

Filed on Behalf of: Bazooka-Farmstar, LLC

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC

Petitioner,

- vs. -

NUHN INDUSTRIES LTD.,

Patent Owner

REPLY TO PATENT OWNER RESPONSE IN
INTER PARTES REVIEW OF U.S. PATENT NO. 11,491,835

Case No.: IPR2024-00004

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¹ The video size exceeds 25MB, the maximum size permitted for uploading by the P-TACTS system. A full copy of the video was later updated to Youtube.com and is available at the following link:

<https://www.youtube.com/watch?v=ecnlfMf7CH4&t=1s>.

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I. INTRODUCTION

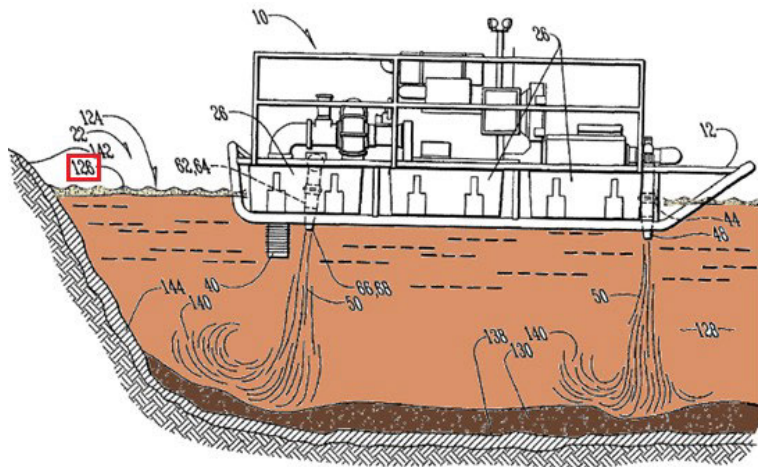
Nuhn refuses to acknowledge that its system claims do not cover a method of pumping manure. Its litigation-driven “liquid manure mover” term does not change this fact. Prior art vehicles invalidate Nuhn’s claims.

Nuhn repeatedly mischaracterizes Bazooka’s marketing materials (Paper 23 at 4, 18-19, 43, 45, 55), which state that most pumps cannot operate in the “thickest sludge.” EX2033, 9. The “thickest sludge” is not “liquid manure.” Anticipation does not require pumping the thickest sludge or six feet of crust. Rather, the prior art need only pump one embodiment of *liquid manure*. See *Reactive Surfaces Ltd. v. LG Chem Ltd.*, IPR2018-01520, Paper 44 at 50 (PTAB Feb. 24, 2020). Nuhn concedes “liquid manure” includes crustless lagoons with less than 5% solids, which are pumpable with standard water pumps. Nuhn provides no evidence on what structure of pump is capable of pumping liquids with suspended solids.

Nuhn’s weak, secondary considerations arguments are tied to irrelevant uncovered products and cannot overcome Bazooka’s strong case of obviousness. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). Nuhn’s secondary considerations hinge on the speculative, self-serving declaration of the owner/inventor Ian Nuhn—which is unreliable at best. The ’835 Patent’s claims are invalid.

II. BACKGROUND

The '835 Patent describes that “[m]anure ... is transferred by washing [with water] to a pit or lagoon for storage” (EX1001, 1:33-35), after which the diluted “[l]iquid manure” is “*irrigate[d]* onto farm land[.]” EX1028, 1:14-17 (emphasis added). Liquid manure in a lagoon stratifies into a bottom sludge layer 130 with settled solids (brown, below), a watery liquid supernatant layer 128 above the sludge (light brown), and occasionally, a crust 126 (yellow). EX1014, ¶¶[0003]-[0004]; EX1120, ¶6. Lagoons are agitated by pumping the supernatant and shooting it against the nutrient-rich sludge and crust to suspend nutrients contained within. EX1014, ¶¶[0003]-[0004]; EX1120, ¶6. Conventional irrigation equipment is then used to pump the liquid manure mixture onto farmland “at a much faster rate than hauling,” making land application more efficient. EX1058, 15; EX1110, ¶¶21-22.



EX1014, FIG. 4 (annotated).

POSAs would have understood that agitated liquid manure lagoons have total solids contents of less than about 5% because “[m]anure that has a TS concentration of less than 5 percent ... can be irrigated[.]” EX1057, 81; EX1110, ¶23. Pre-agitation, the liquid manure supernatant has even lower solids contents than the post-agitation mixture, because the sludge and crust portions are not mixed within the supernatant. EX1110, ¶23. POSAs would have therefore understood that conventional irrigation pumps could pump pre-agitation liquid manure supernatant to agitate the lagoon into a mixture.

