

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. IPR2023-01161
U.S. Patent No. 11,358,425

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

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. FUNDAMENTAL QUESTIONS AT ISSUE IN THIS IPR.....	3
III. LEVEL OF ORDINARY SKILL	6
IV. CLAIM INTERPRETATION	6
A. “Liquid Manure”	6
B. “A Fluid Pump For Pumping Liquid Manure”	8
D. “Fluid Mover”	9
V. GROUND 1: CLAIMS 1-21 ARE NOT ANTICIPATED BY CARRIER.....	10
A. Claim 1: Carrier Fails to Teach “A Fluid Pump For Pumping Liquid Manure”	10
B. Claims 7 and 19	11
C. Claims 8-11 and 20-21	12
D. Claims 12-21	13
VI. CLAIMS 1-21 ARE NON-OBVIOUS (GROUNDS 2-5)	14
A. SECONDARY CONSIDERATIONS WEIGH STRONGLY AGAINST OBVIOUSNESS.....	14
i. Nexus	14
ii. Commercial Success.....	15
iii. Long Felt Need	17
iv. Copying	18
v. Skepticism and Unexpected Results	18
vi. Praise	19
vii. Licensing	20
B. GROUNDS 2 AND 3: CLAIMS 1-7 AND 12-19 ARE NOT OBVIOUS BASED ON TRUXOR/SENWATEC IN VIEW OF YOON OR CARRIER.....	21

1.	A POSITA Would Not Have Combined These References With a Reasonable Expectation of Success	21
2.	Claim 1: Truxor and SenwaTec Do Not Disclose the Liquid Manure Pump Limitation	22
3.	Claims 7 and 19.....	24
4.	Claims 12-19.....	25
C.	GROUPS 4-5: CLAIMS 1-21 ARE NOT OBVIOUS BASED ON PUCK IN VIEW OF BRYHAM OR IN FURTHER VIEW OF BENNETT-II.....	26
1.	A POSITA Would Not Have Combined These References With a Reasonable Expectation of Success	26
2.	Claim 1: The Puck Combinations Would Not Result In “A Power Source Configured to Provide Power to Both the Ground Engaging Propulsion Structure And the Fluid Pump”	28
3.	Claim 1: Bryham’s Wheels Would Not Use the Same Wireless Remote Control Structure As Puck.....	28
VII.	GROUND 6: CLAIMS 1-21 ARE NOT ANTICIPATED BY LYSENG.....	29
VIII.	CONCLUSION.....	29

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Chemours Co. FC, LLC v. Daikin Indus.</i> , 4 F.4th 1370 (Fed. Cir. 2021)	15
<i>Cisco Sys., Inc v. Centripetal Networks, Inc.</i> , IPR2018-01444, Paper 32, 2020 Pat. App. LEXIS 12843 (PTAB Feb. 11, 2020)	15
<i>J.T. Eaton & Co. v. Atl. Paste & Glue Co.</i> , 106 F.3d 1563 (Fed. Cir. 1997)	15

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
2007	Screenshots from Petitioner's YouTube Channel of Accused Product, retrieved on 10-2-23 from https://www.youtube.com/watch?v=3y3bSJJUOps
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
2009	Patent Classification List for U.S. Patent No. 11,358,425, retrieved on 10-4-23 from https://patents.google.com/patent/US11358425B1/en?q=US11358425
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")
2017	CA2002619 to Depeault ("Depeault-II")
2018	U.S. Patent No. 10,118,138 to Tews ("Tews")
2019	Daniel L. Pfoest et al., Univ. of Mo. Extension, Anaerobic Lagoons for Storage/Treatment of Livestock Manure (Oct. 2000)
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/
2022	Envtl. Prot. Agency, Primer for Municipal Wastewater Treatment Systems (Sept. 2004)
2023	U.S. Dep’t Agric., <i>Agricultural Waste Management Systems</i> , in <i>Agricultural Waste Management Field Handbook</i> 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
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)
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)
2029	Declaration of Douglas Prairie
2030	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)
2031	Printout of Bazooka’s webpage for its Wolverine Agitation Boat at: https://www.bazookafarmstar.com/equipment/wolverine-agitation-boat/

