG. 3 on the right and left sides of the vehicle as being ‘a first buoyant element situated between the first front wheel and the first rear wheel and a second buoyant element between the second front wheel and the second rear wheel.’” Ex. 2004 ¶ 82. This is uncontroverted.

Petitioner does not address Figure 3 of the '708 patent. Rather, Petitioner turns to “U.S. Application No. 2010/0144220 to Bailey (“Bailey”) [which] is cited on the face of the '708 Patent.” Prelim. Reply 3. Petitioner argues that Bailey is “[t]he only piece of intrinsic evidence using the term ‘between’ when referring to the position of the wheels.” *Id.*

Petitioner reproduces a modified version of Figure 6 of Bailey, which can be seen below. *Id.* at 4.

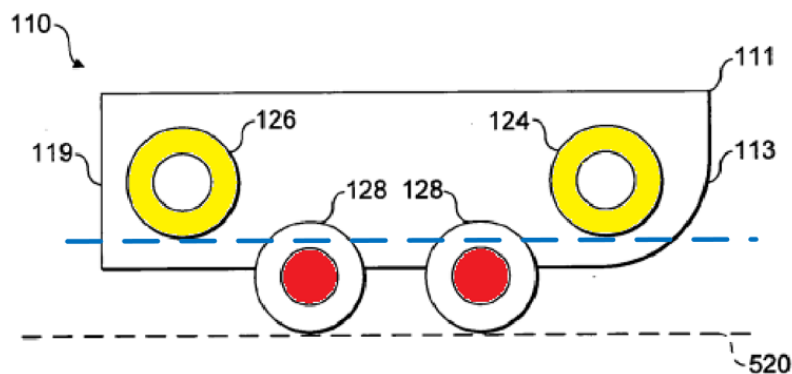


FIG. 6

Petitioner quotes Bailey as describing Figure 6 as showing “[t]wo pairs of intermediate axles [red] supporting wheels 128 are located *between* the front and rear wheels 124, 126 [yellow]” *Id.* at 3–4 (quoting Bailey ¶ 33). Petitioner argues that “the red axles do not intersect the blue line drawn from the yellow first front wheel to the yellow first rear wheel” and thus, the term “between” does not require the middle object to be in the space that separates the other objects. *Id.* at 4 (emphasis omitted). However, in our view, Petitioner’s illustration actually proves the opposite point.

As quoted by Petitioner, Bailey makes clear that elements 128 which are the “axles supporting wheels” are between the wheels 124, 126. This quote from Bailey does not refer to the axles (not numbered) in isolation. As Petitioner’s illustration shows, elements 128 are situated partially in the space that separates wheels 124, 126 as can be seen by the portion of elements 128 that extend above the blue line added by Petitioner.

In view of the above and the evidence of record, we preliminarily construe “between” as meaning “in the space that separates.”

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))).

E. 35 U.S.C. 103(a) – Truxor, Yoon

Petitioner asserts that claims 1, 8–18, 21–28, and 35–38 are unpatentable as obvious over Truxor⁴ and Yoon. Pet. 37–55. Patent Owner

⁴ In listing the grounds, Petitioner states that “[t]hree additional publications equivalently describe the DM5000. EX1024-EX1026.” Pet. 32. Petitioner further states that “[w]hile EX1006 is cited as ‘Truxor,’ any of EX1024-

disagrees. Prelim. Resp. 31–47. In our analysis below, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that claim 1 is unpatentable over the combination of Truxor and Yoon.

1. Truxor

Truxor is a brochure that describes two models of amphibious vehicles, DM 4700 B and DM 5000, that can carry any of various tools. Ex. 1006, 2. One of those tools, of particular relevance here, is a dredge pump illustrated below with one of the amphibious vehicles. *Id.* at 5.



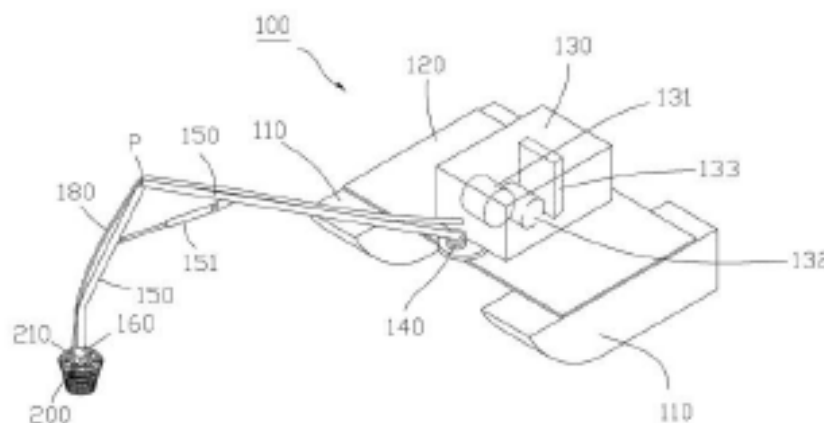
In the above illustration, an amphibious vehicle is shown in a source of water with what appears to be a dredging tool actively dredging material from the bottom of the water source. Truxor describes the Doro pump as a dredging pump operated with a hydraulic motor, and with two types of inlets, wheel feeding or screw feeding. *Id.* at 10. Truxor describes the “wheel

EX1026 could be substituted for Truxor to render obvious Claims 1-8, 8-18, 21-28, and 35-38.” *Id.* Independent of this statement, the Petition only includes an analysis of the claims with respect to Truxor and does not individually consider any of these other references. We consider Truxor to be Ex. 1006 only.

feeder” as having “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.” *Id.* Truxor further describes the screw feeder for use with “harder sediments” such as “sediment containing solid objects, e.g. stones, bits of wood, etc.” *Id.* The screw feeder may further include “knives mounted on the suction intake of the pump” to help “give the pump an even flow of sediment.” *Id.*

2. Yoon

Yoon (Ex. 1010) is a Korean patent publication entitled “An Amphibious Water Treatment Device” which is 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). Yoon Figure 2, reproduced below, shows an example of the amphibious water treatment device. *Id.* ¶ 42.



Yoon Figure 2, shows the amphibious water treatment device (100) with a pair of floaters (110, 110), a main body (130) with a water pump (131) and controller (133), a 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 the 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. *Claim 1*

Petitioner argues that the combination of Truxor and Yoon renders obvious claim 1. Pet. 37–45. Petitioner lays out its position generally as, “[a] POSA would have been motivated to add [Yoon’s] remote-control to Truxor[‘s amphibious pumping/dredging vehicle]. . . to provide a safer way of controlling the Truxor vehicle during dangerous dredging, excavation, and decontamination.” *Id.* at 37–38.

