

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC,

Petitioner,

v.

NUHN INDUSTRIES LTD.,

Patent Owner.

Case No. IPR2024-00098
U.S. Patent No. 11,541,708

**SUR-REPLY IN SUPPORT OF PATENT OWNER'S RESPONSE
(under 37 C.F.R. §42.23)**

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<i>McGinley v. Franklin Sports, Inc.</i> , 262 F.3d 1339 (Fed. Cir. 2001)	23
<i>Yita LLC v. MacNeil IP LLC</i> , 69 F.4th 1356 (Fed. Cir. 2023)	19

LIST OF PATENT OWNER'S EXHIBITS

<i>Exhibit #</i>	<i>Description</i>
2001	Petitioner's <i>Ex Parte</i> Reexamination Requests for U.S. Patent No. 11,358,425 and U.S. Patent No. 10,974,557
2002	Decision Granting Patent Owner's Petition for an Unintentionally Delayed Priority Claim in U.S. Patent. No. 10,124,638
2003	U.S. Patent No. 4,594,006 to Depeault ("Depeault")
2004	Expert Declaration of Douglas S. Prairie
2005	Curriculum Vitae of Douglas S. Prairie and Case List
2006	Screenshots from Patent Owner's YouTube Channel of Patented Product, retrieved on 10-2-23 from https://www.youtube.com/watch?v=fEgvvq9HZkk ("Nuhn Lagoon Crawler YouTube Video Screenshots")
2007	Screenshots from Petitioner's YouTube Channel of Accused Product, retrieved on 10-2-23 from https://www.youtube.com/watch?v=3y3bSJJUOps ("Bazooka Wolverine YouTube Video Screenshots")
2008	Screenshots from Progressive Dairyman YouTube Channel of 2014 Manure Lagoon Agitation Boat Demonstration, published on 7-9-14 by Progressive Dairy, retrieved on 10-2-23 from https://www.youtube.com/watch?v=FXRS-9Ip1pE ("Progressive Dairyman YouTube Video Screenshots")
2009	'708 Patent from Google Patents (with Patent Classification List, retrieved on January 23, 2024 from https://patents.google.com/patent/US11541708B2/en?q=11%2c541%2c708+ ("708 Patent on Google Patents"))
2010	U.S. Patent No. 4,406,413 to Houle ("Houle")
2011	U.S. Patent No. 7,833,071 to Gaither ("Gaither")
2012	U.S. Patent No. 5,176,098 to Royle ("Royle")
2013	U.S. Patent No. 9,462,741 to Puck ("Puck-II")
2014	U.S. Patent No. 9,572,297 to Puck ("Puck-III")
2015	DE2364962 to Kronseder ("Kronseder")
2016	DE3431345 to Lüllmann ("Lüllmann")
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2020	Screenshots from 2023 North American Manure Expo Website, retrieved on 10-2-23 from https://www.manureexpo.ca/

2021	Dictionary Definitions of “Dredging” and “Agitation”, retrieved on 9-30-23 from https://en.wikipedia.org/wiki/Dredging , https://www.merriam-webster.com/dictionary/dredging#dictionary-entry-1 , https://www.merriam-webster.com/dictionary/agitation , and https://www.lagoonpumping.com/articles-resources/agriculture-articles/manure-articles/ (“‘Dredging’ and ‘Agitation’ Dictionary Definition”)
2022	ENVTL. PROT. AGENCY, PRIMER FOR MUNICIPAL WASTEWATER TREATMENT SYSTEMS (Sept. 2004) (“EPA Municipal Lagoon Primer”)
2023	U.S. DEP’T AGRIC., <i>Agricultural Waste Management Systems</i> , in AGRICULTURAL WASTE MANAGEMENT FIELD HANDBOOK ch. 9 (Dec. 2011)
2024	Screenshot of 2023 Commercial Manure Applicator Certification, retrieved on 10-3-23 from https://elearning-dnr.iowa.gov/course/index.php?categoryid=2 (“Commercial Manure Applicator Certification”)
2025	JOSEPH AKYEAMPONG ET AL., <i>Evaluation of hydraulic excavator Human-Machine Interface concepts using NASA TLX</i> , 44 INT’L J. OF INDUS. ERGONOMICS 374, 374–82 (2014) (“Excavator Human-Machine Interface Concepts”)
2026	Screenshots of 2023 Truxor Website, retrieved on 10-1-23 from https://truxor.com/en/catalog/node/products and https://truxor.com/en/catalog/node/products-truxor-machines
2027	Screenshots of 2023 Berky (formerly SenwaTec) Website, retrieved on 10-4-23 from https://www.berky.de/en/berky-nereus-240-amphi/
2028	CHRISTIAN HAAS ET AL., <i>Practical Evaluation of a Control Concept for a Remote Controlled 1.8T Excavator Using a 3D Input Device</i> , BATH/ASME 2022 Symposium on Fluid Power and Motion Control, ISBN: 978-0-7918-8633-5, FPMC2022-88959, V001T01A012-1 thru V001T01A012-7 (2022) (“Practical Evaluation of a Control Concept”)
2029	Timeline Showing Bazooka’s Post-Grant Challenges
2030	January 18, 2023 District Court Order Granting Motion to Lift Stay
2031	Reexamination History of U.S. Patent No. 11,358,425
2032	Screenshots from YouTube of SenwaTec video, retrieved on January 15, 2024 from https://www.youtube.com/watch?v=ecnlfMf7CH4&t=1s (“SenwaTec YouTube Video Screenshots”)
2033	Reexamination History of U.S. Patent No. 10,974,557
2034	McCaslin, Drive Sprockets and Track Drives, TexasFinalDrive.com, https://info.texasfinaldrive.com/shop-talk-blog/drive-sprockets-and-track-drives (last accessed Feb. 25, 2024) (“Drive Sprockets and Track Drives”)
2035	Brochure for MY2017 of Nuhn’s Gen 1 Lagoon Crawler