2032	Bazooka's brochure for the Bazooka Wolverine Agitation Boat from: https://www.bazookafarmstar.com/wp-content/uploads/2023/01/Cutsheet-Wolverine-1.pdf .
2033	H. Landry et al., <i>Physical and Rheological Properties of Manure Products</i> , Applied Engineering in Agriculture, at 278 (2004)
2034	<i>Hydrostatic Pto's Run in Reverse</i> , Farm Show, Vol. 1 No. 5, 1977
2035	Brochure for MY2017 of Nuhn's Gen 1 Lagoon Crawler
2036	Operator's/Safety Manual for the MY2017 of the Gen 1 Lagoon Crawler
2037	Parts Catalog for 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 Gen 2 Lagoon Crawler
2041	Parts Book for the MY2018 Gen 2 Lagoon Crawler
2042	Brochure for Gen 2 Lagoon Crawler
2043	Operator's/Safety Manual for the MY2020 of the Gen 3 Lagoon Crawler
2044	Operator's/Safety Manual for the MY2020 of the Gen 3 Lagoon Crawler
2045	Parts catalog for the MY2021 of the Gen 3 Lagoon Crawler
2046	Brochure for Crawler X
2047	Parts Catalog for MY2022 Lagoon 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
2059 (Under Seal)	Lagoon Crawler Sales Report - X Models
2060	Print No. 2 of Nuhn YouTube Video - "Nuhn Lagoon Crawler Unrivaled Lagoon Agitation!", accessed at https://www.youtube.com/watch?v=fEgvvq9HZk
2061	<i>New Lagoon Crawler Demos Will Satisfy Curiosity</i> , Canada's Outdoor Farm Show Official Show Guide for September 9-11, 2014 in Woodstock, Ontario
2062	H. Rivers, <i>Farm show opens with a splash</i> , The Beacon Herald (Sept. 10, 2014)
2063	B. Shypula, <i>Transforming farming</i> , The London Free Press (Sept. 9, 2013))
2064	B. Shypula, <i>Crawler makes manure almost sexy</i> , The Beacon Herald (Sept. 6, 2013)
2065	30th Annual AMC Engineering Conference Brochure for May 5-7, 2015 in Waterloo, Iowa
2066	Certificate of Services Awarded to Ian Nuhn
2067	M. Beitz, <i>Crawler is turning heads</i> , The Beacon Herald at A2 (Jan. 30, 2014)
2068	C. Elmore, <i>Innovative Uses of Horsepower – A real crapshoot</i> , Diesel Progress North American Edition (Dec. 2014)
2069	D. Rankin, <i>Nuhn Industries celebrates employees at expansion grand opening</i> , 100th lagoon crawler unveiling, St. Marys Independent (Aug. 7, 2015)
2070	B. Reid, <i>Agitator has reclaimed manure lagoons around the world</i> , Ontario Farmer (Aug. 18, 2015)
2071	L. Cudworth, <i>Nuhn marks major milestone</i> , The London Free Press (Aug. 11, 2015)

2072	L. Cudworth, <i>Marking a major milestone</i> , The Stratford Beacon Herald (Aug. 7, 2015)
2073	J. Algie, <i>Made-in-Sebringville lagoon crawler to be featured on Discovery Channel</i> , 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)
2078 (Under Seal)	Nuhn Invoice to Eldon C. Stutsman, Inc. (Sept. 28, 2020)
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 in Support of Patent Owner Response
2084	US20100144220A1 ("Bailey")
2085	Proposed Protective Order
2086	Markup Protective Order
2087	Curriculum Vitae of Douglas S. Prairie and Case List – updated April 2, 2024
2088	Redline of the Amended Proposed Protective Order
2089	Amended Proposed Protective Order
2090	Intentionally omitted
2091	Dredge Yard Auger Dredger ECO200-A8-brochure
2092	Hydraulic Dredgers – Dredge Brokers LLC
2093-2098	Intentionally omitted
2099	Expert Douglas Prairie Declaration Regarding Motion to Amend
2100	US 5,267,830 to Wickoren
2101	US 8,944,758 to Nuhn

I. INTRODUCTION

Petitioner continues its trend of overstating what is in the record and advocates an unreasonably skeptical view of Nuhn's evidence.

It is undisputed that the prior art does not teach or suggest the apparatus recited in Nuhn's patent claims – an amphibious manure pumping vehicle with a powered ground engaging propulsion structure, a liquid manure pump, and wireless remote control. It is also undisputed that Nuhn's invention created an entirely new category of manure agitation equipment.¹ Bazooka attempts to overcome deficiencies in the prior art by using overgeneralizations to read the claims on other types of equipment designed for different applications from fire-fighting (Carrier) to dredging (Truxor and SenwaTec). Namely, Petitioner argues:

1. Liquid manure has the same consistency and pumping characteristics as water;²
2. Humans are animals so human waste is the same as animal manure;³
3. Municipal wastewater ponds are the same as manure lagoons;⁴

¹ EX2029, ¶¶23-29.

² Paper 41, 1.

³ Paper 41, 25.

⁴ *Id.*

4. All water pumps for firefighting are capable of pumping liquid manure;⁵ and

5. All dredge pumps are capable of pumping liquid manure.⁶

But these overgeneralizations, which have been interjected by Petitioner's expert, are contrary to the intrinsic and extrinsic record.

Carrying on this theme, Bazooka now overgeneralizes that all irrigation pumps are capable of pumping liquid manure.⁷ But none of the prior art references found in Grounds 1-5 have "irrigation pumps" so this argument leads us no closer to proof that the references before the Board invalidate Nuhn's claims.

Petitioner also appears to argue that Nuhn's evidence of nonobviousness is limited to just an inventor declaration. This is simply incorrect. Nuhn has submitted sales data [EX2055 – EX2059], licensing communications [EX2075], awards and publications praising the invention [EX2060 – EX2074] and [EX2080], expert testimony [EX2029], and prior art descriptions of long felt need [EX1014], all of which corroborate the inventor's declaration testimony.

⁵ Paper 41, 9.

⁶ Paper 41, 22.

⁷ Paper 41, 2.

Ground 6 is meritless because there have never been any errors in the ‘425 Patent’s priority information and the Patent Office granted Nuhn’s Petition for an unintentionally delayed priority claim in the ‘638 Patent (the patent containing the clerical error in the listed priority dates).⁸

II. FUNDAMENTAL QUESTIONS AT ISSUE IN THIS IPR

There are several fundamental questions the Board must consider:

(1) 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.⁹

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

A liquid manure pump must be capable of performing and surviving in liquid manure pumping applications.¹⁰ Petitioner has not carried its burden of showing that the prior art satisfies the liquid manure pump limitation of claim 1 – namely that the prior art pumps could handle the large solids, non-Newtonian behavior, and corrosivity of liquid manure.

There is no bright-line structure or specification for liquid manure pumps, so a POSITA would look for the following pieces of evidence to understand if a pump is a liquid manure pump:

⁸ Paper 12, 36.