Patent Owner provides a number of different arguments over the combination. Prelim. Resp. 31–34, 39–47.

a) *Claim 1 – Truxor*

Claim 1 includes:

1. An amphibious vehicle comprising:

a floatable vehicle body;

a ground engaging propulsion structure;

a power source configured to provide power to move the vehicle both when the vehicle is ground engaging and when the vehicle is floating in a liquid manure lagoon;

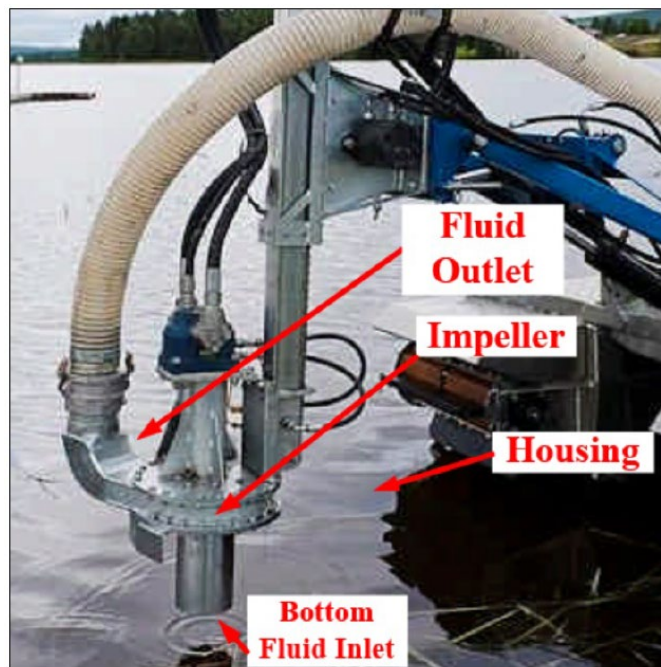
. . .

an impeller in a liquid manure pump, the liquid manure pump comprising a bottom fluid inlet configured to be immersed in the liquid manure when the vehicle is floating, whereby the impeller is configured to draw liquid manure to be pumped through the

bottom fluid inlet, the liquid manure pump comprising a housing with the bottom fluid inlet in the housing.

Ex. 1001, 8:39–58.

Petitioner argues that Truxor teaches the basic structure of claim 1 above, including an amphibious vehicle with floating pontoons, tracks that engage the ground for propulsion and that allow “for maneuvering in either aquatic or land environments,” and “a ‘hydraulic system[,]’ powered by a diesel engine” for powering the tracks. Pet. 41–42 (citing e.g., Ex. 1006, 2–3; Ex. 1004 ¶ 203). Petitioner also argues that Truxor teaches a dredging pump attachment (“Doro pump”) for use with the amphibious vehicle. *Id.* at 43 (citing Ex. 1006, 2, 10). Petitioner marks-up a picture from Truxor (below) to identify the parts of the pump. *Id.* at 45 (citing Ex. 1006, 10).



In the above picture of a pump, Petitioner has added arrows to identify the asserted Fluid Outlet, Impeller, Housing, and Bottom Fluid Inlet. *Id.* Petitioner’s argues, supported by declarant testimony that one of skill in the art “would have understood that the Doro Pump is a centrifugal pump based

on its geometry,” and “that centrifugal pumps function using an impeller, which spins along the pump’s longitudinal axis, draws fluid from an inlet, and accelerates the fluid from the inlet towards the pump’s outer edges where it is discharged through an outlet.” *Id.* at 44 (citing Ex. 1004 ¶ 208).

Petitioner’s declarant also testifies that the Doro Pump has the “ability to pump manure of different forms and consistencies, including liquid manure, slurry, and semisolid manure, which have higher solids contents than liquid manure,” and further that “Dredge systems were known in the art for pumping higher solid concentration manure, and the Doro Pump dredger could readily pump liquid manure.” Ex. 1004 ¶ 207 (citing Ex. 1055⁵, 2).

Patent Owner argues that Truxor does not discuss manure, and thus doesn’t disclose a liquid manure pump. Prelim. Resp. 31–34. Patent Owner argues that Petitioner’s declarant testimony that Truxor is capable of pumping manure is conclusory because it doesn’t include any comparative analysis to liquid manure pumps. *Id.* at 34. We disagree.

We find the opinion of Petitioner’s declarant (Dr. Winkel) to be supported by reference to Exhibit 1055. In our view, Exhibit 1055, 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 ¶ 207. Exhibit 1055 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. 1055, 2. 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”

⁵ The declaration cites to Ex. 1052, but this is believed to be a typographical error.

between pumps. Prelim. Resp. 34. Based on the current record, we see no reason for any additional comparative analysis.

Patent Owner also argues that the claims when taken as a whole are directed to an “Amphibious Manure Lagoon Agitation Vehicle.” *Id.* at 39. Patent Owner explains that in the reexaminations of related patents the examiner stated that “the prior art does not reasonably show an amphibious vehicle that can be mobile on both land and liquid that pumps manure.” *Id.* (quoting Ex. 2033, 8; Ex. 2031, 6) (emphasis omitted). Patent Owner argues that Truxor “is no different because the Truxor marketing brochure does not reasonably convey to a [POSA] a vehicle that floats in, moves in, and/or pumps manure.” *Id.* (citing Ex. 2004 ¶ 135).

It is unclear why Patent Owner argues that the claim requires that the pump must actually pump manure or explicitly be an amphibious manure lagoon agitation vehicle. *Id.* at 39. 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 fluid pump that pumps 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.”). Further, “[i]t is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Thus, even if the claim included the intended use of “manure lagoon agitation” (which it does not), the intended use is

insufficient to distinguish over the prior art unless it requires a functional difference.

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 pump.

b) Wireless Remote Control

Claim 1 also requires:

a wireless remote control configured to enable an operator remote from the vehicle to: (1) control the power source; (2) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (3) control at least one of the speed and direction of the vehicle when the vehicle is floating in the liquid manure lagoon.

Ex. 1001, 8:45–51.

Petitioner argues that “Truxor teaches paddle tracks that vary the speed and direction of the vehicle on land and water and a regulated power source for powering the tracks.” Pet. 42 (citing Ex. 1006, 2–3). Petitioner then argues that Yoon teaches “amphibious pumping vehicles enabling operators to control the vehicle and its attachments using remote control.” *Id.* (citing Ex. 1011 ¶48). Petitioner argues that a POSA would have been motivated to implement the remote-control systems taught by Yoon to control the vehicle and attachments of Truxor from safe locations. *Id.* at 42–43; *see also id.* at 37–41 (discussing the reasons to combine in more detail).

Patent Owner does not contest the teachings of Truxor or Yoon in this regard. Rather, 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 Yoon. Prelim.

Resp. 40. Patent Owner identifies a number of reasons why it argues a reasonable expectation of success has not been shown. *Id.* at 40–45.

First, Patent Owner addresses some of Petitioner’s supporting evidence concerning the increased safety of using a remote control instead of having a person in the vehicle. *Id.* at 40–41. Petitioner cited Exhibit 1028⁶ (“Melnikov”) as teaching that using a human operator in a Truxor vehicle was a drawback. Pet. 40 (citing Ex. 1028, 4). Petitioner then argues that “Melnikov describes adding remote control to Truxor-like amphibious machines with a pump for spraying liquid biopreparations.” *Id.* (citing Ex. 1028, 4–5).

Patent Owner admits that Melnikov teaches using a remote control and that using a human operator in a Truxor vehicle is a drawback. Prelim. Resp. 40. However, Patent Owner argues that Melnikov doesn’t teach adding a remote to a Truxor-like vehicle. *Id.* at 40–41. Rather, Melnikov designed a new and different propulsion system and pump that are remote controlled. *Id.* 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 41.