2036	Operator's/Safety Manual for the MY2017 of Nuhn's Gen 1 Lagoon Crawler
2037	Parts Catalog for Nuhn's Gen 1 Lagoon Crawler
2038	Brochure for Nuhn's Gen 1 Lagoon Crawler
2039	Brochure for MY2018 of Nuhn's Gen 2 Lagoon Crawler
2040	Operator's/Safety Manual for the MY2019 of Nuhn's Gen 2 Lagoon Crawler
2041	Parts Book for the MY2018 of Nuhn's Gen 2 Lagoon Crawler
2042	Brochure for Gen 2 Lagoon Crawler
2043	Brochure for MY2022 of Nuhn's Gen 3 Lagoon Crawler
2044	Operator's/Safety Manual for the MY2020 of Nuhn's Gen 3 Lagoon Crawler
2045	Parts catalog for the MY2021 of Nuhn's Gen 3 Lagoon Crawler
2046	Brochure for Nuhn's Crawler X
2047	Parts Catalog for the MY2022 of Nuhn's Crawler X
2048	U.S. Provisional Patent Application No. 63/040,562 filed June 18, 2020
2049	U.S. Provisional Patent Application No. 63/104,887 filed October 23, 2020
2050	U.S. Patent Application Publication US 2021/0394571 published December 23, 2021
2051	Notice of Allowance in U.S. Application No. 17,590,125, Mailed April 22, 2022.
2052	Notice of Intent to Issue Ex Parte Reexamination Certificate, Control No. 90/019,107, Mailed November 2, 2022.
2053	Print No. 1 of Nuhn YouTube Video - "Nuhn Lagoon Crawler Unrivaled Lagoon Agitation!", accessed at https://www.youtube.com/watch?v=fEgvvq9HZk
2054	Lagoon Crawler Prototype Brochure, Aggressive Agitation
2055 (Under Seal)	Lagoon Crawler Sales Report - Consolidated Totals
2056 (Under Seal)	Lagoon Crawler Sales Report - 2014-2017.5
2057 (Under Seal)	Lagoon Crawler Sales Report - 2018-2019
2058 (Under Seal)	Lagoon Crawler Sales Report - 2020-2023
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2069	D. Rankin, Nuhn Industries celebrates employees at expansion grand opening, 100th lagoon crawler unveiling, St. Marys Independent (Aug. 7, 2015)
2070	B. Reid, Agitator has reclaimed manure lagoons around the world, Ontario Farmer (Aug. 18, 2015)
2071	L. Cudworth, Nuhn marks major milestone, The London Free Press (Aug. 11, 2015)
2072	L. Cudworth, Marking a major milestone, The Stratford Beacon Herald (Aug. 7, 2015)
2073	J. Algie, Made-in-Sebringville lagoon crawler to be featured on Discovery Channel, Betterfarming.com (Sept. 2, 2015)
2074	B. Reid, Self-propelled, Western Dairy Farmer (Oct. 2015)
2075 (Under Seal)	March 21, 2022 Email to Nuhn re: Licensing Lagoon Crawler Technology
2076 (Under Seal)	Nuhn Invoice to Eldon C. Stutsman, Inc. (Sept. 9, 2015)
2077 (Under Seal)	Nuhn Invoice to Eldon C. Stutsman, Inc. (June 20, 2020)
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2079	Print of Bazooka's YouTube Video - "Meet the Wolverine Agitation Boat," accessed at https://www.youtube.com/watch?v=ehAHKL442as
2080	Discovery Channel's Lagoon Crawler Feature (Sept. 3, 2015)
2081	U.S. Provisional Application No. 61/867,598 (filed August 19, 2013).
2082	US3384047 to Royle
2083 (Under Seal)	Declaration of Ian Nuhn
2084	US20100144220A1 to Bailey
2085-2086	Intentionally omitted
2087	Curriculum Vitae of Douglas S. Prairie and Case List – updated April 2, 2024
2088	Patent Owner's Proposed Protective Order - Redline
2089	Patent Owner's Proposed Protective Order - Clean
2090	Intentionally omitted
2091	Dredge Yard Auger Dredger ECO200-A8-brochure
2092	Hydraulic Dredgers – Dredge Brokers LLC
2093-2096	Intentionally omitted
2097	H. Landry et al., <i>Physical and Rheological Properties of ManureProducts</i> , Applied Engineering in Agriculture, at 278 (2004)
2098	Intentionally omitted
2099	Declaration of Douglas S. Prairie in Support of Patent Owner's Response
2100	US 5,267,830 to Wickoren
2101	US 8,944,758 to Nuhn
2102	K. Smith et al., <i>Natural Crusting Of Slurry Storage As An Abatement Measure For Ammonia Emissions On Dairy Farms</i> , 97 Biosystems Engineering 464 (2007)
2103	Printout of Bazooka's webpage for its Wolverine Agitation Boat at: https://www.bazookafarmstar.com/equipment/wolverine-agitation-boat/
2104	Bazooka's brochure for the Bazooka Wolverine Agitation Boat from: https://www.bazookafarmstar.com/wp-content/uploads/2023/01/Cutsheet-Wolverine-1.pdf .
2105	Cornell Redi-Prime Pump Brochure

I. INTRODUCTION

The ‘708 Patent has four independent claims (claims 1, 17, 21, and 23), which are generally narrower in scope than the independent claims of Nuhn’s ‘425 and ‘835 Patents and contain additional distinguishing features. Claim 1 of the ‘708 Patent recites an impeller and an immersible bottom fluid inlet in the housing of a liquid manure pump. Claims 17, 21, and 23 all recite first and second buoyant elements situated between the front and rear wheels on each side of a floatable vehicle body. The prior art does not reasonably teach these features.

Petitioner attempts to overcome deficiencies in the prior art by using improperly broad interpretations to read limitations out of the claims and/or overgeneralizations to read the claims on other types of equipment designed for different applications from fire-fighting (Carrier) to dredging (Truxor and SenwaTec). It would be legal error to adopt such arguments.

II. FUNDAMENTAL QUESTIONS AT ISSUE IN THIS IPR

There are several fundamental questions the Board must consider in this IPR:

(1) What is the proper meaning of “between”?

Petitioner argues for an overly broad interpretation of the word “between” – proposing that this term should mean “in intermediate relation to”

the wheels.¹ This interpretation is contrary to the Board’s interpretation of “between” as meaning “in the space that separates” the wheels² and effectively reads a limitation out of the claims since nearly all components of a vehicle are “intermediate” relative to the front and rear wheels in the broadest sense.

(2) What makes liquid manure different from water?

It is undisputed that liquid manure not only contains suspended solids, but is also highly corrosive and acts as a non-Newtonian fluid.³

(3) What makes a pump a liquid manure pump?

A liquid manure pump must be capable of performing and surviving in liquid manure pumping applications.⁴ Petitioner’s arguments focus on solid content. Petitioner has not carried its burden of showing that the prior art pumps could handle the non-Newtonian behavior and high corrosivity of liquid manure.

(4) Would a POSITA understand Carrier, Truxor, and SenwaTec, as teaching a liquid manure pumping vehicle with a liquid manure pump?

Carrier teaches a vehicle with optional firefighting pumps for “pumping water from a lake or stream”⁵ and Truxor/SenwaTec are vehicles with optional

¹ Paper 29, 1.

² Paper 10, 13.

³ EX1004, ¶281; EX1110, ¶109; EX2099, ¶¶92-94, 144; EX2097, 2.

⁴ EX2099, ¶98.