⁹ EX1004, ¶120; EX1112, ¶125; EX2029, ¶¶90-92, 141; EX2033, 2.

¹⁰ EX2029, ¶¶96-112. EX2099, ¶¶96-109.

- (i) Was the pump designed to pump liquid manure?
- (ii) Has the pump been advertised and sold as a liquid manure pump?
- (iii) Has the pump been tested and validated in manure pumping applications?
- (iv) Does the pump have structure that would become clogged and/or damaged by pumping liquid manure?
- (v) Does the pump have substantially the same structure as the example provided in the '425 Patent?¹¹

Bazooka has not presented any evidence of this, instead arguing that water pumps and manure pumps are synonymous and that manure has the same pumping characteristics as water.¹² Those arguments overlook fundamental differences between liquid manure (highly corrosive and a non-Newtonian fluid) and water (not corrosive and a Newtonian fluid).¹³

(3) 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”¹⁴ and Truxor/SenwaTec are vehicles with

¹¹ EX2099, ¶¶98-99.

¹² Paper 41, 1.

¹³ EX1004, ¶120; EX1112, ¶125; EX2029, ¶¶90-92, 141; EX2033, 2.

¹⁴ EX1005, Fig. 1, ¶61.

optional dredge pumps.¹⁵ There is zero evidence that Carrier's water pumps could pump liquid manure (a highly corrosive non-Newtonian fluid)¹⁶ and survive in that application. While Petitioner cites publications discussing the use of dredging equipment in manure lagoons, there is no evidence that the Truxor and SenwaTec pumps are comparable to the dredging equipment used in manure lagoons and could perform or survive in highly corrosive manure lagoon environments.

(4) Would a POSITA have modified Truxor, SenwaTec, and Puck to arrive at Nuhn's invention?

Melinikov [EX1025] shows that POSITAs recognized the challenges in converting Truxor's manned vehicle to wireless remote control and chose a different direction to avoid implementation obstacles.¹⁷ The record also shows that prior to Nuhn's invention, powered wheels had never been added to agitation boats like Puck.¹⁸ In fact, the record shows that the industry was skeptical of doing so prior to Nuhn's invention.¹⁹

¹⁵ EX1006, 10; EX1012, 2.

¹⁶ EX1004, ¶120; EX1112, ¶125; EX2029, ¶¶90-92, 141; EX2033, 2.

¹⁷ EX2029, ¶¶209-213.

¹⁸ EX2029, ¶¶23-29.

¹⁹ EX2083, ¶¶52-59.

III. LEVEL OF ORDINARY SKILL

Petitioner’s argument that emphasis should be placed on formal engineering degrees over industry experience is unsupported and contrary to the record. Nuhn’s invention serves a niche farming industry. Petitioner’s “industry experts” tout their years of experience in manure handling – not engineering degrees.²⁰ A POSITA is most properly defined as “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.”²¹

Petitioner’s suggestion that Nuhn’s expert is not a POSITA under its definition is spurious, overlooking his engineering degrees, university teaching experience, and job experience, which includes designing trash pumps.²² Nuhn’s expert is qualified as a POSITA under both parties’ definitions.

IV. CLAIM INTERPRETATION

A. “Liquid Manure”

Both experts agree that liquid manure is corrosive and behaves as a non-Newtonian fluid when pumped.²³ The experts disagree over the use of percent

²⁰ EX1114, ¶¶2-5; EX1115, ¶¶2-6.

²¹ EX2029, ¶63.

²² EX2029, ¶¶3-12.

²³ EX1004, ¶120; EX1112, ¶125; EX2029, ¶¶90-92, 141; EX2033, 2.

total solids (%TS) to define liquid manure and for good reason.²⁴ Petitioner's expert attempts to limit "liquid manure" to subcategorizations found in extrinsic evidence.²⁵ These subcategorizations should not be read into the '425 Patent. The '425 Patent uses the term "liquid manure" broadly to refer to contents of manure lagoons, which includes the floating crust and broken up crust.²⁶ Nuhn's expert explains that %TS is a misleading metric when considering pumping requirements because it fails to account for the size and characteristics of the solid material – you can have low %TS but large chunks of solids that will still clog a pump.²⁷

Petitioner overstates the testimony of Sundstrom, saying that lagoons with crust are the exception.²⁸ Sundstrom said that of the thousands of lagoons he has agitated "about 50 percent or so, did not contain crust"²⁹ – meaning that the other half had crust – hardly an "exception" that could be overlooked when designing a piece of manure lagoon agitation equipment. A POSITA would not consider a pump to be a liquid manure pump if it would fail half the time.

²⁴ EX2029, ¶¶68-77.

²⁵ EX1062.

²⁶ EX1001, 1:28-29.

²⁷ EX2029, ¶¶78-86.

²⁸ Paper 41, 7.

²⁹ EX1115, ¶6.

B. “A Fluid Pump For Pumping Liquid Manure”

Petitioner’s intended use argument lacks merit and has been rejected by Board, which found in its institution decision, that at a minimum, the liquid manure pump limitation required a pump capable of pumping fluid with suspended solids.³⁰ But it is not enough for the pump to simply have “structure that is capable of pumping liquid with suspended solids” because this overlooks that fact that liquid manure is a highly corrosive non-Newtonian fluid. The pump must withstand the corrosiveness and shear properties of the fluid being pumped through it. Petitioner’s own expert acknowledges that studies report that “several millimeters of material could be lost from a metallic plate in a year’s time” when placed in a manure lagoon and “describe some metal samples losing the entirety of their metal mass in less than 30 months of exposure to the lagoon surface.”³¹ Petitioner does not address this issue at all when asserting that the liquid manure pump limitation simply requires a “high volume water pump for pumping water from lakes and streams.”³²

³⁰ Paper 12, 12.