III. LEVEL OF ORDINARY SKILL

Recognizing its expert is not a POSA, Nuhn advances its rejected and overbroad definition. Paper 23 at 7-8. Nuhn contends that its vehicle created “a new class of manure lagoon agitation equipment[.]” *Id.*, 1. While farmers may *service* traditional farming equipment, farmers are not ordinarily *equipped to design* multi-functional amphibious vehicles. EX1110, ¶¶28-29. Designing a remote-control amphibious vehicle involves making buoyancy calculations, specifying transmission systems, and implementing remote-control. These are activities performed by engineers—not farmers. *Id.*

Nuhn further asserts that because the claims recite “a hydraulically powered liquid manure mover” instead of a “fluid pump,” the POSA definition should emphasize manure agitation equipment. Paper 23 at 10. But “liquid manure mover”

is used nowhere in the specification. As the PTAB found, given that “the [s]pecification is replete with reference to a ‘fluid pump’” the construction of “liquid manure mover” is “a pump, a conduit, and a nozzle.” Paper 12 at 15. Thus, the present POSA definition should be consistent with the '425 Patent, which claims “a fluid pump for pumping liquid manure.”

Nuhn faults Bazooka for excluding those knowledgeable in agitating and pumping agricultural lagoons. But Bazooka's definition specifically identifies that POSAs would have “a working knowledge of fluid pumps and livestock manure.” Paper 2 at 31. Knowledge of livestock manure includes knowledge of its storage, processing, and use. EX1110, ¶32. Nuhn's POSA definition would fail for the same reason, as its alternative engineer definition lacks the same specificity. Paper 23 at 7-8.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

IV. CLAIM CONSTRUCTION

Nuhn identifies “liquid manure mover” and “liquid manure pump” for construction. Nuhn’s constructions are wrong.

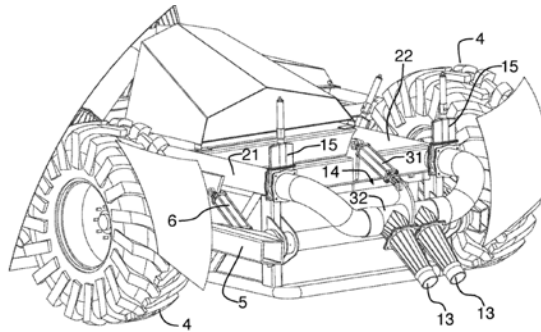
A. Liquid Manure Mover

Nuhn attempts to force its litigation-driven pump definition into the construction of its means-plus-function term “liquid manure mover.” But Nuhn’s construction contradicts the specification.

First, Nuhn incorrectly asserts that the liquid manure mover requires a “*liquid manure* pump.” Paper 23 at 11-14. It is improper to construe “a means-plus-function limitation beyond those structures specifically disclosed in the specification.” *Saffran v. Johnson & Johnson*, 712 F.3d 549, 563 (Fed. Cir. 2013). The specification never says “liquid manure pump.” Rather, it only refers to a “pump” or “fluid pump.” *See* EX1001, 1:58, 3:17. The first time the phrase “liquid manure pump” appeared was in 2022, when Nuhn revised the ’835 Patent claims. Nuhn’s attempt to rewrite its specification nine years later fails. *See Lufthansa Technik AG v. Astronics Advanced Elec. Sys. Corp.*, 711 F. App’x 638, 641 (Fed. Cir. 2017).

Second, Nuhn is wrong that the “liquid manure mover” requires an *immersible* pump. Nuhn says that “the liquid manure pump must be ... positioned

within the liquid manure.” Paper 23 at 12. But the claims only require that the “*liquid manure mover* [be] positioned within liquid manure[.]” EX1001, 8:44, 9:51, 11:12, 12:10. As Nuhn admits, the liquid manure mover is “a multi-component assembly” with the pump being one component. Paper 23 at 13-14. Any other component (such as the nozzle or conduit) may be positioned within the liquid manure. Indeed, the ’835 Patent describes that the “nozzles 13 may be rotated fully downwardly” into the lagoon to drive the vehicle. EX1001, 7:1-2.



EX1001, FIG. 6.

Nuhn’s proposed requirement that the pump be “immersible” is arbitrary and contradicts the claims and specification. While the structure of a means-plus-function term must be disclosed in the specification, other claims may “provide guidance and context for interpreting a disputed means-plus-function limitation.” *Wenger Mfg. v. Coating Mach. Sys.*, 239 F.3d 1225, 1234 (Fed. Cir. 2001). Claim 1 provides that the liquid manure mover be (1) hydraulically powered; and

(2) positioned within liquid manure. But *Nuhn does not require the pump to be hydraulically powered—only immersible*. Why? Solely to avoid the prior art.

This inconsistency highlights Nuhn's selective recitation of features from its specification. While Claim 1 provides further definition regarding the structures that may be considered the liquid manure mover, the claimed function is only "moving liquid manure." "[I]ncorporation of structure from the written description beyond that necessary to perform the claimed function" is not permitted. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999). There is no reason for incorporating "immersible" while excluding other features used to describe the pump, for example, multiple tangential fluid outlets, a flexible pump outlet conduit, or a bottom fluid inlet. EX1001, 2:65-3:2, 7:20-27. "Immersible" and "hydraulically powered" are extraneous.

B. Liquid Manure Pump

The PTAB's construction of "liquid manure pump" properly covers "a pump with a structure that is capable of pumping liquid with suspended solids." Paper 12 at 18. Nuhn fails to identify any structure required by this function. POSAs would have understood it to include high-volume water pumps for pumping water from lakes and streams. EX1110, ¶¶63-65.

i. Nuhn Identifies No Pump Structure for Pumping Liquid Manure.