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

⁶ English language translation of Ex. 1027.

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. Prelim. Resp. 42–45. 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 42 (citing Ex. 2004 ¶¶ 144–149). Patent Owner argues that “the difficulties with converting . . . hydraulic controls to wireless remote control is well documented and would be known to a POSITA.” *Id.* at 44 (citing Ex. 2004 ¶ 140). And Patent Owner argues that adding remote controls to Truxor would increase the known tilting, or rollover, risk. *Id.* at 45 (citing Ex. 1007, 128; 2004 ¶ 147).

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. *See 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.

4. Claims 15, 17, 21, 23

As discussed previously, claim 23 includes:

a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel.

Ex. 1001, 10:64–11:2, Certificate of Correction. Claims 15, 17, and 21 include variations of this claim language. *Id.* at 9:32–36, 9:50–53, 10:34–37.

Petitioner argues that “Truxor discloses a pair of saltwater-durable aluminum pontoons located on first and second sides of the vehicle.” Pet. 51 (citing Ex. 1006, 3); *see also id.* at 47 (relying on Truxor for teaching saltwater-durable aluminum pontoons).

Petitioner later argues that tires and tracks are interchangeable, and that:

A POSA would have understood that the natural locations for arranging the wheels on the vehicle of Truxor would be on the front and back of each side of the vehicle to promote vehicle stability. EX1004, ¶215. This arrangement would result in one pontoon being located between the right pair of wheels and another pontoon being located between the left pair of wheels.

Pet. 48.

In response, Patent Owner identifies that Truxor, and Yoon, both disclose pontoons that “run the *entire length* of the vehicle body.” Prelim. Resp. 37. Thus, it is unclear how replacing Truxor’s tracks with wheels would result “in one pontoon being located between the right pair of wheels and another pontoon being located between the left pair of wheels.” Rather,

the combination would appear to teach pontoons that are outboard of, and adjacent to, the tires and that run the entire length of the vehicle body. At the same time, this may be consistent with how Petitioner is implicitly, but incorrectly, construing the term “between.” *See* Prelim. Reply 2–4; *see also* Pet. 65–66 (arguing that outboard pontoons adjacent to the wheels are between the wheels).

F. 35 U.S.C. 103(a) – Truxor, Carrier

Petitioner asserts that claims 1, 8–18, 21–28, and 35–38 are unpatentable as obvious over Truxor and Carrier. Pet. 37–55. Petitioner combines its analysis of Truxor and Carrier with its analysis of Truxor and Yoon, discussed above. *Id.* Petitioner relies on Carrier for the same teachings as Yoon, namely remote control of an amphibious pumping vehicle and vehicle wheels. *Id.* at 37–41, 45–46. Petitioner further relies on the same reason to combine. *Id.* at 37–41. Patent Owner also combines its analysis of Truxor and Carrier with its analysis of Truxor and Yoon. Prelim. Resp. 31–47. Patent Owner does not offer any arguments specific to Truxor and Carrier.

After our review of Petitioner’s assertions with respect to claim 1 and the supporting evidence, we determine that Petitioner has established a reasonable likelihood of prevailing for essentially the same reasons discussed previously.

G. 35 U.S.C. 103(a) – SenwaTec, Yoon

Petitioner argues that the combination of SenwaTec and Yoon renders obvious claims 1, 8–18, 21–28, 35–38. Pet. 55–72. Patent Owner disagrees. Prelim. Resp. 47–62. In our analysis below, we determine that Petitioner has established a reasonable likelihood of succeeding in showing that claim 1 is unpatentable over the combination of SenwaTec and Yoon.

1. *SenwaTec*

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 the vehicle includes a diesel engine and a hydraulics system. *Id.* at 3.

SenwaTec teaches that the vehicle can attach any of a number of different tools to the forward crane, including a centrifugal pump. *Id.* at 1, 2.

2. *Claim 1*

Petitioner argues that the combination of SenwaTec and Yoon renders obvious claim 1. Pet. 55–62. Petitioner relies on SenwaTec for essentially the same teachings as Truxor discussed above, and relies on the same reason to combine discussed above. *Id.*

Patent Owner provides essentially the same arguments about claim scope and reasonable success in the making the combination discussed and

rejected above with respect to Truxor. Prelim. Resp. 57–61. We address below Patent Owner’s arguments specific to SenwaTec.

Petitioner argues that “SenwaTec discloses a dredging pump as ‘a powerful centrifugal pump and 8” suction[] and 6” discharge ports, hydraulically driven, delivering 40 kW of pumping power.’” Pet 59 (citing Ex. 1012, 1). Petitioner argues that SenwaTec’s pump is capable of pumping liquid manure: “A POSA would have understood that dredge systems were known for pumping higher solid concentration manure, and therefore, the SenwaTec dredging pump would have necessarily pumped liquid manure.” *Id.* (citing Ex. 1004 ¶ 247).

Similar to the prior discussion with regard to Truxor, Patent Owner argues that SenwaTec does not discuss manure or a fluid pump for pumping liquid manure. Prelim. Resp. 53–56.

As previously discussed, the testimony of Petitioner’s declarant, Dr. Winkel, is supported by reference to Exhibits 1037, 1052, 1060. Patent Owner does not contest Petitioner’s argument that dredge pumps are capable of pumping liquid manure which is all that claim 1 requires.

Petitioner further asserts that the SenwaTec vehicle “was shown pumping manure in pre-2013 newspaper publications and advertisements.” Pet. 59. Petitioner includes three figures from these exhibits in the Petition. Pet. 60–61 (citing Ex. 1030⁷, 2; Ex. 1031, 1, 3).

Patent Owner argue that these exhibits do not “show or describe the SenwaTec vehicle pumping *liquid manure*.” Prelim. Resp. 55.

We agree that Exhibits 1029–1031 do not, on their face, demonstrate that UD Umweltdienste used the SenwaTec vehicle for pumping manure.

⁷ English language translation of Exhibit 1029.

Exhibit 1030, the English language translation of Exhibit 1029, discusses a “sewage pond” which it infers is processed from “toilet waste,” but does not talk about manure and further, does not discuss pumping or fully show which tool is attached to the vehicle. Ex. 1030, 3. Patent Owner argues that sewage ponds and manure lagoons are very different. Prelim. Resp. 55. This argument is supported by the Patent Owner’s declarant. Ex. 2004 ¶ 35 (citing and discussing Exs. 2019, 2022, 2023). We agree with Patent Owner that Exhibits 1029 and 1030 do not clearly show that the SenwaTec vehicle was used for pumping manure.

Exhibit 1031 is provided in two parts, a video and a series of screen shots from the video. No translation of the video is provided. Among other things, Exhibit 1031 shows the SenwaTec vehicle in a pond of some sort, and spraying some unidentified fluid.⁸ Ex. 1031.

Though we agree with Patent Owner that Petitioner over states what is shown in Exhibits 1029–1031, we also determine 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.

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

3. Claims 15, 17, 21, 23

As discussed previously, claim 23 includes:

⁸ One of the screenshots includes the following in German “Verflüssigung auch von dicken Schlamm” which Google translates as “liquefaction even of thick mud.” Ex. 1031, 3.

a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel.