³¹ EX1004, ¶120; EX1055, 5; EX1056; 8.

³² Paper 41, 5.

D. “Fluid Mover”

Petitioner does not dispute Nuhn’s position that “fluid mover” is a 112(f) claim term,³³ but Petitioner incorrectly states that the function of the “fluid mover” is “to move fluid,”³⁴ as opposed to the function recited in claims 7 and 19 of controlling “at least one of speed and direction of the vehicle when the vehicle is floating.” The ‘425 Patent specification explains that “[c]ooperation between the valves 15 and the plurality of fluid nozzles ... to provide directional control and motive power for the vehicle while floating.”³⁵ A POSITA would therefore identify the “valves and fluid nozzles” as the structure described in the specification for function recited in claims 7 and 19.³⁶

The structure Petitioner identifies (a “pump, conduit, and nozzle”) cannot be correct because two of these three structures (the “pump” and “conduit”) are already present in Claims 1 and 2. Petitioner’s construction would therefore make dependent Claims 7 and 19 duplicative.

³³ Paper 41, 8.

³⁴ Paper 41, 8; EX1112, ¶50.

³⁵ EX1001, 5:63 – 6:8.

³⁶ EX2029, ¶115.

V. GROUND 1: CLAIMS 1-21 ARE NOT ANTICIPATED BY CARRIER

A. Claim 1: Carrier Fails to Teach “A Fluid Pump For Pumping Liquid Manure”

Petitioner admits it relies on inherency, but inherent anticipation does not give Petitioner license to read a limitation out of the claims. A POSITA would not have considered Carrier’s firefighting water pumps to be liquid manure pumps. There is no evidence that Carrier’s water pumps: (1) were designed to pump liquid manure; (2) were advertised and sold as liquid manure pumps; (3) were tested and validated in manure pumping applications; or (4) have substantially the same structure as the example provided in the ‘425 Patent. Carrier’s pumping system also has structure (a screen) that would become clogged if Carrier were used to pump liquid manure.

Petitioner relies on an overgeneralization that any “high volume water pump” is capable of pumping liquid manure based on the incorrect premise that “liquid manure” in ‘425 Patent claims refers to “water and animal waste mixtures [that] have solid content of less than 5%.”³⁷ But Petitioner’s reliance on delineated ranges of percent total solids (%TS) is flawed because it is based on extrinsic evidence and fails to account to the size and nature (e.g., hardness, shear

³⁷ Paper 41, 10.

behavior, etc.) of the solids.³⁸ It is undisputed that Carrier’s water pumps are small closed units (i.e., no open or semi-open impeller), are mounted high up on the top side of the vehicle, and are designed to pump water from a lake or stream.³⁹ It is also undisputed that Carrier discloses that its pumping system has a screen.⁴⁰ A POSITA would have recognized that this screen would become clogged in liquid manure pumping applications.⁴¹

Petitioner also overlooks the highly corrosive nature of liquid manure – a fact on which both experts agree.⁴² There is zero evidence that Carrier’s water pumps and constituent components (e.g., impellers, diaphragms, pistons, seals, bushings, and bearings) could withstand the corrosiveness of liquid manure. Petitioner therefore fails to satisfy its burden.

B. Claims 7 and 19

It is not enough for the prior art to simply disclose the 112(f) structure. It must also disclose the identified structure performs the same function. Here it does not. Petitioner improperly attempts to read the function of controlling “at least one of speed and direction of the vehicle when the vehicle is floating” out of Claims 7

³⁸ EX2029, ¶¶78-86.

³⁹ EX1005, Fig. 1, ¶61.

⁴⁰ EX1005, ¶63.

⁴¹ EX2029, ¶149.

⁴² EX1004, ¶120; EX2029, ¶¶141.

and 19 by arguing that the claimed function is simply “moving fluid,”⁴³ but that argument incorrectly focuses on the name of the 112(f) element (i.e., the “nonce” word) as opposed to the functional language recited in Claims 7 and 19.

Carrier does not disclose “valves and nozzles” for controlling the speed and/or direction of the vehicle when floating. Even if Petitioner’s 112(f) structure is adopted, Carrier teaches that the “pump, conduit, and nozzle” are used for firefighting – not for controlling the speed and/or direction of the vehicle when floating as required by Claims 7 and 19. No POSITA would understand Carrier to teach using the vehicle’s optional water cannon to control the speed and direction of the vehicle while floating.⁴⁴ Nothing in Carrier suggests this and there is no evidence that Carrier’s water cannon provides a sufficient thrust to drag ratio to control speed and direction of the floating vehicle.⁴⁵

C. Claims 8-11 and 20-21

Claims 8, 10, and 20 all require “a plurality of fluid nozzles” and Claims 9, 11, and 21 state that “the wireless remote control is configured to control the plurality of fluid nozzles to control the at least one of speed and direction of the vehicle when the vehicle is floating.” A POSITA would not equate the single water cannon disclosed in Carrier with “a plurality of nozzles” configured to

⁴³ Paper 41, 8, EX1112, ¶¶139, 188.

⁴⁴ EX2029, ¶¶157-165.

⁴⁵ EX2029, ¶158.