The institution decision highlights that Nuhn did “not provide argument ... as to what specific structure is required to pump liquid manure.” Paper 12 at 17-18. The PTAB “encourage[d] the parties to further develop this argument[.]” *Id.* Nuhn and its expert refuse. Instead, Nuhn cites so-called “factors” including whether the pump was “designed,” “marketed,” and “tested” for pumping liquid manure. Paper 23 at 16-17. Nuhn’s expert regurgitates these “factors” verbatim and without elaboration. EX2094, ¶¶82-84. But subjective design intent, and after-the-fact marketing and testing, are irrelevant to whether a pump’s structure enables it to pump liquid manure. This is black-letter law: “Where all *structural elements* of a claim exist in a prior art product, *and that prior art product is capable of satisfying all functional or intended use limitations*, the claimed invention is nothing more than an unpatentable new use for an old product.” *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 654 (Fed. Cir. 2011) (emphasis added).

Nuhn’s halfhearted attempt to define any structure for “liquid manure pump” is “factor” 4: “does the pump have structure that would become clogged and/or damaged by pumping liquid manure.” Paper 23 at 16. This is purely a functional requirement. Nuhn and its expert never say *what the required structure is*. Nuhn’s

analysis is circular. It might as well have replaced this “factor” with “does the pump have a structure that would pump liquid manure?”

Aside from the claims, the '835 Patent never recites a “liquid manure pump.” Rather, the pump is generically described as a “pump” or a “fluid pump.” *See Cordance Corp. v. Amazon.com, Inc.*, 658 F.3d 1330, 1340 (Fed. Cir. 2011). The specification does not describe necessary structural features required for a pump to pump liquid manure. Instead, at the time of the invention, there were numerous types of pumps—including conventional water irrigation pumps—that were used to pump liquid manure. EX1110, ¶62.

■ [REDACTED]

Nuhn focuses on manure storage pits containing heavy crust. While such pits may be one extreme use for Nuhn's product, they are the exception. The '835 Patent is directed to “**hog** and cattle manure[.]” EX1001, 1:32-35 (emphasis added). Nuhn's evidence [REDACTED] acknowledge that “crusts do not occur on pig slurry stores[.]” EX2034 at 6; [REDACTED]. “Liquid manure” includes lagoons without crust. EX1110, ¶64; *see also* EX1120, ¶6 (noting that about half of the thousands of lagoons Mr. Sundstrom agitated did not have crusts).

The literature describes “liquid manure” as water and manure mixtures with solid contents lower than about 5%. EX1110, ¶65 (collecting citations). While Nuhn

argues about the upper limit of solids in liquid manure, that is irrelevant. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] “Liquid manures with less than approximately 4% total solids can be pumped from ... lagoons using pumps designed for conventional water irrigation.” EX1110, ¶65 (quoting EX1034, 64); *see also* EX1028, 1:14-17; EX1119, ¶7; EX1120, ¶15. POSAs would have understood a “liquid manure pump” includes such water pumps, which were known to be capable of pumping fluid-manure mixtures lower than 5% total solids. EX1110, ¶65.

V. GROUND 1: CLAIMS 1-10, 13-26, AND 29-40 ARE ANTICIPATED BY CARRIER

Carrier anticipates the '835 Patent claims—it discloses pumps capable of pumping at least forms of liquid manure having less than 5% solids. Paper 2 at 38-42; EX1110, ¶¶72-97.

A. Carrier Discloses a Fluid Pump Capable of Pumping Liquid Manure

The terms “liquid manure mover” and “liquid manure pump” encompass fluid pumps with structures capable of pumping liquids with suspended solids. *See supra* Section IV.A-B. Carrier discloses a fluid pump capable of pumping liquids with suspended solids and therefore anticipates. EX1110, ¶¶75-85. Nuhn's attempt to add an intent element to avoid the prior art fails. [REDACTED]

Carrier includes a “draft capable” “[h]igh [v]olume” firefighting pump for pumping combinations of foam, dry chemicals, decon solutions, and fluid “from a lake or stream.” EX1005, ¶¶[0007], [0051], [0061]. [REDACTED]

[REDACTED] Mr. Puck, the inventor of EX1014, is experienced in firefighting and manure pumps and confirmed that high-volume firefighting pumps can pump liquid manure. EX1119, ¶6. Another manure industry veteran, Mr. Sundstrom, confirmed that water pumps can pump liquid manure. EX1120, ¶15. POSAs would have understood that Carrier discloses a pump capable of pumping liquid manure. EX1110, ¶¶75-76.

POSAs would have also understood that Carrier's high-volume firefighting pumps are centrifugal or positive displacement pumps. *Id.*, ¶¶77-79. Such pumps were commonly used to pump liquid manure. *Id.*; EX1034, 51-52; EX1048, 76-77. “Inherency does not require the prior art's disclosure be coextensive with and mirror [the claim's] full scope[.]” *Reactive Surfaces*, IPR2018-01520, Paper 44 at 50. Instead, “the [prior art] must have sufficiently described and enabled at least one embodiment that necessarily featured or resulted in the subject matter embraced by the claim[.]” *Id.* (citation omitted).