Ex. 1001, 10:64–11:2, Certificate of Correction. Claims 15, 17, and 21 include variations of this claim language. *Id.* at 9:32–36, 9:50–53, 10:34–37.

Petitioner addresses the above claim limitation with the following: “SenwaTec discloses that the stabilizer pontoons are situated between the front and rear wheels on each side of the vehicle.” Pet. 65. Petitioner also includes the below copy of a figure from SenwaTec showing the vehicle, which it does not further discuss. *Id.* at 66 (citing Ex. 1012, 1).



The above figure from SenwaTec shows a wheeled vehicle with stabilizer pontoons and a forward crane with an attached tool that appears to include a nozzle.

Patent Owner correctly notes that SenwaTec’s pontoons are not between the front and rear wheels on each side of the vehicle as can be seen in the above figure.⁹ Prelim. Resp. 56–57.

⁹ In the Preliminary Reply, Petitioner advances a new argument on how SenwaTec meets these claim limitations. We note that this argument appears to be merely attorney argument and is not a position from the Petition. We also do not consider this argument as it exceeds the scope of the Preliminary

H. 35 U.S.C. 103(a) – SenwaTec, Carrier

Petitioner argues that the combination of SenwaTec and Carrier renders obvious claims 1, 8–18, 21–28, 35–38. Pet. 55–72. Petitioner combines its analysis of SenwaTec and Carrier with its analysis of SenwaTec and Yoon, discussed above. *Id.* Petitioner relies on Carrier for the same teachings as Yoon, namely remote control of an amphibious pumping vehicle. *Id.* at 62–63. Petitioner further relies on the same reason to combine. *Id.* Patent Owner also combines its analysis of SenwaTec and Carrier with its analysis of SenwaTec and Yoon. Prelim. Resp. 56–57. Patent Owner does not offer any arguments specific to SenwaTec and Carrier.

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

I. 35 U.S.C. 103(a) – Puck, Bryham

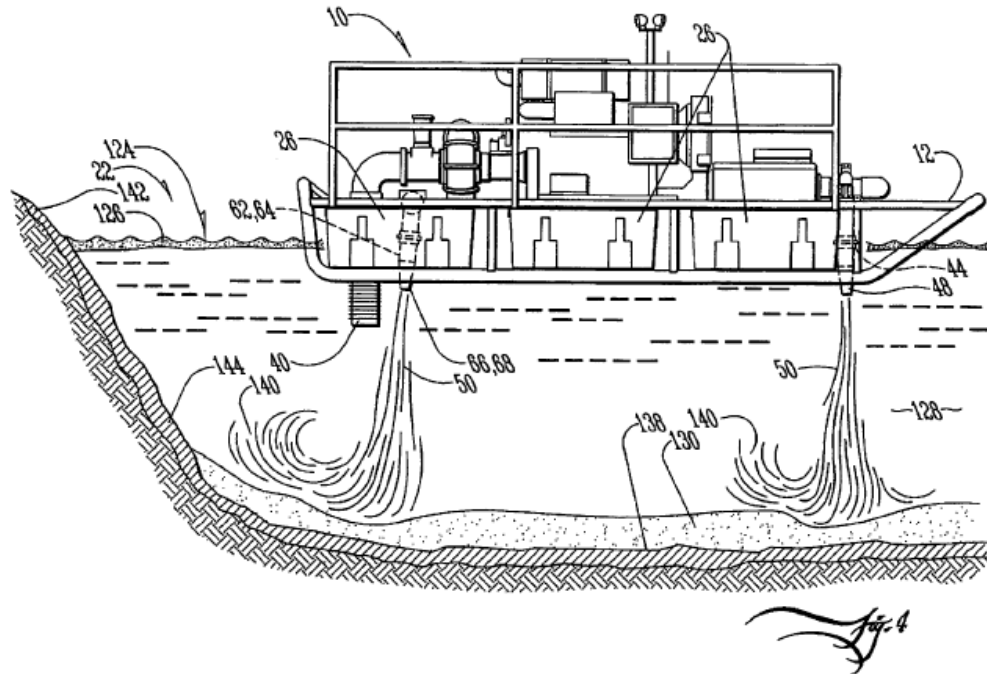
Petitioner argues that the combination of Puck and Bryham renders obvious claims 1, 8–18, 23–28, 35–38. Pet. 72–89. Patent Owner disagrees. Prelim. Resp. 63–79. At this stage, we decline to determine whether Petitioner has established a reasonable likelihood of succeeding in showing that claim 1 is unpatentable over the combination of Puck and Bryham.

1. Puck

Puck is entitled “Floating Manure Agitator” and is directed to a vehicle that floats in a manure lagoon “that may be remotely controlled to agitate manure supernatant into a slurry.” Ex. 1014, codes (54), (57). The floating manure agitator has a power source coupled to “a liquid manure

Reply requested by Petitioner. *See* Ex. 3001. The parties are again reminded that circumventing the rules may lead to a party’s brief not being considered. *See* Consolidated Trial Practice Guide 39–40.

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 a manure lagoon (22) in Figure 4, reproduced below.



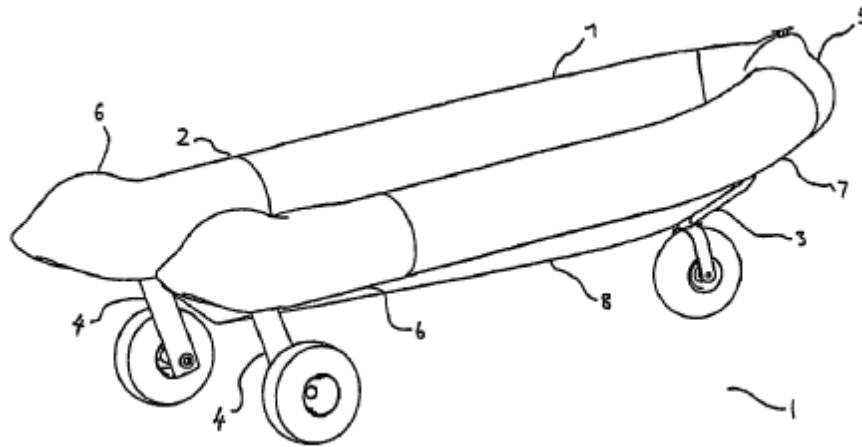
The illustrated floating manure agitator (10) in Figure 4 has an intake pipe (40) connected to the slurry pump, which pump directs the liquid manure through downward facing nozzles (48, 66, 68) into the manure lagoon. *Id.* ¶¶ 26–27, 29. In this way, the floating manure agitator can be used “to agitate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

Puck also teaches the system can be controlled by remote control. *Id.* ¶ 32.

2. Bryham

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). Bryham Figure 1 is reproduced below showing the amphibious vehicle.



As can be seen in Bryham Figure 1, the amphibious vehicle includes an inflatable craft (2) with three undercarriage assemblies (3, 4) including wheels.

3. *Claim 1*

Petitioner argues that the combination of Puck and Bryham renders obvious claim 1. Pet. 72–80. Petitioner lays out its position generally as it would have been obvious to a POSA “to add the powered, steerable wheels of Bryham to Puck’s boat.” *Id.* at 73.