“control the at least one of speed and direction of the vehicle when the vehicle is floating” as claimed in the ‘425 Patent.⁴⁶

D. Claims 12-21

Petitioner attempts to use its expert to re-write Claim 12 to only require “a mechanical drive shaft” as opposed to a “mechanical drive” for the fluid pump.⁴⁷ This of course opens the door for Petitioner to argue that hydraulically driven pumps have a mechanical drive. But Petitioner’s argument is contrary to the ‘425 Patent specification, which explains that the “power source may be connected to the fluid pump hydraulically, electrically, or via a mechanical drive” and that the “mechanical drive may comprise a gearbox.”⁴⁸ Based on this disclosure, a POSITA would understand the “mechanical drive” recited in Claim 12 to be an alternative to a hydraulic drive system coupling the power source and fluid pump. Petitioner argues that Carrier’s hydrostatic PTO has “a mechanical driveshaft,” but as the name implies, a hydrostatic drive is a hydraulic drive system – not a mechanical drive as Claim 12 requires.⁴⁹

⁴⁶ EX2029, ¶158.

⁴⁷ Paper 41, 11; EX1112, ¶¶93-97.

⁴⁸ EX1001, 2:54-64.

⁴⁹ EX2029, ¶¶171-173.

VI. CLAIMS 1-21 ARE NON-OBVIOUS (GROUNDS 2-5)

A. SECONDARY CONSIDERATIONS WEIGH STRONGLY AGAINST OBVIOUSNESS

i. Nexus

Petitioner argues that nexus is lacking because the ‘835 Patent claims recite “other features,” that are unclaimed in the ‘425 Patent to reach the conclusion that the ‘425 Patent claims must not be coextensive with Nuhn’s product.⁵⁰ 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. It is easy to see in a side-by-side comparison that the claims of the ‘425 Patent and the ‘835 Patent are very similar across both patents and cover the same commercial product – Nuhn’s Lagoon Crawler.⁵¹ The “other features” in the ‘835 Patent claims that Petitioner’s expert identifies – a fluid pump and a plurality of nozzles providing directional control and motive power⁵² – are in fact present in the ‘425 Patent claims (*see, e.g.*, Claims 1, 7-11 and 19-21) – the only difference is the level of specificity recited in the claims. These small differences do not destroy the nexus between Nuhn’s secondary consideration evidence and the claims of the ‘425 Patent.

⁵⁰ Paper 41, 12.

⁵¹ IPR2024-00004, EX2094, ¶37.

⁵² EX1112, ¶261.

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

Petitioner's other criticism, that Nuhn's sales data is deficient because it only reports units and revenue, without profit, has no legal support. The case petitioner cites, *Cisco Sys., Inc v. Centripetal Networks, Inc.*, IPR2018-01444, Paper 32, 2020 Pat. App. LEXIS 12843, *52 (PTAB Feb. 11, 2020), commented on evidence that failed to state how much revenue was received from three sales. Nuhn's sales reports, which list hundreds of itemize sales, is competent evidence of commercial success. *See Chemours Co. FC, LLC v. Daikin Indus.*, 4 F.4th 1370, 1378 (Fed. Cir. 2021) (*quoting J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) ("When a patentee can demonstrate commercial success, usually shown by significant sales in a relevant market, and that the successful product is the invention disclosed and claimed in the patent, it is presumed that the commercial success is due to the patented invention.")).

Petitioner argues that Ian Nuhn’s statements about market share should not be believed, but those statements remain unrebutted. Significantly, Petitioner submitted a declaration [EX1114] made by the owner of Puck Enterprises. Surely Puck would have pointed out any inaccuracies in Ian Nuhn’s statements about how Nuhn’s Lagoon Crawler quickly eclipsed Puck as the market share leader. Puck’s silence is telling.

Petitioner’s arguments that commercial success is attributed to marketing and aesthetics overlooks overwhelming evidence of the Lagoon Crawler’s superior maneuverability and lagoon agitation performance and Nuhn’s minimal advertising expenditures.⁵³ 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 empathizes how it “impresses farmers with its ability maneuver within the lagoons, agitate solids from the bottom surfaces.”⁵⁴ In the Discovery Channel segment featuring Nuhn’s Lagoon Crawler, a customer stated that with

⁵³ EX2083, ¶¶17-20, 28-32.

⁵⁴ EX2083, ¶40; EX2061.

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.”⁵⁵ That record clearly shows that customers purchase Nuhn’s Lagoon Crawler for its maneuverability and manure agitation performance – not its looks.⁵⁶

iii. Long Felt Need

Petitioner’s argument that floating agitation boats already fulfilled the industry’s long-felt need overlooks the unrebutted fact that Nuhn’s Lagoon Crawler quickly overtook Puck as the market share leader⁵⁷ and undisputed problems with floating agitation boats, including that: (1) they require more time and effort to launch and retrieve; (2) they get stuck (“beached”) on sandbars and in the shallows and muck of manure lagoons and cannot chew through thick surface crust; and (3) there were problems controlling manure agitation boats, as many required guidewires to control and those that didn’t experienced issues (e.g., Puck’s boat sprayed the crowd at a demonstration).⁵⁸

⁵⁵ EX2083, ¶¶49; EX2080.

⁵⁶ EX2083, ¶¶37, 39, 40, 49, 50; EX2061; EX2067; EX2074; EX2080.

⁵⁷ EX2083, ¶¶11-15, 17-20, 27; EX2083, ¶37; EX2067 (“[s]ome people have tried mounting pumps on boats” but “there’s nothing else like the crawler on the market.”)