Nuhn and its expert concede that “liquid manure” includes mixtures with less than 5% solids. *See supra* Section IV.B.ii. “Liquid manures with less than approximately 4% total solids can be pumped from ... lagoons using pumps

designed for conventional water irrigation.” EX1034, 64; *see* EX1110, ¶¶80-82. POSAs would have understood Carrier’s “[h]igh [v]olume” firefighting pumps, capable of pumping liquid from “lakes and streams” were capable of pumping at least such dilute forms of liquid manure. EX1110, ¶¶80-82.

Nuhn’s last-ditch argument about the Newtonian properties of liquid manure is simply wrong. Like water, low solid content forms of manure having less than 5% total solids (i.e. liquid manure) behave as Newtonian fluids. EX1110, ¶¶108-111. This is one reasons why they were pumped with irrigation pumps. *Id.* While some higher solid content manures are shear-thinning, POSAs would have understood that shear-thinning properties facilitate, rather than inhibit pumping. *Id.*

B. Carrier Discloses that the Liquid Manure Mover Is “Positioned Within Liquid Manure When the Vehicle is Floating”

Carrier’s pumping system includes a pump, conduit, and nozzle. POSAs would have understood that the conduit is necessarily submerged in the fluid for the pumping system to function. As explained above, this pumping system would have been capable of pumping liquid manure.

Nuhn contends that Carrier’s onboard tank means it could not pump while floating. Nuhn is wrong and ignores that many marine firefighting vehicles—capable of pumping fluid from bodies of water while floating—utilized onboard tanks. EX1110, ¶91. Nuhn also argues that Carrier does not disclose using nozzles

VI. GROUNDS 2-5: CLAIMS 1-40 ARE OBVIOUS

Nuhn has the burden of showing “a legally and factually sufficient connection between [its] evidence and the patented invention.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). Only after showing that (1) its asserted evidence of secondary considerations is tied to a specific product, and (2) that product is coextensive with the patent claims, may a nexus be presumed. *Id.* Nearly all of Nuhn’s secondary considerations evidence is tied to its earlier Gen 1-3 products and fails for the same reasons as noted with respect to the ’425 Patent IPR.

Nuhn’s only evidence purportedly tied to its Crawler X is its sales numbers; but because the Crawler X includes unclaimed features Nuhn describes as “material”

and “directly contribut[ing] to the new and unexpected results and commercial success,” Nuhn fails to establish that those sales numbers have nexus to the '835 Patent. Paper 21 at 15-20; *Fox Factory*, 944 F.3d at 1375; EX1110, ¶¶259-276;

[REDACTED]

[REDACTED].

i. Nuhn's Market Share “Research” Is Unreliable; Its “Commercial Success” and “Industry Praise” Is Tied to Unpatented Features.

[REDACTED]

[REDACTED]

[REDACTED] Such “generalized and vague testimony of a single employee” is insufficient. *Les Ateliers Beau-Roc Inc. v. Air Power Sys. Co.*, IPR2020-01702, Paper 32 at 30 (PTAB Apr. 18, 2022).

Ian Nuhn's own statements indicate that any success is due to the products' appearance, having “massive wheels [and] the brilliant red paint job[.]” EX2067, 2. He admits that “*I think because we made it look the way it does people are proud to fork over that kind of change[.]*” EX2068, 30 (emphasis added). But paint jobs and monster tires do not confer patentability.

ii. Nuhn's “Long Felt Need” Was Already Solved.

Nuhn argues it solved the problem of breaking crust, mixing solids, and forming slurry in large lagoons. Paper 23 at 31-32. But Puck's and Sundstrom's

products could already “break[] up the crust (126)” and “form [a] slurry (50).” EX1014, ¶¶0036; EX1110, ¶¶277-280. Nuhn’s “long-felt need” was already solved.

iii. Nuhn’s Copying Allegations Are Wrong.

While copying may be demonstrated through efforts to replicate *the patented product*, here, Bazooka developed the Wolverine before Nuhn released the Crawler X—the only product covered by the ’835 Patent.

Nuhn’s only copying “evidence” comes from Ian Nuhn’s recollection of a discussion with a mechanic in 2021. EX2083, ¶¶74-75. But Ian Nuhn’s declaration does not provide the name—let alone a declaration—of this mechanic. [REDACTED]

[REDACTED]

[REDACTED]

Importantly, the Wolverine is *not* a copy of the Lagoon Crawler. EX1110, ¶¶284-285. The Wolverine utilizes propellers—not nozzles—for propulsion and agitation. EX2096, 1; *see* EX1001, 3:56-57 ([T]he vehicle does not comprise a propeller.”). And [REDACTED] the Wolverine wheels do not raise and lower. [REDACTED]

iv. Nuhn’s Unexpected Results Were Already Known.

Nuhn argues that its product unexpectedly replaces four shore-mounted pumps. Paper 23 at 34, 37. *But Puck advertised this same statistic since 2011.* EX1124, 01:04-01:28.