⁵ EX1005, Fig. 1, ¶61.

dredge pumps.⁶ There is no evidence that Carrier's water pumps could pump liquid manure (a highly corrosive non-Newtonian fluid)⁷ and survive in that application. While Petitioner cites publications discussing the use of dredging equipment in manure lagoons, Petitioner makes an impermissible leap in assuming that the Truxor and SenwaTec pumps are equivalent in capacity, construction, and materials as the dredging equipment described in publications as being used in manure lagoons. That assumption is not factually supported, so Petitioner has not reasonably shown that a POSITA would expect the Truxor and SenwaTec pumps to perform or survive in highly corrosive manure lagoon environments. Further, Petitioner makes another impermissible leap in assuming that Carrier, Truxor, or SenwaTec would be or could be combined with the Nuhn vertical pit pump advertised in Manure-Manager. This assumption is not factually supported as there is zero evidence that it was known in the art to add tractor-driven vertical pit pumps (like the one disclosed in Manure-Manager) to amphibious fire-fighting vehicles (like Carrier) or amphibious dredging vehicles (like Truxor and SenwaTec).

⁶ EX1006, 10; EX1012, 2.

⁷ EX1004, ¶281; EX1110, ¶109; EX2099, ¶¶92-94, 144; EX2097, 2.

III. LEVEL OF ORDINARY SKILL

Petitioner’s definition of a POSITA, which emphasizes formal engineering degrees and experience in industries that are different than manure lagoon agitation, is unsupported and contrary to the record. Nuhn’s invention serves a niche market within the farming industry. Petitioner’s “industry experts” tout their years of experience in manure handling – not engineering degrees.⁸

Nuhn’s definition reflects the reality that most inventors of manure lagoon agitation equipment lack engineering degrees. Petitioner incorrectly argues that Nuhn’s definition encompasses all farmers. It does not, requiring “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.”⁹

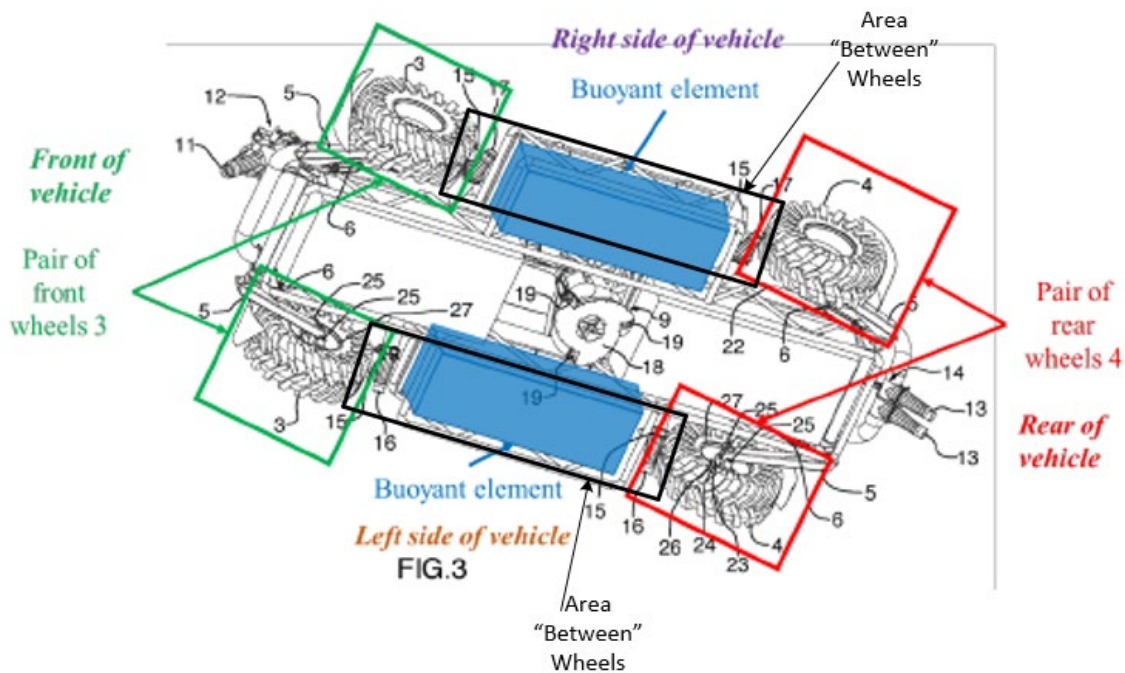
IV. CLAIM INTERPRETATION

Petitioner’s arguments that “liquid manure” is the same as human wastewater and that a “liquid manure pump” is the same as a water pump or dredge pump improperly broadens the claim terms to read on equipment from other fields/industries, which have nothing to do with the ‘708 Patent.

⁸ EX1109, ¶¶2-5; EX1110, ¶¶2-6.

⁹ EX2099, ¶64.

This trend continues with Petitioner’s overboard definition for the word “between.” As the Board found in its institution decision, the claim term “between” is properly understood as “in the space that separates” the front right wheel and the rear right wheel or the front left wheel and the rear left wheel.¹⁰ This space can be visualized by drawing an imaginary box between the front wheel and the rear wheel on the right side of the vehicle body and the left side of the vehicle body.



An element that at least partially occupies the space that separates the front right wheel and the rear right wheel or the front left wheel and the rear left wheel may

¹⁰ EX2099, ¶102.

be properly construed as being “between” those wheels.¹¹ An element that is entirely outside of that spaces cannot properly be construed as being “situated between” the wheels.¹²

Petitioner’s argument regarding Nuhn’s motion to amend the ‘835 Patent is moot in view of Nuhn’s revised motion to amend, which does not use the word “between” in claims 43 and 59. Equally unavailing is Petitioner’s argument based on Fig. 1 of Nuhn’s ‘708 Patent.¹³

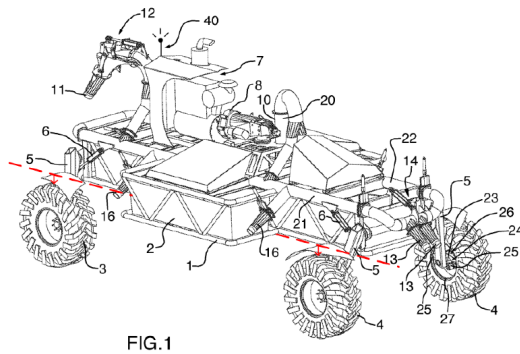
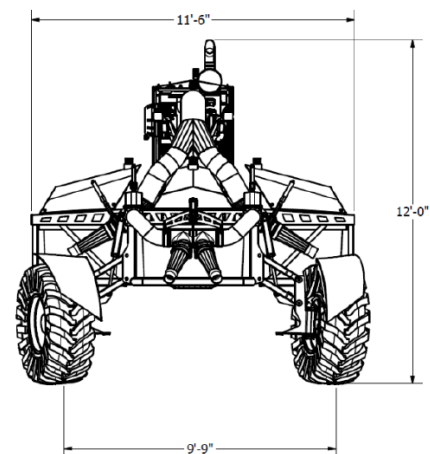
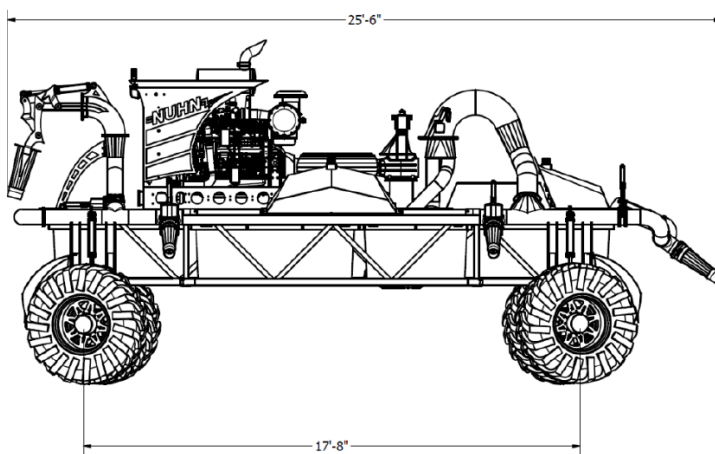


FIG. 1



¹¹ EX2099, ¶¶101, 105-107.