⁵⁸ EX2029, ¶¶89, 507-509; EX2083, ¶¶11-15, 17-20.

iv. Copying

Petitioner's statement that the only evidence Nuhn provides of copying is from a discussion with a Stutsman's mechanic is incorrect.⁵⁹ Petitioner overlooks evidence showing access [EX2076-2078 – Stutsman's invoices], the comparison made by Nuhn's expert,⁶⁰ and the evolution of Bazooka's Wolverine into a copy-cat product, which is documented in Bazooka's patent filings [EX2048-2050].⁶¹ Bazooka'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 '425 Patent claims.

v. Skepticism and 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.⁶² 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.⁶³

⁵⁹ Paper 41, 20.

⁶⁰ EX2029, ¶¶514-532.

⁶¹ EX2029, ¶¶527-531.

⁶² Paper 41, 17.

⁶³ EX2083, ¶¶52-59.

Petitioner’s argument that Nuhn’s “unexpected results” arguments are “unsupported” overlooks the declaration of Ian Nuhn, the declarations of Nuhn’s expert, and videos depicting these new results – showing the Lagoon Crawler chewing through the thick crust of manure lagoons to create a “pocket” and start a “working zone.”⁶⁴

Petitioner is also wrong that a POSITA would have expected this result because “amphibious vehicles are heavy enough to break through crust.”⁶⁵ To the contrary – the prior art emphasizes the light-weight, low-ground pressure characteristics of vehicles like Carrier, Truxor, and SenwaTec, which are designed to leave little disturbance when traversing sensitive marsh lands.⁶⁶ This is the opposite of what Nuhn’s lagoon crawler is designed to do.

vi. Praise

Petitioner’s attempts at discrediting Nuhn’s evidence of industry praise, including a litany of awards and news articles, lack sensibility. Petitioner again

⁶⁴ EX2006, 2; EX2007, 3; EX2029, ¶¶510-513; EX2083, ¶¶29-32;

⁶⁵ Paper 41, 18.

⁶⁶ EX1005, ¶5 (“[prior art vehicles] are often too large, slow moving, or ill-equipped to handle a variety of potential deployment needs in which now require relatively light weight, fast moving, highly mobile, low profile signature vehicles”); EX1006, 2 (“Driven with care and with its minimal ground pressure, damage to river banks and sensitive areas can be minimised making the Truxor ideal for working on golf courses, nature reserves and public parks where larger, heavier machines have difficulty operating”); EX1012, 1 (advertising SenwaTec’s “Low ground pressure”).

attempts to seize on the anecdotal comments in one or two of the articles about bright red paint and knobby tires to distract from the overall theme – Nuhn’s invention was ground-breaking and innovative and created an entirely new product category in the market for manure lagoon agitation equipment.⁶⁷ The revolutionary nature of the product 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 don’t get the same media attention.

vii. 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.⁶⁸

Petitioner makes a misleading argument that this email was really about a different patent family covering Nuhn’s tractor-mounted, PTO-driven manure pumps.⁶⁹ But there is no reference to tractor-mounted pumps in the email. Instead, Puck sought to license Nuhn’s patents for “a new boat”.⁷⁰ Ian Nuhn also

⁶⁷ EX2083, ¶¶34-36 (innovation awards), EX2083, ¶37 (EX2067 – article entitled “Transforming farming”); EX2083, ¶44 (EX2070 – article acclaiming Nuhn’s product launch as “the unveiling of a revolutionary piece of farming technology.”)

⁶⁸ EX2083, ¶¶27, 60-63.

⁶⁹ Paper 41, 19.

⁷⁰ EX2075.

explained in his deposition that “Puck had phone calls with me after [this email] specifically on licensing the Lagoon Crawler.”⁷¹ Nuhn’s testimony remains un rebutted. Again, it is significant that Petitioner submitted a declaration [EX1114] made by the owner of Puck Enterprises. Puck would have pointed out any inaccuracies in Ian Nuhn’s statements if its licensing discussions were about a different patent family. Again, Puck’s silence is telling.

B. GROUND 2 AND 3: CLAIMS 1-7 AND 12-19 ARE NOT OBVIOUS BASED ON TRUXOR/SENWATEC IN VIEW OF YOON OR CARRIER

1. A POSITA Would Not Have Combined These References With a Reasonable Expectation of Success

Petitioner incorrectly states that Nuhn does not challenge the motivation to combine Truxor/SenwaTec with Yoon or Carrier to arrive at the claimed invention.⁷² As Nuhn has pointed out, Petitioner’s argument hinges on the false premise that a POSITA would have found it obvious to:

- (1) put the Truxor/SenwaTec vehicle in an environment (manure lagoons) and application (manure lagoon agitation) that they were not designed for and have never been used in – either before Nuhn’s patent or since; and
- (2) modify the Truxor/SenwaTec vehicle to arrive at Nuhn’s invention.⁷³

⁷¹ EX1108, 250:18-253:9.

⁷² Paper 41, 1.

⁷³ EX2029, ¶¶195-214, 253-268.