Nuhn also argues that its wheels break crust and create a “pocket.” Paper 23 at 34-36. But that was already disclosed in Truxor and SenwaTec—and is wholly absent from the claims. EX1110, ¶¶281-283; *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1385 (Fed. Cir. 2015) (requiring secondary considerations to result from something “claimed and *novel* in the claim”). The only difference from Truxor/SenwaTec *in the claims* is remote control, and that feature was in fact added to both Truxor and SenwaTec. EX1031, 184:7-185:7; EX1032, 109:16-113:14. Regardless, providing remote control is not an unexpected result of adding a remote control. EX1110, ¶278.

v. Nuhn’s “Industry Skepticism” Is Unsupported and Contrary to the Prior Art.

Nuhn’s alleged skepticism about hydraulically-driven wheels in lagoons is unsupported. Others used and marketed amphibious vehicles with hydraulically-driven wheels in manure and corrosive environments before Nuhn’s Lagoon Crawler. *See* EX1069; EX1066; EX1012; EX1015; EX1110, ¶282.

Nuhn’s alleged skepticism about the position of the vehicle’s nozzles/pump being uncontrollable or prone to clogging is unsupported. Puck and Sundstrom already used similar arrangements in its products. *See* EX1014; EX1119, ¶¶3, 7; EX1120.

Nuhn's only evidence of skepticism is from its owner, Ian Nuhn. Paper 23 at 39-40; EX2083, ¶¶53-63; [REDACTED] [REDACTED]

[REDACTED] This does not support that "a number of industry experts expressed skepticism." Paper 23 at 39.

vi. Any Industry Praise Was Not Due to Patentable Differences Between the Crawler X and the Prior Art.

All Nuhn's cited articles were published before Nuhn released its Crawler X. They describe Nuhn's Gen 1-3 products—which are not covered by the '835 Patent claims. [REDACTED] Even if considered, praise is irrelevant if not attributable to the material differences between the patented product and the prior art. *Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008). The only claimed difference between the Lagoon Crawler and the SenwaTec/Truxor vehicles is remote control. Nuhn's Lagoon Crawler "praise" relates to the bright red paint job, knobby tires, and jacked-up-Ferrari look. *See supra* Section VI.A.i. **Not** the addition of remote control. Nuhn's alleged praise cannot overcome the strong obviousness case, especially where others already added remote control to amphibious vehicles. EX1005; EX1010; EX1024.

Nuhn relies on a single email, arguing that others sought rights to its patent. Paper 23 at 39. “[E]vidence of a single license agreement[,]” let alone a single *email* between competitors, is “insufficient to demonstrate ‘commercial acquiescence’ supporting non-obviousness.” *Cisco Sys. Inc., v. SSL Servs. LLC*, IPR2015-01754, Paper 58 at 36 (PTAB Feb. 22, 2017).

B. Ground 2: Claims 1-5, 7-21, and 23-40 Are Obvious Over Truxor in View of Yoon or Carrier

i. Truxor Discloses a Pump Capable of Pumping Liquid Manure.

Nuhn incorrectly argues that the Doro Pump could only pump light sediment. As the institution decision recognizes, however, Truxor describes that the Doro Pump can also pump roots, harder sediments, stones, bits of wood, and pure sand. Paper 12 at 25 (citing EX1006, 10). Mr. Olofsson confirmed this in his deposition. EX1132, 104:18-107:1. POSAs would have recognized that the Doro Pump would have no problem pumping liquid manure, as it contains many structural similarities to prior art pumps Nuhn concedes would pump liquid manure. *Id.*; EX1110, ¶¶100-113.

Next, Nuhn attempts to distinguish Truxor from dredging vehicles (EX1052, 1070, and 1071) that were used to pump higher solid content forms of manure. Nuhn only cites its expert's declaration, which regurgitates Nuhn's argument without further explanation or evidence. Paper 23 at 42 (citing EX2094). Expert opinions disclosing no underlying facts or data are afforded no weight. 37 C.F.R. §42.65; *Cont'l Auto. Sys., Inc. v. Intell. Ventures II, LLC*, IPR2022-00972, Paper 49 at 33 (PTAB Dec. 5. 2023). Furthermore, as Nuhn acknowledges, POSAs would have understood that any pump, including the Doro Pump, could be scaled in size and power to accommodate any alleged difficulty in pumping. *See* Paper 23 at 15-16.

Finally, Nuhn incorrectly introduces new arguments regarding the Newtonian properties of liquid manure. But manure mixtures having less than 5% solids exhibit water-like Newtonian properties. *See supra* Section V.A. And shear thinning

characteristics of higher solid content manures *facilitate* pumping.
EX1110, ¶¶108-111.

ii. Truxor's Liquid Manure Mover Is Positioned Within the Fluid When Floating.

Nuhn argues that because the Truxor Doro Pump can be lifted from the fluid, Truxor does not disclose a liquid manure mover positioned within the liquid manure. Paper 23 at 46-47. But “a prior art reference ... render[s] obvious an apparatus claim ... even if it does not meet the claim limitations in all modes of operation.” *ParkerVision Inc. v. Qualcomm Inc.*, 903 F.3d 1354, 1361 (Fed. Cir. 2018). Truxor discloses the Doro Pump submerged when the vehicle is floating and pumping.



EX1006, 10.

iii. POSAs Would Have Had a Motivation to Combine with a Reasonable Expectation of Success.