¹² EX2099, ¶¶102, 140-144, 211.

¹³ Paper 29, 5; EX2036, 1, 5.

As shown above, even when its wheels are fully lowered, the top of the wheels 3, 4 are above the bottom of the buoyant elements 2 in Nuhn's lagoon crawler.

Moreover, the relative positioning of the wheels/buoyant elements shown in Fig. 1 of the '708 Patent and the relative positioning of the wheels/axles shown in Fig. 6 of Bailey do not support the breadth of Petitioner's more expansive definition of "between" as "in intermediate relation to," which it argues covers arrangements where the buoyant elements are entirely inboard or entirely outboard of the space that separates the wheels.¹⁴

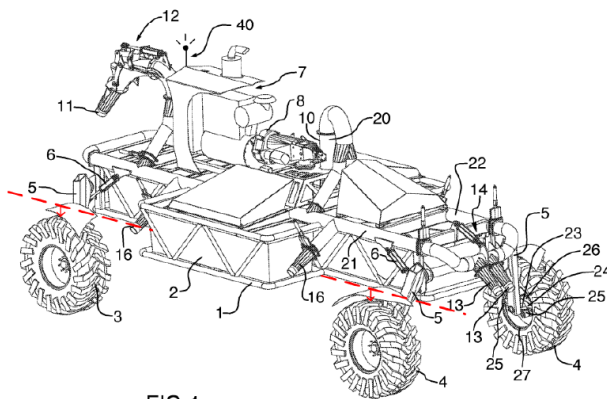


FIG. 1

Fig. 1 of '708 Patent

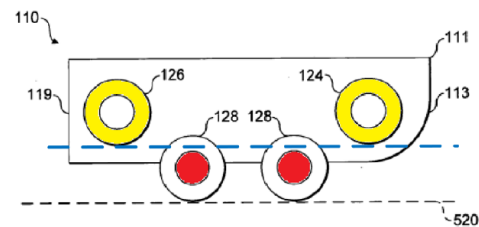


FIG. 6

Fig. 6 of Bailey

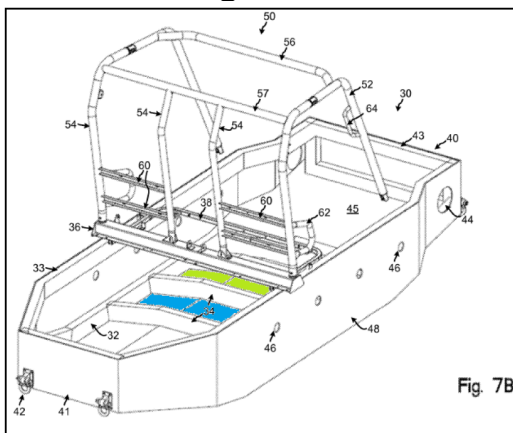


Fig. 7B of Bennett-II



Photograph of SenwaTec

¹⁴ Paper 1, 35, Paper 29, 5, 8, 19.

Fig. 1 of the ‘708 Patent and Fig. 6 of Bailey do not suggest that elements entirely inboard or outboard of the space that separates the wheels would be considered “situated between” the wheels as required by claims 17, 21, and 23.

V. GROUND 1: CLAIM 23 IS NOT ANTICIPATED BY BENNETT-II

Claim 23 is directed to an amphibious vehicle with a first buoyant element situated between a first front wheel and a first rear wheel and a second buoyant element situated between a second front wheel and a second rear wheel. The vehicle disclosed in Bennett-II does not have this arrangement and instead has a pair of tracks positioned to the left and to the right of the vehicle body.

Petitioner alleges that Bennett-II’s load wheels 75, which are interior wheels/pulleys supporting the tracks, satisfy the wheels of claim 23 on the incorrect basis that claim 23 does not require the wheels to be ground engaging.¹⁵ This argument ignores express language in the ‘708 Patent explaining that “the ground engaging propulsion structure may comprise an endless track or a set of wheels.”¹⁶ A POSITA would understand that claim 23 is directed to the disclosed embodiment where the vehicle has ground engaging wheels as opposed to the alternative embodiment where the vehicle has ground engaging tracks.¹⁷ If the “wheels”

¹⁵ *Id.*

¹⁶ EX1001, 2:9-11.

¹⁷ EX2099, ¶138.

described in the '708 Patent refers to the pulleys that support a track, then the statement in the '708 Patent that “the ground engaging propulsion structure may comprise an endless track or a set of wheels”¹⁸ would make no sense.¹⁹ In the same sense that a snowmobile lacks wheels, a POSITA would not understand the track-driven vehicle in Bennett-II to have the “wheels” recited in claim 23.

Bennett-II also fails to disclose the first and second buoyant elements recited in claim 23, which must have “foam filled buoyant chambers” and be “situated between a first front wheel and a first rear wheel” and “between a second front wheel and a second rear wheel,” respectively. Petitioner incorrectly argues that foam material inserts in the vehicle body of Bennett-II satisfies the buoyant elements of claim 23.²⁰ Bennett-II teaches that the “frame assembly 30 and/or tub 40 may include a marine-grade pourable urethane coating and/or foam material inserts in order to fill volume voids and resist water ingestion during amphibious operation.”²¹ Bennett’s load wheels 75 are positioned entirely outboard of the frame assembly 30 and tub 40, so any “foam material inserts” filling voids in the frame assembly 30 and/or tub 40 would necessarily be entirely inboard of the load wheels 75.²²