The evidence does not support either premise. It is undisputed that the Truxor and SenwaTec vehicles were designed and advertised as amphibious vehicles for clearing weeds and dredging sediment from shallow lakes, ponds, and streams.⁷⁴ There is no evidence that the Truxor vehicle was used outside of this application. The evidence Petitioner cites for SenwaTec [EX1013] only shows use in municipal wastewater ponds – not highly corrosive manure lagoons. Nor has petitioner rebutted Nuhn’s evidence that the Truxor/SenwaTec vehicles required close proximity observation of the dredge pump by an onboard operator and were prone to instability/rollover, which would have discouraged conversion to remote control operation.⁷⁵

2. Claim 1: Truxor and SenwaTec Do Not Disclose the Liquid Manure Pump Limitation

It is undisputed that the Truxor and SenwaTec references themselves do not teach or suggest that their optional dredge pumps would work in liquid manure. A POSITA would not have considered the dredge pumps in Truxor and SenwaTec to be a liquid manure pump because there is no evidence that the Truxor and SenwaTec dredge pumps: (1) were designed to pump liquid manure; (2) were advertised and sold as liquid manure pumps; (3) were tested

⁷⁴ EX1006, 1; EX1012, 1.

⁷⁵ EX2029, ¶¶195-214, 253-268.

and validated in manure pumping applications; or (4) have substantially the same structure as the example provided in the ‘425 Patent.

Truxor’s Doro Pump is advertised as a “pump . . . for pumping light sediments and volatile sand.”⁷⁶ Petitioner’s evidence regarding SenwaTec’s pumping capabilities also focuses solely on pumping water with suspended solids.⁷⁷ 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. Petitioner attempts to remedy this by relying on an overgeneralization that any “dredge pump” is capable of pumping liquid manure because the art discusses the use of cutterhead dredges to dredge manure lagoons.⁷⁸ But there is no evidence that Truxor and SenwaTec pumps are comparable in size, capacity, or construction to the dredging equipment (cutterhead dredges) used to dredge manure lagoons. So this generalization alone does not carry Petitioner’s burden.

Petitioner also overlooks the highly corrosive nature of liquid manure – a fact on which both experts agree.⁷⁹ A liquid manure pump and its constituent components, must survive (i.e., not be damaged by) the highly corrosive

⁷⁶ EX1007, 123.

⁷⁷ EX1112, ¶169.

⁷⁸ EX1112, ¶116.

⁷⁹ EX1004, ¶120; EX2029, ¶141.

environment of manure lagoons.⁸⁰ There is zero evidence that Truxor’s pumps could withstand the corrosiveness of liquid manure and Petitioner has not demonstrated that the decommissioned municipal wastewater ponds that SenwaTec operated in were highly corrosive. The undisputed fact that on-board human operators drove the SenwaTec vehicle into these ponds in Germany – a country with stringent health and safety requirements, suggests that these decommissioned wastewater ponds were not highly corrosive environments like manure lagoons, as does the un rebutted fact that wastewater ponds are placed at the end of the wastewater treatment process to disinfect the water before it is released back into the environment.⁸¹ Petitioner therefore fails to satisfy its burden in demonstrating that a POSITA would have had an expectation that Truxor and SenwaTec’s dredge pumps could pump liquid manure and survive in that application.

3. Claims 7 and 19

Truxor and SenwaTec do not disclose “valves and nozzles” for controlling the speed and/or direction of the vehicle when floating.⁸² Even if Petitioner’s 112(f) structure is adopted, Truxor and SenwaTec teach that the “pump, conduit, and nozzle” are used for dredging – not for controlling the speed and/or direction of

⁸⁰ EX2099, ¶98.

⁸¹ EX2029, ¶34; EX2022, 7.

⁸² EX2029, ¶¶223, 279.

the vehicle when floating as required by Claims 7 and 19. No POSITA would understand Truxor or SenwaTec to teach using the vehicle's optional dredge pumps to control the speed and direction of the vehicle while floating. Nothing in the references suggests this and there is no evidence that the dredge pumps disclosed in Truxor and SenwaTec would provide a sufficient thrust to drag ratio to control speed and direction of a floating vehicle.⁸³

4. Claims 12-19

Petitioner again attempts to re-write Claim 12 to only require “a mechanical drive shaft” as opposed to a “mechanical drive” for the fluid pump, which opens the door for Petitioners argument that the hydraulically driven pumps in Truxor and SenwaTec have a mechanical drive, when they do not. Petitioner's argument is contrary to the '425 Patent specification, which describes Claim 12's “mechanical drive” as an alternative to hydraulically driven fluid pumps,⁸⁴ like those disclosed in Truxor and SenwaTec.⁸⁵

⁸³ EX2029; ¶¶236, 275.

⁸⁴ EX1001, 2:54-64.

⁸⁵ EX2029, ¶¶226, 282.

**C. GROUND 4-5: CLAIMS 1-21 ARE NOT OBVIOUS BASED
ON PUCK IN VIEW OF BRYHAM OR IN FURTHER VIEW OF
BENNETT-II**

**1. A POSITA Would Not Have Combined 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.⁸⁶ 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.⁸⁷ The opposite is true. It is undisputed that Puck discloses a system where the trailer is designed to remain high and dry when Puck's boat is being launched and retrieved.⁸⁸ 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.⁸⁹ 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

⁸⁶ EX2029, ¶¶311-320.

⁸⁷ EX1004, ¶¶331-340.

⁸⁸ EX2099, ¶¶374-381.

⁸⁹ EX2099, ¶¶374-381.

its unpowered wheels) to corrosive manure lagoon environments.⁹⁰ This is consistent with other record evidence showing that POSITAs did not find it obvious to add ground engaging propulsion structures to manure agitation boats prior to Nuhn's invention and were skeptical of doing so.⁹¹ 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).⁹²

Even setting corrosion aside, a POSITA would have immediately discarded Bryham from consideration due to the instability and tractions problems inherent in its 3-wheeled configuration.⁹³ Petitioner recognizes this weakness, jettisoning its prior position that Bryham's wheels are simply added to Puck, and now argues that Bryham's wheels would be placed at all four corners of the vehicle – an arrangement that is clearly driven by impermissible hindsight.⁹⁴

⁹⁰ EX2099, ¶380.