Nuhn advances the same, already rejected arguments. Paper 12 at 34-36; Paper 23 at 51-53. Nuhn admits Melnikov identifies a remote-control amphibious pumping vehicle and describes the presence of an operator on the Truxor vehicle as a drawback. Paper 12 at 34-36. And Nuhn does not contest that adding remote

control to Truxor is not within the ability of one of skill in the art. *Id.*, 35. As Mr. Olofsson testified, *remote control was in fact added to the Truxor DM5000 prior to 2013*. EX1132, 109:14-133:9.

Nuhn instead rehashes its same argument that remote control of the vehicle would cause it to be difficult to operate. But it ignores that in many instances, remote control of the vehicle would allow the operator to position themselves in a better position to observe the vehicle (and any tilting) than if they were seated thereon. EX1110, ¶¶128-129. Regardless, Nuhn does not contest that Truxor would be safer to operate with remote-control.

C. Ground 3: Claims 1-5, 7-21, and 23-40 Are Obvious Over SenwaTec in View of Yoon or Carrier

SenwaTec in view of Yoon or Carrier render obvious claims 1-5, 7-21, and 23-40. SenwaTec teaches every feature of the claims besides remote control, which was obvious.

i. Centrifugal Pumps Pump Liquid Manure.

Citing Houle, Nuhn asserts that SenwaTec's "powerful centrifugal pump" with "8 [inch] suction[] and 6 [inch] discharge ports" is not suitable for pumping liquid manure. Paper 23 at 53-54; EX1012, 1; EX2094, ¶197. While Houle describes certain difficulties pumping high solid content manure, Houle describes its own centrifugal pump for "pumping slurry." EX2010, 1:8; EX1110, ¶141. And as Ian

Nuhn confirmed, *the '835 Patent discloses a centrifugal pump for pumping liquid manure*. EX1108, 260:24-261:18;² EX1001, 7:42-46; EX1029. Nuhn and its expert's assertion that "most centrifugal pumps are incapable of pumping liquid manure" contradict the '835 Patent, Houle, Nuhn's own pumps, and those in the industry. Paper 23, 53.

ii. SenwaTec Was Capable of Pumping Liquid Manure.

POSAs would have understood the centrifugal dredging pump of SenwaTec to be capable of pumping liquid manure. *See supra* Sections V.A, VI.B.i. Ample evidence demonstrates SenwaTec's manure pumping capabilities.

As shown in EX1066-EX1067, the Amphi-King pumped solid-laden waste that was applied to agricultural fields. EX1066 at 8:54-10:18. These exhibits were publicly available long before the '835 Patent priority date. EX1073, ¶¶10-13; EX1075, ¶¶7-10. POSAs would have understood that manure is applied to agricultural fields as fertilizer and would have understood EX1066 demonstrates that the pump was capable of pumping liquid manure. EX1110, ¶149. These exhibits also show the Amphi-King pumping manure. While Nuhn differentiates between human

² The '224 Patent (discussed in the deposition) is a continuation of the incorporated-by-reference '758 Patent.

manure and other animal manures based on treatment methods, this is a distinction without a difference. EX1073, ¶32; EX1120, ¶14; EX1110, ¶¶150-155. SenwaTec discloses a fluid pump for pumping liquid manure.

iii. The Liquid Manure Mover Is Positioned Within the Fluid When Floating.

SenwaTec discloses the pump submerged in fluid when the vehicle is floating and pumping. *See supra* Sections V.B, VI.B.ii.



EX1012, 2.

iv. POSAs Would Have Had a Motivation to Combine with a Reasonable Expectation of Success.

POSAs would have been motivated to combine Yoon or Carrier with SenwaTec for the same reasons described with respect to Truxor. Paper 2 at 68-69. Nuhn advances the same arguments the PTAB already rejected. Paper 12 at 45-46; Paper 23 at 57-60; EX1110, ¶¶170-180. And Nuhn does not contest that adding remote control to SenwaTec would be within the ability of a POSA. Paper 12 at 45.

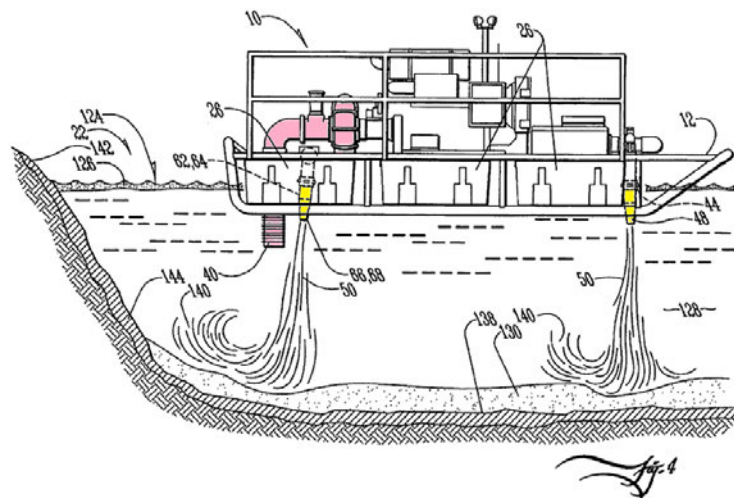
As Mr. Lonnemann testified, *remote control was in fact added to the SenwaTec Amphi-King in 2016*. EX1131, 183:21-185:7.