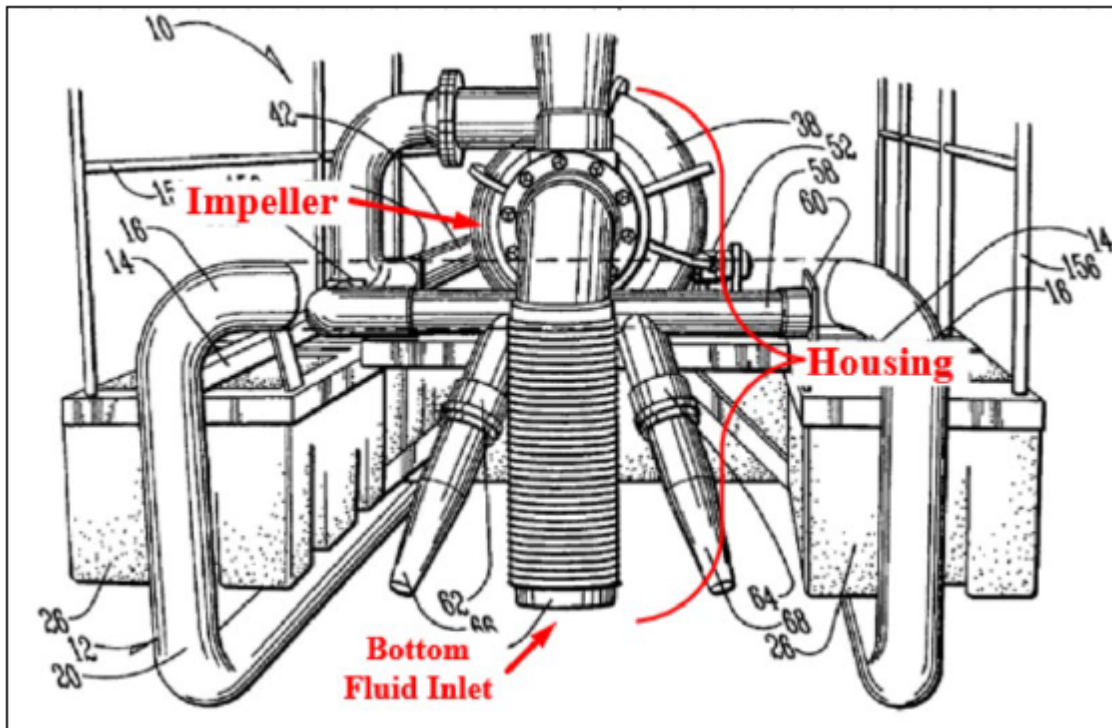
Patent Owner provides a number of different arguments over the combination. Prelim. Resp. 63–79.

a) Claim 1 – Puck

Petitioner argues that Puck teaches the basic structure of claim 1, including a “floating vehicle body,” “a wireless remote control,” and “an impeller in a liquid manure pump.” Pet. 76–80 (citing e.g., Ex. 1014 ¶¶ 9, 11, 24, 25, 27, 35, 37, Figs. 4, 6).

Petitioner also argues that Puck teaches “the liquid manure pump comprising a housing with the bottom fluid inlet in the housing” where the

“bottom fluid inlet [is] configured to be immersed in the liquid manure when the vehicle is floating.” *Id.* at 79–80. Petitioner provides the below marked-up version of Puck Figure 6 to show the asserted components of the liquid manure pump. *Id.* at 79.



Puck Figure 6 shows an end view of the vehicle of Puck which Petitioner has annotated in red to indicate the alleged impeller, bottom fluid inlet, and housing.

Patent Owner argues that “Puck describes the intake pipe 40 as a separate component that is not part of the slurry pump 38.” Prelim. Resp. 63. Patent Owner correctly identifies that Puck teaches that pump 38 is coupled to intake pipe 40.¹⁰ *Id.* at 64 (citing Ex. 1014 ¶ 26). Patent Owner’s declarant

¹⁰ We further note that there is an additional structure positioned on top of the pipe connecting the slurry pump 38 and the intake pipe 40 (the top of Petitioner’s red bracket sign in annotated Figure 6 points to this structure)

testifies that in view of these teachings one of skill would not consider the intake pipe to be part of the pump housing as required by the claims. Ex. 1004 ¶¶ 197–199.

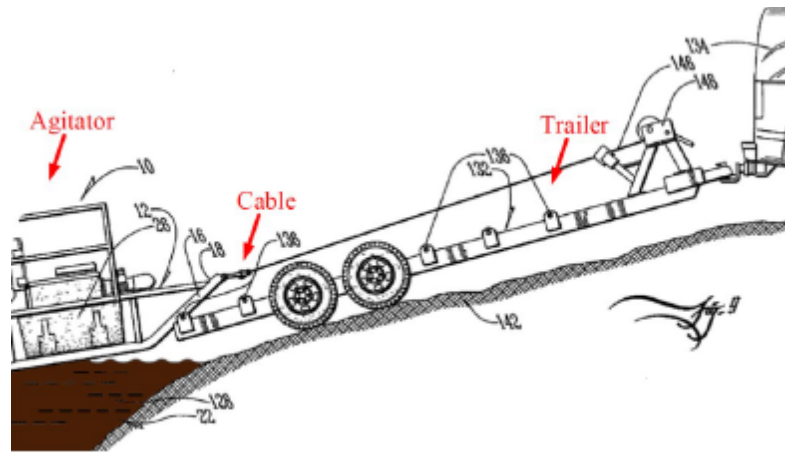
Though Petitioner’s declarant asserts that one of skill would consider the intake pipe to be part of the pump housing, he does not address the teachings of Puck. *See* Ex. 1004 ¶ 291. This issue is best left for trial after further development of the record.

b) Ground Engaging Propulsion Structure

Claim 1 also requires “ground engaging propulsion structure.” Ex. 1001, 8:41. Petitioner argues that “Bryham teaches creating an amphibious vehicle by adding steerable, hydraulically powered wheels to jet boats.” Pet. 76 (citing Ex. 1015, 2:19–45); *see also id.* (citing Ex. 1015, 2:66–67, 16:4–6). Petitioner further argues that a POSA 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.* at 73 (citing Ex. 1004 ¶ 276); *see also id.* at 73–76 (discussing the motivation to combine in more detail, related in particular to the drawbacks of using trailers to launch and load vessels).

Patent Owner argues that there is insufficient evidence that a POSA would combine Puck and Bryham. Prelim. Resp. 73. Patent Owner argues that Puck Figure 9 (annotated version reproduced below) does not show any issues with loading the Puck boat onto a trailer. *Id.*

which may or may not impact the understanding of one of skill in the art as what is the housing of the pump.



Id., FIG. 9 (annotated).)

Puck Figure 9 has been annotated by Patent Owner to label the agitator boat, cable, and trailer. Figure 9 further shows the agitator boat in the manure lagoon being loaded onto the trailer by a cable connecting the two. Ex. 1014 ¶ 21, Fig. 9. Patent Owner argues that this figure doesn't support Petitioner's argument because it does not show the trailer in the manure lagoon, or a person having to step into the lagoon to connect the cable to load the agitator boat. Prelim. Resp. 73–74.

Though Patent Owner correctly describes what is shown in Puck Figure 9, 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.