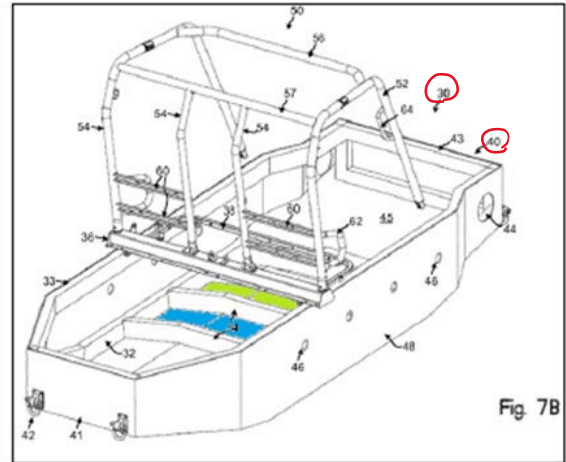
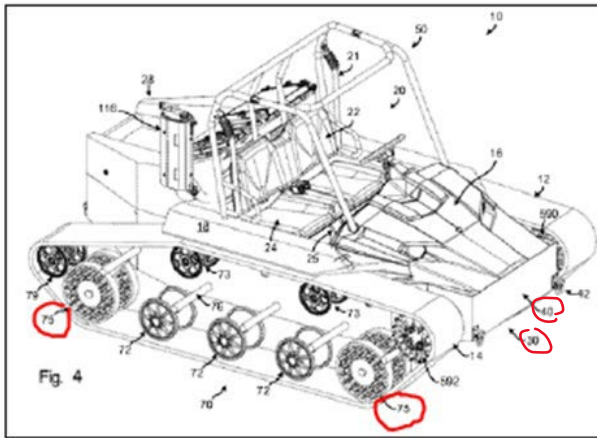
¹⁸ EX101, 2:9-11.

¹⁹ EX2099, ¶138.

²⁰ Paper 29, 10.

²¹ EX1017, ¶0051.

²² Paper 1, 35-36.



The record plainly shows that no part of the “foam material inserts” described in Bennett-II occupies the space that separates the front right drive wheel 75 and the rear right drive wheel 75 or the space that separates the front left drive wheel 75 and the rear right drive wheel 75. And contrary to Petitioner’s representations, Nuhn does not concede that “foam material inserts” in the green and blue areas depicted above would satisfy the language of claim 23 requiring “buoyant elements having foam filled buoyant chambers.” Placing “foam material inserts” in these regions as Petitioner suggests would not result in separate foam filled buoyant chambers because the green and blue areas between Bennett-II’s ladder frame have an open “top” and therefore are not “chambers.”²³ For these reasons, Bennett-II cannot anticipate claim 23, even if the drive wheels 75 of Bennett-II’s endless tracks 12, 14 are considered as the claimed “wheels.”

²³ EX2099, ¶¶140, 141, 143.

**VI. GROUNDS 2, 3, 6, & 7: CLAIMS 1-38 ARE NOT OBVIOUS
BASED ON TRUXOR/SENWATEC IN VIEW OF YOON OR
CARRIER OR TRUXOR OR YOON OR CARRIER IN VIEW OF
MANURE-MANAGER**

**A. Claims 1, 17, and 21: The Truxor and SenwaTec
Combinations Lack a “Liquid Manure Pump”**

Petitioner argues that a POSITA would have understood that Truxor’s Doro Pump was capable of pumping liquid manure.²⁴ Petitioner also argues that a POSITA would have understood that SenwaTec’s centrifugal pump was capable of pumping liquid manure.²⁵ But notably, neither Truxor or SenwaTec teach or suggest liquid manure pumps. Truxor’s Doro Pump is advertised as a “pump . . . for pumping light sediments and volatile sand.”²⁶ Petitioner overlooks that fact that manure acts as a non-Newtonian fluid and therefore behaves differently than water with suspended solids (e.g., sediment) when pumped. With respect to the SenwaTec vehicle, Petitioner relies on a showing that the vehicle was used in a municipal wastewater pond.²⁷ Municipal wastewater ponds are distinct from manure lagoons as they lack bedding material (such as straw).²⁸ Moreover, Petitioner identifies no evidence suggesting that municipal wastewater exhibits

²⁴ Paper 29, 14.

²⁵ Paper 29, 20.

²⁶ EX1007, 123.

²⁷ EX1067-69 and EX1072-75 in *Bazooka Farmstar, LLC v. Nuhn Industries, Ltd.*, IPR2023-01161, (PTAB June 23, 2023).

²⁸ EX2099, ¶35.

non-Newtonian behavior when pumped. Nor does Petitioner identify any evidence that the Truxor/SenwaTec dredge pumps are comparable in size, capacity, construction, or materials to manure lagoon pumps like the Nuhn vertical pit pump advertised in Manure-Manager.

Petitioner also overlooks the highly corrosive nature of liquid manure – a fact on which both experts agree.²⁹ There is no evidence that the Truxor/SenwaTec dredge pumps could withstand the corrosiveness of liquid manure. Petitioner therefore fails to satisfy its burden in demonstrating that a POSITA would have had an expectation that the dredge pumps in Truxor or SenwaTec could pump liquid manure and survive in that application.

B. Claims 17, 21, and 23: The Truxor and SenwaTec Combinations Lack Buoyant Elements Positioned Between the Front Wheel and Rear Wheel on Each Side of the Vehicle

The Truxor vehicle has tracks.³⁰ Thus, Truxor does not disclose “a first front wheel and a first rear wheel” or “a second front wheel and a second rear wheel” as required by claims 17, 21, and 23. Petitioner argues that a POSITA would have modified the vehicle of Truxor by removing the tracks and adding hydraulically

²⁹ EX1004, ¶101; EX2099, ¶130.

³⁰ EX1006, 3; Pet., 41 (“Truxor describes tracks for maneuvering . . .”); EX1004, ¶135 (noting that Truxor has a “tracked drive”).

powered wheels and a modified pontoon.³¹ This combination fails for a number of reasons.

First, Petitioner argues that a POSITA would have been motivated to modify Truxor based on Sundstrom.³² But Petitioner’s reliance on Sundstrom is misplaced because Sundstrom’s boat utilized unpowered wheels and Petitioner makes no showing that the pontoons on Sundstrom’s barge-like raft are similar in construction to Truxor’s buoyant elements. Thus, the statement that Sundstrom discloses “this same arrangement of buoyant elements and wheels”³³ is completely devoid of support. Truxor is far more similar in construction and operation to SenwaTec than to Sundstrom and SenwaTec discloses two configurations – a tracked vehicle like Truxor and an alternative configuration with pontoon outriggers positioned outboard of six hydraulically driven wheels. An unbiased view of the art reveals that if a POSITA were motivated to replace Truxor’s tracks with wheels, they would have most logically followed the teachings of SenwaTec and Carrier II – which place the buoyant elements entirely inboard or outboard of the wheels.³⁴

³¹ Paper 29, 11-12.

³² Paper 29, 12.

³³ Paper 29, 12.

³⁴ EX2099, ¶¶372-373.

Petitioner also argues that a POSITA would have understood the configuration taught by SenwaTec includes pontoons “between” the front and rear wheels.³⁵ This interpretation ignores the plan meaning of the term “between” as it is clear that a pontoon that is entirely *outboard* of wheels cannot also be considered as occupying the space that separates those same wheels:³⁶



Finally, Petitioner argues that the wheels of SenwaTec are air-filled such that the middle wheel on each side of the vehicle could be considered the claimed “buoyant elements.”³⁷ This argument completely disregards the plain language of claims 17, 21, and 23, which recite both wheels and buoyant elements as different structures. The specification of the ‘708 Patent further supports this distinction. Petitioner’s arguments impermissibly read the “buoyant element” limitations out of the claims.