D. Grounds 4-5: Claims 1-40 Are Obvious Over Puck In View of Bryham or in Further View of Bennett-II

Puck in view of Bryham render obvious claims 1-40. It would have been obvious to implement Bryham's wheels on Puck's vehicle for easily transporting the vehicle into and out of the lagoon. Paper 2 at 80-83.

i. Puck Discloses that the Liquid Manure Mover Is Positioned Within the Liquid Manure When the Vehicle is Floating.

Nuhn argues that the '835 Patent claims require the pump to be positioned in the liquid manure. Paper 23 at 61. This is wrong. The claims require some portion of the liquid manure mover to be positioned in the liquid manure. The liquid manure mover includes a pump, conduit, and nozzle. *Supra* Section IV.A. Puck discloses that the intake pipe and the nozzles are positioned within in the liquid manure when the vehicle is floating.



EX1014, FIG. 4 (annotated).

ii. Puck and Bryham Disclose “The Power Source Configured to Provide Power to Both the Ground Engaging Propulsion Structure and the Liquid Manure Mover.”

Nuhn misses the mark, focusing on Puck's battery-powered hydraulic pump. As the PTAB recognized, however, “[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*.” Paper 12 at 51 (emphasis added). Nuhn fails to address this argument.

POSAs understood that adding extra engines created “extra cost and complications,” (see EX1110, ¶¶188-196; EX1133, 5) and would have been motivated to power Bryham's wheels with Puck's engine.

iii. Remote-Control Wheels Use the Same Remote-Control Principles Taught by Puck.

The well-known nature of remote control in 2013 is evident from the '835 Patent, which provides no specifics on how the remote control is configured, constructed, or programmed. EX1110, ¶200.

Puck teaches a “wireless receiver” and “wireless transmitter” allowing its control panel “to operate as a wireless remote control, actuated by a remote[-]control system[.]” EX1014, ¶[0031]. These components remotely control valves directing fluid flow. EX1110, ¶¶201-202; EX1014, ¶¶[0031], [0033]. POSAs would have

understood that remote control of Bryham's wheels (as taught by Bennett-II (EX1017)) could be achieved through the valves directing hydraulic fluid to Bryham's wheel motors. EX1110, ¶¶201-202; EX1015, 16:1-11.

iv. Bryham Discloses Each Wheel Being Powered By a Hydraulic Motor.

Nuhn argues that Bryham's front wheel is not powered because no hydraulic motor is illustrated in Figure 3A. Paper 23 at 65-66. But Bryham's *text* describes that "one or more of the ground engaging means" is powered by "hydraulic motors." EX1015, 6:47-53 (emphasis added). Specifically, Bryham describes that "the hydraulic motor 108 can be mounted directly beside or within the ground engagement means 16." *Id.*, 16:6-8. Bryham identifies each of the front and the rear wheels using reference number 16.

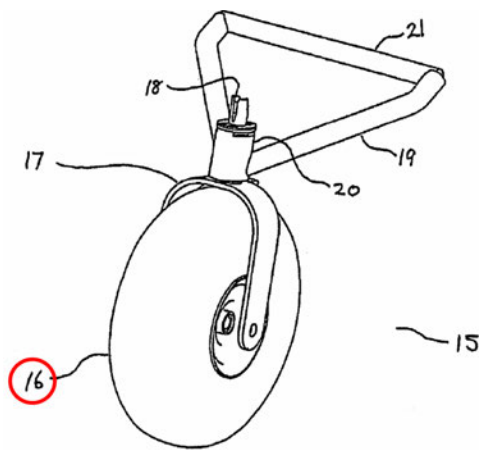


Figure 3A

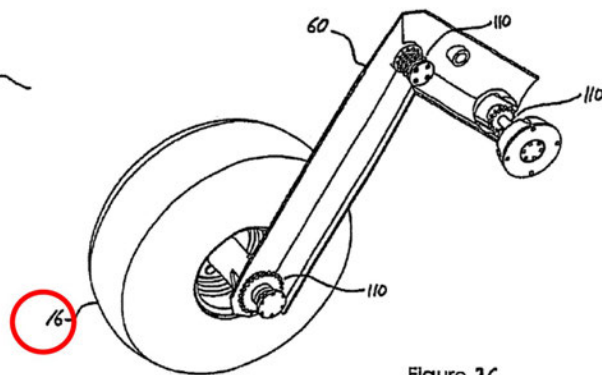
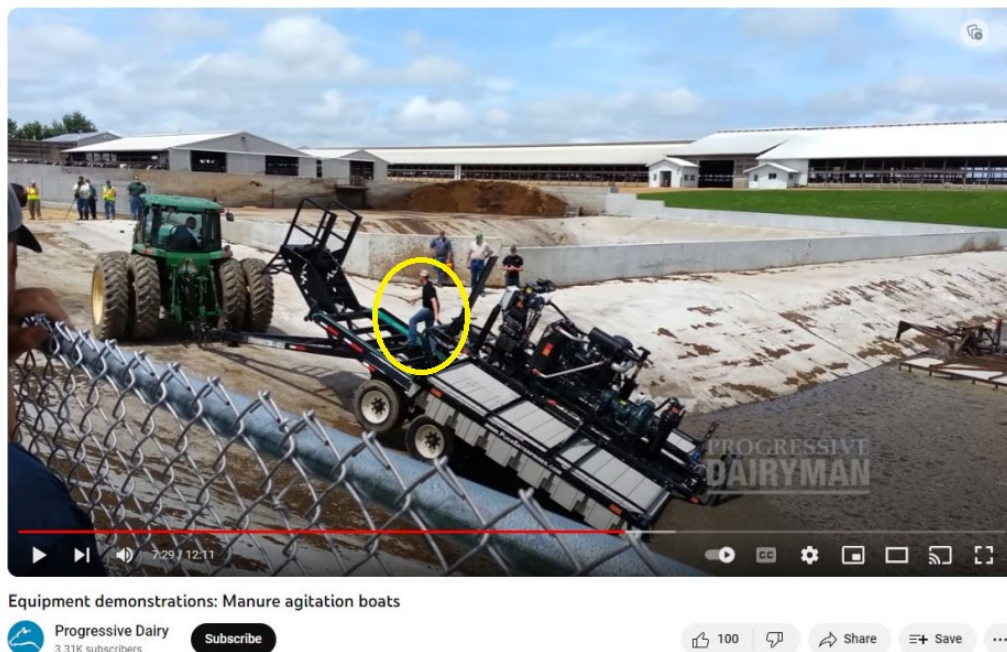