Patent Owner also argues that Puck is barge shaped and “constructed from modular floating dock sections 26,” and thus “Petitioner has failed to carry its burden of explaining why a [POSA] would reasonably expect that Bryham's wheels could be successfully added to Puck's vessel, when Puck does not have a conventional boat hull structure.” Prelim. Resp. 75–76. However, Patent Owner's argument is not persuasive at least because Puck discloses that its boat “may be constructed with a more standard hull, such as those known in the art.” Ex. 1014 ¶ 22.

c) Power Source

Claim 1 also requires “a power source configured to provide power to move the vehicle both when the vehicle is ground engaging.” Ex. 1001, 8:42–43.

Petitioner argues that the Puck vehicle uses a diesel engine to power the slurry pump and that Bryham teaches a “hydraulic drivetrain” where a combustion engine drives the wheels through a hydraulic motor. Pet. 77 (citing Ex. 1014 ¶¶ 11, 24; Ex. 1015, 16:1–6). Petitioner further argues that one of skill in the art would have used Puck’s internal combustion engine to power the hydraulic pump, ground engagement means, and the fluid pump of Bryham because “[t]he 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 ¶ 286).

Patent Owner argues that the testimony of Petitioner’s declarant is conclusory and that it does not explain why the combination would be cheaper, lighter and more efficient. Prelim. Resp. 70.

However, Petitioner explains that it “would be cheaper, lighter, and more efficient than providing separate engines for each component.” Pet. 77. This is a reasonable statement that is sufficiently supported at this stage.

d) Remote Control

Claim 1 includes the following:

a wireless remote control configured to enable an operator remote from the vehicle to: . . . (2) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging

Ex. 1001, 8:45–49.

Petitioner argues that “Puck teaches a vessel with a wireless remote-control that controls the engine and the speed and direction of the vehicle while floating.” Pet. 77 (citing Ex. 1014 ¶¶ 9, 11, 27, 35, 37). Petitioner argues that Bryham discloses a vehicle with wheels that are steerable by a steering wheel. *Id.* at 77–78 (citing Ex. 1015, 5:32–37, 60–62).

Petitioner further argues that “[r]emote-control technology was well known and readily adaptable to power wheeled vehicles” and that one of 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.* at 78 (citing Ex. 1004 ¶¶ 276–282, 289).

Patent Owner argues that the testimony of Petitioner’s declarant is conclusory and that the combination is complicated and would require substantial modification. Prelim. Resp. 70–71.

Patent Owner does not argue that the combination is 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. 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.

4. *Claims 15, 17, 21, 23*

As discussed previously, claim 23 includes:

a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel.

Ex. 1001, 10:64–11:2, Certificate of Correction. Claims 15, 17, and 21 include variations of this claim language. *Id.* at 9:32–36, 9:50–53, 10:34–37.

Petitioner argues that: “[a] POSA would have found it obvious to use four wheels, with one wheel at each corner, to best support the rectangular vehicle body of Puck.” Pet. 85. Petitioner further argues that “[l]ocating the wheels at each corner would result in at least one separate dock section being located between the front and rear wheel on each side of the vehicle.” *Id.* at 86 (citing Ex. 1004 ¶ 302 (making an identical statement)).

Petitioner’s position is not clear. Patent Owner believes that Petitioner is arguing for the removal of certain buoyant elements from Puck to place the wheels within Puck’s frame. Prelim. Resp. 68–69. Bryham itself shows three wheels positioned below the boat’s hull (Ex. 1015, Fig. 1; *see also* Pet. 81, 87 (reproducing Bryham Fig. 1)), and Petitioner does not argue that the combination would result in a different configuration than that taught by Bryham. Though Petitioner states that the wheels would be located at the corners, the actual positioning and relationship with the buoyant elements is not specified. Petitioner’s position is further unclear as Petitioner has previously construed “between” to mean “adjacent to.” *See e.g.*, Pet. 65–66; Prelim. Reply 2–4.

5. *Claims 10, 17, 36*

Claim 10 requires “four wheels [that] are independently driven.” Ex. 1001, 9:19–20. Claims 17 and 36 include similar limitations. *Id.* at 9:47–49, 12:23–24.

Petitioner argues that

It would have been a matter of design choice for a POSA to use four independently-powered wheels, especially given Puck’s rectangular shape, and Bryham teaches *at least* three independently powered wheels, including four powered wheels. Such modification would not have provided unexpected results and would have amounted to an “obvious variation[] consistent with the principles known in th[e] art.”

Pet. 81 (citing Ex. 1004 ¶ 294). Petitioner further argues that

Bryham discloses a plurality of ground engaging elements that are powered by separate hydraulic motors. A POSA would have understood that each of the wheels could be independently powered for better traction using the separate, hydraulic motors taught by Bryham.

Pet. 82 (citing Ex. 1015, 6:47–53, Fig. 23; Ex. 1004 ¶ 296).

Patent Owner argues that Bryham teaches using three wheels and that the front wheel is not powered. Prelim. Resp. 72. Thus, Patent Owner argues that not using this configuration is impermissible hindsight. *Id.* We disagree.

Notably, Patent Owner does not address any of Petitioner’s reasoning or explanation reproduced above as to why one of skill in the art would be motivated to use four wheels and to power them all. We determine that these statements are reasonable and sufficiently supported at this stage.

J. 35 U.S.C. 103(a) – Puck, Bryham, Bennett II

Petitioner argues that the combination of Puck, Bryham and Bennett II renders obvious claims 1, 8–18, 21–28, 35–38. Pet. 89–91. Specifically, Petitioner argues that “[s]hould the Board find that it would not be obvious to modify the remote-control steering system of Puck to control the Bryham wheels . . . Bennett-II teaches remote control of the ground engaging propulsion structure.” *Id.* at 89. Petitioner further argues that “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.* at 90 (quoting Ex. 1035, 13) (a prior determination by an Examiner) (footnote omitted).

Patent Owner argues that Bennett II's drivetrain is different from Bryham's, and thus Bennett II doesn't teach a person of skill in the art how to control Bryham's drivetrain. Prelim. Resp. 79–80.

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.

K. 35 U.S.C. 103(a) – Manure-Manager, Truxor, Yoon, Carrier

Petitioner argues that Manure-Manager with Truxor and either Yoon or Carrier renders obvious claims 1–38. Pet. 91–104. Patent Owner disagrees. Prelim. Resp. 80–85.

Manure-Manager is an advertisement (Ex. 1019, 27) in a publication called Manure-Manager; the relevant portion of which is reproduced below.



The above advertisement shows a G-Force Vertical Pit Pump. The pump is also shown pumping and spraying a mud like material in a pond or

pit when attached to a tractor. The advertisement includes the following statement:

This pump features dual ported and tapered housing, as well as a tapered fan. It includes radio remote control, an oversized gear box with oil cooler, a fully enclosed drive line, a hardened and balanced drive shaft, and a modular design. Experience the fastest load times in the industry.

Id.

Petitioner relies on the same disclosures of Truxor and either Yoon or Carrier discussed previously, and then on Manure-Manager for features of the pump in both the independent and dependent claims. Pet. 91–104.