³⁵ Paper 29, 13.

³⁶ EX1012, 1 (red annotations added).

³⁷ Paper 29, 20.

C. Claims 1, 17, 21, and 23: The Truxor and SenwaTec Combinations Fail to Disclose the Wireless Remote Control Limitations

The amphibious vehicles disclosed in Truxor and SenwaTec and their tool attachments are designed to be operated by an onboard operator. Modifying the Truxor vehicle or the SenwaTec vehicle to include remote control would eliminate the possibility of the operator observing the dredge pump with a direct line-of-sight. Petitioner does not address this problem.

D. A POSITA Would Not Be Motivated to Combine Truxor/SenwaTec, Carrier or Yoon, and Manure-Manager

Petitioner argues that Nuhn's vertical pit pump could be substituted for Truxor and/or SenwaTec's dredge pump.³⁸ Petitioner ignores the fact that this alleged combination would destroy the intended purpose of both Truxor and SenwaTec as utilizing Nuhn's vertical pit pump would destroy dredging functionality. Indeed, there is zero evidence that Nuhn's manure lagoon pump would work in dredging applications.³⁹ Petitioner further ignores the fact that the weight and minimum horsepower requirements of Nuhn's vertical pit pump well exceeds the maximum crane capacity and horsepower of the Truxor and SenwaTec

³⁸ Paper 29, 15-17 and 21-23.

³⁹ EX2099, ¶422.

vehicles, which would have discouraged a POSITA from making Petitioner's proposed combinations.⁴⁰

Truxor and SenwaTec describe dredge pumps that are driven by a flow of hydraulic fluid passing through the hydraulic lines.⁴¹ Nuhn's manure lagoon pump is powered by a mechanical transmission and driveshaft that is mechanically coupled to the power-take-off (PTO) of a tractor.⁴² The Truxor vehicle and the SenwaTec vehicle lack the PTO to power the Nuhn manure lagoon pump.

More critically, Nuhn's vertical pit pump has a minimum horsepower requirement of 95 horsepower.⁴³ Truxor and SenwaTec's horsepower numbers fall well short of this minimum requirement. Truxor's engine output is a mere 35 horsepower.⁴⁴ SenwaTec's engine output is 74 horsepower and its hydraulic system can only provide 67 horsepower to a crane-mounted pump.⁴⁵ A POSITA would not have had a reasonable expectation of success in attempting to add Nuhn's vertical pit pump to Truxor or SenwaTec in view of their insufficient capacities.⁴⁶ Based on a flowrate curve in EX1083, Petitioner argues that Nuhn's vertical pit pump would still operate at lower horsepower, but this argument fails

⁴⁰ EX2099, ¶432.

⁴¹ EX2099, ¶¶384 and 430.

⁴² EX2099, ¶¶385 and 432.

⁴³ EX2083, ¶8.

⁴⁴ EX2099, ¶386.

⁴⁵ EX2099, ¶432.

⁴⁶ EX2099, ¶386.

to address the minimum horsepower required to prevent clogging. Compared to tractor-driven agitators, clogging is a much greater concern for floating manure agitators that navigate by wireless remote control because they lose motive power and are difficult to retrieve once clogged.⁴⁷

Considering the magnitude and scope of these differences, a POSITA would simply have looked in a different direction entirely if they were motivated to mount one of Nuhn's manure pumps on an amphibious vehicle rather than engage in engineering gymnastics in an attempt to make Petitioner's combinations work.⁴⁸

**VII. GROUNDS 4, 5, and 8: CLAIMS 1-38 ARE NOT OBVIOUS
BASED ON PUCK IN VIEW OF BRYHAM OR PUCK IN
VIEW OF BRYHAM AND BENNETT-II OR PUCK IN VIEW
OF BRYHAM (ALONE OR IN VIEW OF BENNETT-II) AND
FURTHER IN VIEW OF MANURE-MANAGER**

**A. Claim 1: The Puck Combinations Do Not Disclose or Suggest
An Immersible Bottom Fluid Inlet In the Housing of the
Liquid Manure Pump**

Petitioner fails to rebut Nuhn's arguments that Puck fails to disclose an immersible bottom fluid inlet in the housing of a liquid manure pump. The extent of Petitioner's response is that "[t]he classification of Puck's intake pipe is irrelevant" without providing any supporting rationale or citation.⁴⁹ So Petitioner is forced to rely on the combination of Manure-Manager with Puck and

⁴⁷ EX2083, ¶¶62-63.

⁴⁸ EX2099, ¶386.

⁴⁹ Paper 29, 24.

Bryham/Bennett-II in Ground 8.⁵⁰ But this combination overlooks the prior art's teachings.⁵¹ References, such as Sundstrom, suggest that POSITAs looking to place a tractor-driven manure pump on a manure agitation boat would have turned to manure lagoon pumps designed to operate at a shallow angle relative to the surface of the lagoon (like Nuhn's Header Series Lagoon Pump advertised in Manure-Manager-II) over vertical pit pumps (like Nuhn's G-Force Vertical Pit Pump advertised in Manure-Manager).⁵² Fitting a manure lagoon pump like the one Nuhn advertises in Manure-Manager-II to Puck's boat would not result in a "bottom fluid inlet" because the fluid inlet in Nuhn's Header Series Lagoon Pump is not at the bottom of the housing, but rather faces rearward. With the prior art teaching the fitment of a shallow angled manure lagoon pump to a floating agitator, Petitioner fails to demonstrate that a POSITA would go against this teaching and use Nuhn's vertical pit pump instead.

B. Claims 17, 21, and 23: The Puck Combinations Lack Buoyant Elements Positioned Between the Front Wheel and Rear Wheel on Each Side of the Vehicle

None of the references in Petitioner's combinations of prior art suggest placing buoyant elements in the space that separates the right front wheel and the right rear wheel and the space that separates the left front wheel and the left rear

⁵⁰ Paper 29, 24.

⁵¹ See Paper 29, 24.

⁵² Compare EX1020, 23 to EX1019, 27.

wheel.

For the first time in its Reply Brief, Petitioner now attempts to rely on the teachings of Sundstrom, a reference that was not cited in the Petition, to support an entirely new rationale for explaining why a POSITA would convert Bryham's three-wheel configuration to a four-wheel configuration and add it in such a way that Puck's buoyant elements are positioned in the space between the wheels. Making such an argument for the first time in a Reply Brief is improper. *See Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016) (affirming Board decision finding it improper to raise new arguments in a Reply Brief that set forth "an entirely new rationale" to explain why a POSITA would have been motivated to combine the cited references); *Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1366 (Fed. Cir. 2023); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1368 (Fed. Cir. 2015).