Figure 26

EX1015, FIGS. 3A, 26 (annotated). Advertisements from Sealegs (Bryham's commercial embodiment) also make clear that all of Bryham's wheels are powered by individual wheel motors. EX1110, ¶209 (citing EX1134).

v. POSAs Would Have Been Motivated to Combine Puck and Bryham.

First, Nuhn asserts there would have been no motivation to combine because Puck does not illustrate an operator within a manure lagoon. Paper 23 at 67-69. However, the launching process of Puck *does* put a user in close proximity to the reservoir, as illustrated in Nuhn's own cited video:



EX2008, 6 (annotated).

The user was at risk of falling or being dragged into the reservoir while Puck was sliding or pushed off the trailer. To remove Puck from the lagoon, a user would

need to approach, or wade into the lagoon to secure the trailer's cable to the vehicle. EX1110, ¶¶214-215. POSAs would have been motivated to make launching and retrieving easier and safer by adding Bryham's wheels to Puck to remove users from this environment.

Second, Nuhn contends that POSAs concerned with mitigating effects of corrosion would not add Bryham's wheels to Puck. Paper 23 at 69. But the Bryham vehicle was designed for use in corrosive environments. EX1015, 1:55-58. On the other hand, vehicle trailers are often constructed from less corrosion-resistant materials than the vessels they launch. EX1110, ¶¶216-217. Bryham acknowledges this, teaching that the sea is highly corrosive to the towing vehicle and trailer and that its amphibious wheel system solves such problems. EX1015, 1:55-58.

Finally, Nuhn cites problems with its own Lagoon Crawler wheels locking as bases for why one would not have added the hydraulic wheels of Bryham to Puck. Paper 23 at 70-71. However, POSAs already knew bypass valves could be easily added to address this issue, as detailed in Carrier. EX1110, ¶¶218-221. Such bypass valves permit movement of the wheels even if the vehicle breaks down.

Regardless, Puck would have faced the same problems as Nuhn's Lagoon Crawler if it were to break down or run out of fuel, requiring the same type of extraction method to retrieve the stranded vehicle from the lagoon. As the PTAB acknowledges, there are trade-offs with every design choice. Hydraulic

transmissions were one of a finite number of transmission options and would have provided a reasonable expectation of success. EX1110, ¶¶191-196.

vi. POSAs Would Have Had a Reasonable Expectation of Success in Combining Puck and Bryham.

POSAs would have understood that the logical location for Bryham's wheels would be at each corner of the steel frame 16 of Puck, which is typical for wheels on four-sided vehicles and more stable. EX1110, ¶¶226-227.

Nuhn's distinction between barge-shaped hulls and vee-hulls is irrelevant (Paper 23 at 71-72). Nuhn ignores Bryham's compatibility with barge-shaped hulls (*see* EX1110, ¶¶225-227), and Puck discloses that "[t]he vessel (12) may alternatively be constructed ... with a more standard hull[.]" EX1014, ¶[0022]; EX1110, ¶¶225-227.

VII. CONCLUSION

Petitioner asks that the PTAB issue a final written decision, finding Claims 1-40 unpatentable, and the Director cancel these claims.

Respectfully submitted,

Date: October 1, 2024

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §42.24, the undersigned attorney for the Petitioner, Bazooka-Farmstar, LLC, declares that the argument section of this document has 5574 words, according to the word count tool in Microsoft Word™.

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CERTIFICATE OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. §§42.105 and 42.6, that service was made on the Patent Owner as detailed below.

<i>Date of service</i>	October 1, 2024
<i>Manner of service</i>	Electronic mail addressed to: bluchsinger@harnessip.com syackey@harnessip.com mcutler@harnessip.com
<i>Documents served</i>	Reply To Patent Owner Response in <i>Inter Partes</i> Review of U.S. Patent No. 11,491,835
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