Petitioner argues that

A POSA looking to select an improved pump for use on the Truxor “multi[-]functional machine” would have been motivated to use [Manure-Manager’s] Pump design, given the teachings in the literature . . . touting the efficiency and durability benefits of such dual outlet pumps. A POSA would have had a reasonable expectation of success in using [Manure-Manager’s] Pump based on it being vehicle mounted and powered.

Pet. 96 (citing Ex. 1004 ¶ 326); *see also id.* at 93–95 (discussing the teachings in the literature of Exs. 1020, 1021).

Patent Owner argues that one of skill in the art would not have used the Manure-Manager pump for dredging, which it asserts is the purpose of Truxor. Prelim. Resp. 82. Patent Owner also argues that Truxor’s dredging pumps are powered by hydraulics while the Manure-Manager pump is driven by a power-take-off of a tractor. Thus, the Manure-Manager pump could not “be connected to and effectively driven by Truxor’s hydraulics, without substantial modification.” *Id.* at 83 (citing Ex. 2004 ¶¶ 315–316).

We determine that Petitioner’s reasoning and evidence is sufficient at this stage of the proceeding. 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. Further, “a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 401. We also do not agree, based on the current record that the teachings of Truxor are limited to dredging. Truxor calls the vehicle an “amphibian tool carrier” and a “flexible multi-functional machine.” Ex. 1006, 1. We see no reason why one of skill in the art would view Truxor in the limited manner suggested by Patent Owner.

L. 35 U.S.C. 103(a) – Manure-Manager, SenwaTec, Yoon, Carrier

Petitioner argues that Manure-Manager with SenwaTec and either Yoon or Carrier renders obvious claims 1–38. Pet. 104–107. Patent Owner disagrees. Prelim. Resp. 86–90.

Petitioner relies on the same disclosures of SenwaTec and either Yoon or Carrier discussed previously, and then on Manure-Manager for features of the pump in both the independent and dependent claims. Pet. 104–107. Petitioner also argues that a POSA would combine Manure-Manager with SenwaTec for the same reasons discussed above with respect to Truxor. *Id.* at 104–105. Petitioner further argues that

a POSA would have been further motivated to use Respondent’s Pump on the SenwaTec vehicle because of the pump’s advertised manure pumping capabilities, which would allow the SenwaTec vehicle to more efficiently pump manure, saving fuel costs, time, and providing better agitation.

Id. at 105 (citing Ex. 1004 ¶ 343). Petitioner bases this additional rationale on its position that Exhibits 1029–1031 show the vehicle SenwaTec pumping manure. *Id.* at 104.

As noted previously, Petitioner over states what is shown in Exhibits 1029–1031. *See supra* § II.G.2. These exhibits do not make explicit that the ponds or mud like material the vehicle is being used in includes manure. *Id.*

Similar to the prior ground, Patent Owner argues one of skill in the art would not have used the Manure-Manager pump for dredging, which it asserts is the purpose of SenwaTec. Prelim. Resp. 87. Patent Owner also argues that SenwaTec’s dredging pumps are powered by hydraulics while the Manure-Manager pump is driven by a power-take-off of a tractor. Thus, the Manure-Manager pump could not be connected to and effectively driven by SenwaTec’s hydraulics, without substantial modification. *Id.* at 88 (citing Ex. 2004 ¶¶ 356–357).

We determine that Petitioner’s reasoning and evidence is sufficient at this stage of the proceeding. 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. Further, “a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 401. We also do not agree, based on the current record that the teachings of SenwaTec are limited to dredging. SenwaTec lists multiple uses, of which, dredging is only one. Ex. 1012, 1. We see no reason why one of skill in the art would view SenwaTec in the limited manner suggested by Patent Owner.

M. 35 U.S.C. 103(a) – Manure-Manager, Puck, Bryham, Bennett II

Petitioner argues that Manure-Manager with Puck and Bryham, and alternatively with Bennett II, renders obvious claims 1–38. Pet. 108–115. Patent Owner disagrees. Prelim. Resp. 91–94.

Petitioner relies on the same disclosures of Puck and Bryham, and alternatively Bennett II, discussed previously, and then on Manure-Manager

for features of the pump in both the independent and dependent claims. Pet. 108–115. Petitioner also argues that a POSA would combine Manure-Manager with Puck and Bryham, and alternatively with Bennett II, for the same reasons discussed above with respect to Truxor and SenwaTec. *Id.* at 108–109. Petitioner further argues that the Puck pump requires priming, and that the Manure-Manager pump does not, which is another reason why one of skill in the art would replace Puck’s pump with the Manure-Manager pump. Pet. 108–109 (citing Ex. 1014 ¶ 31; Ex. 1021, 2; Ex. 1004 ¶¶ 355–357).

Patent Owner states that “there is no teaching or suggestion in the references themselves that Puck’s slurry pump suffered drawbacks or needed replacing.” Prelim. Resp. 92. Patent Owner does not address the motivation to combine presented in the Petition.

We determine that Petitioner’s reasoning and evidence concerning motivation to combine is sufficient at this stage of the proceeding.

N. 35 U.S.C. 103(a) – Bennett II

Petitioner argues that claim 23 is anticipated by Bennett II. Pet. 34–37. Patent Owner disagrees. Prelim. Resp. 26–31.

Petitioner argues that Bennett II’s tracked, amphibious vehicle teaches all of the elements of claim 23. Pet. 34–37. Petitioner argues that Bennett II teaches “ground engaging propulsion structure” and a “power source” in the form of tracks driven by load wheels and powered by a jet pump and propeller. *Id.* at 36–37 (citing Ex. 1017 ¶¶ 48, 79, 82). Petitioner argues that Bennett II teaches that the vehicle can also be controlled by remote control. *Id.* at 37 (citing Ex. 1017 ¶ 43).

Claim 23 also requires “a floatable vehicle body comprising buoyant elements having foam filled buoyant chambers.” Ex. 1001, 10:64–65.

Petitioner points to the below annotated Figure 7B of Bennett II, for support.
Pet. 35.