Petitioner's argument is improper for another reason - it goes beyond using Sundstrom to simply demonstrate what a POSITA would have known at the time of the invention. Even if the Board accepts the introduction of Sundstrom into evidence, Petitioner has not demonstrated that POSITAs would have been aware of the particular details of how Sundstrom's vehicle was constructed, as discussed in Ernie Sundstrom's declaration. Indeed, simply looking at the Sundstrom boat, whether in the videos [EX1114]-[EX1115] or in-person, would not have revealed

to a POSITA that the portions of the barge occupying the space between the Sunstrom's unpowered wheels were part of a buoyant element as opposed to side plates, bargeboards, or part of the frame. In other words, it is inappropriate to rely on a designer's declaration about the construction details of a vehicle that are not outwardly observable when the purpose for introducing the evidence is to show what a POSITA would have known at the time of the invention.

C. Claims 1, 17, and 23: The Puck Combinations Do Not Disclose or Suggest a “Power Source Configured to Provide Power to Move the Vehicle Both When the Vehicle is Ground Engaging and Floating in a Liquid Manure Lagoon”

Petitioner alleges that it would have been obvious to use Puck's engine to power both the liquid manure pump and the ground engaging wheels of Bryham.⁵³ Petitioner's conclusory statements are deficient because Puck discloses a closed loop hydraulic system that is arranged where “hydraulic cylinder (52) is coupled to a hydraulic pump (54) that, in turn, is coupled to a 12-volt battery (56).”⁵⁴ A POSITA would have understood Puck's hydraulic system to lack the capability of open-loop hydraulic systems for powering heavy vehicles with ground engaging wheels.⁵⁵

⁵³ Paper 29, 27.

⁵⁴ EX1014, ¶0027.

⁵⁵ EX2099, ¶268.

D. Claim 17: The Puck Combinations Do Not Disclose or Suggest “Four Variable Speed Hydraulic Motors, One Variable Speed Hydraulic Motor Per Wheel, For Independently Driving the Wheels at Variable Speeds”

Petitioner alleges that a combination of Puck and Bryham would result in the four variable speed hydraulic wheel motors recited in claim 17.⁵⁶ Petitioner is incorrect. Bryham does not describe four wheels, nor does Bryham describe a vehicle where each wheel includes its own variable speed hydraulic motor. The front wheel in Bryham (i.e., the one at the bow that swivels) is not powered at all and therefore is not powered by its own variable speed hydraulic motor.⁵⁷

E. A POSITA Would Not Have Been Motivated to Combine These References With a Reasonable Expectation of Success

A POSITA would not have realistically considered adding Bryham’s wheels to Puck because they would not have found such a combination feasible for manure lagoon environments.⁵⁸ Petitioner’s combination of Puck and Bryham is based on a false premise – that a POSITA concerned about exposing Puck’s trailer to highly corrosive manure lagoons would have been motivated to ditch the Puck’s trailer in favor of Bryham’s powered wheels.⁵⁹ The opposite is true. It is undisputed that Puck discloses a system where the trailer is

⁵⁶ Paper 29, 28.

⁵⁷ EX1015, FIG. 3 and 12:6-19; EX2099, ¶271.

⁵⁸ EX2099, ¶¶282-292.

⁵⁹ EX1004, ¶¶276-282.

designed to remain high and dry when Puck's boat is being launched and retrieved.⁶⁰ Puck's trailer is not designed to be submersed in manure lagoons, so the very problem underlying Petitioner's motivation to combine argument – corrosion of Puck's trailer – was not actually a problem that needed solving.⁶¹ Moreover, the last thing a POSITA would do is mount powered wheels on Puck's boat (where they would be submerged in corrosive liquid manure for hours at a time) if they were concerned about exposing Puck's trailer (with its unpowered wheels) to corrosive manure lagoon environments.⁶² This is consistent with other record evidence showing that POSITAs did not find it obvious to add powered ground engaging propulsion structures to manure agitation boats prior to Nuhn's invention and were skeptical of doing so.⁶³ In particular, industry veterans had concerns that ground engaging propulsion structures (e.g., wheels powered by hydraulic motors) would not survive in highly corrosive manure lagoons, that manure would leak into the hydraulic system and motors rendering them inoperable, and that hydraulic fluid would leak out into the manure lagoon – leading to environmental contamination issues (e.g., prohibiting later use of the manure as fertilizer for crops).⁶⁴

⁶⁰ EX2099, ¶¶273-280.

⁶¹ EX2099, ¶¶273-280.

⁶² EX2099, ¶279.

⁶³ EX2099, ¶¶25-30; EX2083, ¶¶53-63.

⁶⁴ EX2083, ¶¶53-63.

Even setting corrosion aside, a POSITA would have immediately discarded Bryham from consideration due to the instability and traction problems inherent in its 3-wheeled configuration.⁶⁵ In hindsight, Petitioner argues that a POSITA would have placed Bryham's wheels at each corner of Puck's boat, but that arrangement overlooks the teachings of SenwaTec, Carrier, and Carrier II, which suggest using six or more wheels to power an amphibious vehicle.⁶⁶

VIII. GROUNDS 2-8: CLAIMS 1-38 ARE NON-OBVIOUS IN VIEW OF SECONDARY CONSIDERATIONS

Objective considerations of nonobviousness protect against the prejudice of hindsight bias, which often overlooks that "[t]he genius of invention is often a combination of known elements which in hindsight seems preordained." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351 (Fed. Cir. 2001). Nuhn's secondary consideration evidence highlights the hindsight bias employed by the Petitioner.

A. Commercial Success

Petitioner's argument that Nuhn relies solely on Ian Nuhn's statements regarding commercial success without providing data overlooks the sales data Nuhn provided in its sales reports [EX2055-EX2059], which corroborates Ian Nuhn's statements about commercial success. Petitioner provides no evidence that

⁶⁵ EX2099, ¶¶282-292.

⁶⁶ Paper 29, 32.

Nuhn’s sale data is incorrect, misleading, or that it reflects insignificant sales in this niche market.

Petitioner attempts to seize on the anecdotal comments in one or two of the articles about bright red paint and knobby tires to argue that farmers only buy this product because of the way it looks. But newspaper accounts of how members of the general public react to Nuhn’s Lagoon crawler do not reflect why farmers/manure applicators purchase the product. EX2061 states that “[f]or farmers who have seen or purchased a Crawler, their expectations have been exceeded” and emphasizes how it “impresses farmers with its ability maneuver within the lagoons, agitate solids from the bottom surfaces.”⁶⁷ In the Discovery Channel segment featuring Nuhn’s Lagoon Crawler, a customer stated that with Nuhn’s Lagoon Crawler “what usually takes me 3-4 hours to get to this point. . . we’re there in 10-15 minutes” and that he “never thought it could be done. This is good.”⁶⁸ That record clearly shows that customers purchase Nuhn’s Lagoon Crawler for its maneuverability and manure agitation performance – not its looks.⁶⁹

B. Long Felt Need

Existing floating agitation boats, like Puck, did not fulfill the industry’s long-felt need, as Petitioner asserts. Instead, the unrebutted evidence

⁶⁷ EX2083, ¶41; EX2061.