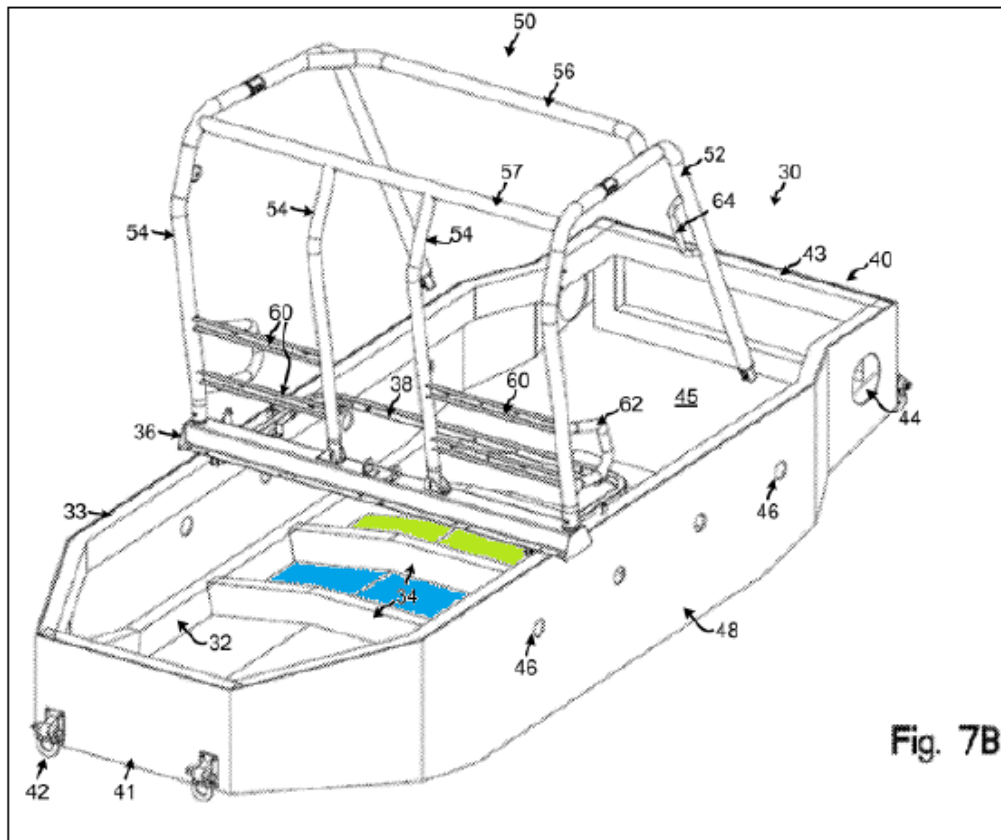


Figure 7B of Bennett II shows a frame and tub assembly portion of a vehicle. Ex. 1017 ¶ 18. Petitioner argues that Bennett-II teaches “a tub ‘configured to float’” that “includes cross members 34 which separate the interior of the tub 40 into various chambers (shown below in green and blue).” Pet. 35 (citing Ex. 1017, ¶¶ 50–51). Petitioner further argues that “Bennett-II describes using ‘foam material ... in order to fill volume voids and resist water ingestion during amphibious operation,’” and that the foam would be positioned in the identified chambers. *Id.* at 36 (citing Ex. 1017 ¶ 51).

Merriam-Webster.com defines “chamber” as “a natural or artificial enclosed space or cavity.” Ex. 3003, 1 (www.merriam-webster.com/

dictionary/chamber). We do not construe the term “chamber” at this time or determine whether the term “chamber” requires an “enclosed space.” We do encourage the parties to address the meaning of “chamber” and whether the identified spaces within Bennett II’s tub meet all the requirements of claim 23.

Claim 23 also requires “a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element between a second front wheel and a second rear wheel.” Ex. 1001, 10:66–11:15, Cert. of Correction. Petitioner argues that the green and blue spaces are between Bennett II’s load wheels 75, which are part of the track system. Pet. 35–36.

Patent Owner argues that “[a] POSITA would not equate Bennett-II’s track-driving load wheels 75, which are more commonly known in the art as ‘track driving sprockets,’ to the claimed wheels” because “[t]he ‘708 Patent describes a ground engaging propulsion structure that comprises either tracks or wheels.” Prelim. Resp. 27 (citing Ex. 1001, 2:7–11: Ex. 2004 ¶ 104) (emphasis omitted).

However, claim 23 requires both wheels and a ground engaging propulsion structure, but does not set forth, or require, any relationship between the two. *See* Ex. 1001, 10:67–11:3. In other words, claim 23 does not require that the wheels be the actual ground engaging propulsion structure.

Patent Owner also argues that claim 23 requires the first buoyant element to be on a right side of the vehicle and between a right front wheel and a right rear wheel, with a similar configuration on the left side. Prelim. Resp. 28–31. We have previously rejected Patent Owner’s effort to read additional limitations into claim 23. *See supra* § II.D.2.

O. 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. 15–19. Patent Owner first argues that discretionary denial is appropriate in view of Petitioner’s “incremental filings.” *Id.* at 16 (citing *In re Vivint, Inc.*, 14 F.4th 1342, 1350 (Fed. Cir. 2021)). Patent Owner argues that Petitioner “Bazooka waited until after the Patent Owner filed its Preliminary Response in [IPR2023-01161] before filing its [present] IPR Petition[]” and that “[t]his was strategic since it allowed [Petitioner] to review the Patent Owner’s arguments and correct deficiencies in its later Petitions.” *Id.*

In response, Petitioner argues that the staggered filings of the different petitions are due to Patent Owner’s filing of separate lawsuits relative to the challenged patents. Prelim. Reply 6. We also note that Petitioner could not have filed this petition when the petition was filed in IPR2023-01161 because Petitioner would have been barred under 35 U.S.C. § 311(c). 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 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.

Patent Owner asserts, but does not cite evidence, that “[e]ach Ground of this Petition presents the same or substantially the same prior art that has been considered by the Office multiple times.” Prelim. Resp. 17. Patent Owner asserts that Bennett II, Carrier, and Puck “were all considered during both prosecution and reexamination.” *Id.* However, there is no evidence that the ’708 patent has been subject to reexamination. Patent Owner cites no evidence of overlap in scope between the present claims and those of related patents subject to reexamination. We also decline to search the record on our own to determine whether or how Bennett II, Carrier, and Puck were considered by the Examiner in the prosecution of the ’708 patent.

Patent Owner asserts that “Manure-Manager . . . is cumulative of the teachings of at least Houle [EX2010], Depeault [EX2003], and Depault [EX2017], all of which were before the Examiner.” *Id.* at 17. Patent Owner’s one sentence assertion is insufficient to set forth a serious argument concerning the cumulative nature of the references. Again, we decline to search the record on our own to determine whether or how Manure-Manager is cumulative of Houle, Depeault, and/or Depault.

Patent Owner also asserts that “Truxor . . . and SenwaTec . . . , which disclose manned amphibious vehicles equipped with optional fluid pumps, are cumulative of Carrier, as none of these references disclose an amphibious vehicle with a liquid manure pump. Truxor and SenwaTec

disclose manned amphibious vehicles with pump attachments that are advertised for other uses.” *Id.* at 18.

However, as noted above, Patent Owner has made no real effort to show whether or how Carrier was before the Office.

Thus, under *Advanced Bionics* we are not informed of how any of the references at issue here are art that is the same or substantially the same art previously presented to the Office, or how the arguments are the same or substantially the same arguments previously presented to the Office. Thus, we decline to exercise our discretion to deny institution under 35 U.S.C. § 325(d).

P. 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 and in view of *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020). Prelim. Resp. 19–22.

Petitioner disagrees. Pet. 117–119; Prelim. Reply 7. In particular, Petitioner refers to the *Sotera* stipulation filed with the Petition (Ex. 1036) and the June 2022 Office Guidance under which Petitioner asserts that “discretionary denial is prohibited.” Prelim. Reply 7 (citing Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“Guidance Memo”)¹¹).

Patent Owner admits that Petitioner has filed a *Sotera* stipulation. Prelim. Resp. 21–22.

¹¹ Available at:
https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

In accordance with the Guidance Memo, we decline to exercise discretion to deny the Petition in light of Petitioner's *Sotera* stipulation.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, *inter partes* review of claims 1–38 of U.S. Patent 11,541,708 B2 is instituted on all grounds 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.

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