⁶⁸ EX2083, ¶49; EX2080.

⁶⁹ EX2083, ¶¶40, 41, 49, 50, 51; EX2061; EX2067; EX2074; EX2080.

demonstrates that Nuhn’s Lagoon Crawler quickly overtook Puck as the market share leader.⁷⁰ Floating agitation boats that existed before the Nuhn inventions, required more time and effort to launch and retrieve, got stuck (“beached”) on sandbars and in the shallows and muck of manure lagoons, and were difficult to control without guidewires (like Sundstrom) and experienced control issues (e.g., Puck’s boat sprayed the crowd at a demonstration).⁷¹

C. Copying

Petitioner’s statement that the only evidence Nuhn provides of copying is from a discussion with a Stutsman’s mechanic is incorrect.⁷² Petitioner overlooks evidence showing access [EX2076-2078 – Stutsman’s invoices], the comparison made by Nuhn’s expert,⁷³ and the evolution of Petitioner’s Wolverine into a copy-cat product, which is documented in Petitioner’s patent filings [EX2048-2050].⁷⁴ Petitioner’s addition of propellers does not negate its copying of Nuhn’s design. Nor is it relevant that the Wolverine’s wheels do not raise and lower, as that feature is not in the ‘708 Patent claims.

⁷⁰ EX2083, ¶¶11-20, 27, 38, EX2063 (“[s]ome people have tried mounting pumps on boats” but “there’s nothing else like the crawler on the market.”)

⁷¹ EX2099, ¶¶91, 700-702; EX2083, ¶¶11-20; EX1100; EX1114; EX1115.

⁷² Paper 29, 34.

⁷³ EX2099, ¶¶708-728.

⁷⁴ EX2099, ¶¶722-726.

D. Unexpected Results

Petitioner overstates what the record shows when it argues that it was known to use amphibious vehicles with hydraulically-driven wheels in manure lagoons.⁷⁵ Contrary to Petitioner's assertions, Truxor/SenwaTec not only differ from the claims with respect to remote control,⁷⁶ but there is also no evidence that Truxor or SenwaTec have ever been used in an animal manure lagoon. Further, Petitioner has not countered Nuhn's affirmative evidence that industry veterans in fact expressed skepticism when Nuhn developed and launched the invention because they believed the hydraulically powered wheels would get stuck, break-down, and otherwise be unreliable.⁷⁷

E. Praise

Petitioner's attempts at discrediting Nuhn's evidence of industry praise, including a litany of awards and news articles, lack sensibility.⁷⁸ Petitioner again attempts to seize on the anecdotal comments in one or two of the articles about bright red paint and knobby tires as an irrelevant distraction. The overall thrust of these articles explain that Nuhn's invention was ground-breaking, innovative, and created an entirely new product category in the market for manure lagoon agitation

⁷⁵ Paper 29, 35.

⁷⁶ Paper 29, 35.

⁷⁷ EX2083, ¶¶53-60.

⁷⁸ Paper 29, 35-36.

equipment,⁷⁹ which is what made Nuhn’s Lagoon Crawler newsworthy in the first place – not its aesthetic appearance. Most farm tractors sport bright paint and large knobby tires, but they do not receive the level of media attention that Nuhn’s invention received.

F. Licensing

Petitioner’s attempt to downplay the relevance of Puck’s licensing email [EX2075] overlooks the significance of Puck’s prior market position. This email shows that the prior market share leader wished to license Nuhn’s Lagoon Crawler patents.⁸⁰

Petitioner makes an unsupported and misleading argument that this email was really about a different patent family covering Nuhn’s tractor-mounted, PTO-driven manure pumps.⁸¹ But there is no reference to tractor-mounted pumps in the email. Instead, Puck sought to license Nuhn’s patents for “a new boat”.⁸² Nuhn’s testimony remains un rebutted. Again, it is significant that Petitioner submitted a declaration [EX1099] made by the owner of Puck Enterprises and that declaration failed to rebut the characterization Nuhn has made of that email. Surely Puck

⁷⁹ EX2083, ¶¶35-37 (innovation awards), EX2083, ¶38 (EX2063 – article entitled “Transforming farming”); EX2083, ¶51 (EX2074 – article acclaiming Nuhn’s product launch as “the unveiling of a revolutionary piece of farming technology.”)

⁸⁰ EX2083, ¶¶27, 64-67.

⁸¹ Paper 29, 36.

⁸² EX2075.

would have pointed out any inaccuracies in Ian Nuhn's statements if its licensing discussions were about a different patent family.

G. Skepticism

Petitioner's argument that others used and marketed amphibious vehicles with hydraulically-driven wheels in manure and corrosive environments before Nuhn's Lagoon Crawler is wrong.⁸³ There is no evidence that Truxor or SenwaTec have ever been used in a manure lagoon. Nor would that negate Nuhn's affirmative evidence that industry veterans in fact expressed skepticism when it developed and launched the invention.⁸⁴

Petitioner's argument that Nuhn's evidence of skepticism is unsupported because Ian Nuhn only identified Dennis Nuhn is also wrong.⁸⁵ In his declaration, Ian Nuhn recants the skepticism/criticism that he repeatedly received at tradeshow when Nuhn first launched its Lagoon Crawler.⁸⁶

H. Nexus

Petitioner argues that nexus is lacking between Nuhn's secondary consideration evidence and the '708 Patent claims because Nuhn also presented secondary consideration evidence in support of the claims of Nuhn's '835 Patent,

⁸³ Paper 29, 37.

⁸⁴ EX2083, ¶¶53-60.

⁸⁵ Paper 29, 37.

⁸⁶ EX2083, ¶¶53-60.

which include features that are not present in the ‘708 Patent claims.⁸⁷ This argument is illogical. It makes little sense that nexus cannot be proven when a commercial product is covered by multiple continuation patents of differing scope.

IX. CONCLUSION

For all of the foregoing reasons, the Board should issue a final written decision upholding the validity of the Challenged Claims.

Dated: December 18, 2024

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⁸⁷ Paper 29, 33.

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that this brief complies with the type volume limitations of 37 C.F.R. § 42.24(b)(1). This brief contains 5,351 words, inclusive of textboxes, footnotes and headers as calculated by the “Word Count” feature of Microsoft Word for Microsoft 365 MSO, the word processing program used to create this brief.

The undersigned further certifies this brief complies with the typeface requirements of 37 C.F.R. § 42.6(a)(2)(ii) and typestyle requirements of 37 C.F.R. § 42.6(a)(2)(iii). This brief has been prepared in a proportionally spaced typeface using Microsoft Word for Microsoft 365 MSO in Times New Roman 14-point font.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 18th day of December, 2024, a true and correct copy of the foregoing **Sur-Reply In Support of Patent Owner's Response** was served by electronic mail on Petitioner's lead and backup counsel at the following addresses:

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