⁹¹ EX2029, ¶¶23-29; EX2083, ¶¶52-59.

⁹² EX2083, ¶¶52-59.

⁹³ EX2029, ¶¶311-320.

⁹⁴ *Compare* Paper 1, 73-76 to Paper 41, 26-27.

2. Claim 1: The Puck Combinations Would Not Result In “A Power Source Configured to Provide Power to Both the Ground Engaging Propulsion Structure And the Fluid Pump”

Petitioner’s argument that a POSITA would have arrived at the claimed arrangement, where the power source provides power to both the ground engaging propulsion structure and the liquid manure pump, in order to realize better efficiency and cost savings ignores portions of Puck’s disclosure that would have discouraged such an arrangement.⁹⁵ Puck’s hydraulic system uses linear actuators and a hydraulic pump powered by a 12-Volt electrical system.⁹⁶ Unlike linear actuators, hydraulic wheel motors require continuous hydraulic fluid flow so Puck’s hydraulic system would not have been capable of powering hydraulic wheel motors, such as those disclosed in Bryham.

3. Claim 1: Bryham’s Wheels Would Not Use the Same Wireless Remote Control Structure As Puck

Puck’s remote control system is only capable of controlling the power source and valves/linear actuators – not hydraulic wheel motors.⁹⁷ A POSITA would have to modify or replace Puck’s remote-control system to control Bryham’s powered wheels on top of Puck’s other system, which require different control theories. Petitioner’s expert fails to explain how Puck’s wireless remote-

⁹⁵ Paper 41, 28; EX1004, ¶348.

⁹⁶ EX1014, ¶27.

⁹⁷ EX2029, ¶¶300-301.

control system could be modified to control Bryham's wheels and that such a modification would have been routine work for a POSITA.

VII. GROUND 6: CLAIMS 1-21 ARE NOT ANTICIPATED BY LYSENG

The Board already found in the Institution Decision that Ground 6 lacks merit.⁹⁸ The '425 Patent has a priority date of August 19, 2013.⁹⁹ Lyseng has a publication date of August 29, 2013, and is not prior art.¹⁰⁰

Contrary to Petitioner's arguments, there is nothing wrong with priority chain listed in the '425 Patent or its filing paperwork. The clerical error (entering incorrect application filing dates in an ADS) occurred in a different patent (U.S. Pat. No. 10,124,638) than the one being challenged. As the Board already found – this error was corrected by a petition to accept an unintentionally delayed priority claim and a certificate of correction.¹⁰¹

VIII. CONCLUSION

The Board should issue a final written decision upholding the validity of the Challenged Claims.

Dated: September 5, 2024

Respectfully submitted,

By: /James B. Luchsinger/
James B. Luchsinger, Reg. 73,705
HARNESS DICKEY & PIERCE, P.L.C.

⁹⁸ Paper 12, 36.

⁹⁹ EX1001, 2.

¹⁰⁰ EX1019, 1.

¹⁰¹ Paper 12, 36; EX2002, 2.

Case No. IPR2023-01161
U.S. Patent No. 11,358,425

5445 Corporate Drive, Suite 200
Troy, MI 48098
Phone: 248-641-1600
Fax: 248-641-0270
bluchsinger@harnessip.com

Matthew L. Cutler, Reg. No. 43,574
HARNESS DICKY & PIERCE, P.L.C.
7700 Bonhomme Ave., Suite 400
St. Louis, MO 63105
Phone: 314-726-7500
Fax: 314-726-7501
mcutler@harnessip.com

Attorneys for Nuhn Industries Ltd.

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 5,558 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.

Dated: September 5, 2024

Respectfully submitted,

By: /James B. Luchsinger/
James B. Luchsinger, Reg. 73,705
HARNESS DICKY & PIERCE, P.L.C.
5445 Corporate Drive, Suite 200
Troy, MI 48098
Phone: 248-641-1600
Fax: 248-641-0270
bluchsinger@harnessip.com

Matthew L. Cutler, Reg. No. 43,574
HARNESS DICKY & PIERCE, P.L.C.
7700 Bonhomme Ave., Suite 400
St. Louis, MO 63105
Phone: 314-726-7500

Case No. IPR2023-01161
U.S. Patent No. 11,358,425

Fax: 314-726-7501

mcutler@harnessip.com

Attorneys for Nuhn Industries Ltd.

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 5th day of September, 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:

Lead Counsel

Thomas J. Leach
MERCHANT & GOULD P.C.
150 South Fifth Street, Suite 2200
Minneapolis, MN 55402
Phone: 612-336-4665
Fax: 612-332-9081
tleach@merchantgould.com
USPTO Reg. No. 53,188

Back-up Counsel

Robert A. Kalinsky
MERCHANT & GOULD P.C.
150 South Fifth Street, Suite 2200
Minneapolis, MN 55402
Phone: 612-336-4771
Fax: 612-332-9081
rkalinsky@merchantgould.com
USPTO Reg. No. 50,471

Jeffrey D. Blake
MERCHANT & GOULD P.C.
191 Peachtree Street NE, Suite 3800
Atlanta, GA 30303
Phone: 404-954-5040
Fax: 612-332-9081
jblake@merchantgould.com
USPTO Reg. No. 58,884

Michael A. Erbele
(*pro hac vice* forthcoming)
MERCHANT & GOULD P.C.
150 South Fifth Street, Suite 2200
Minneapolis, MN 55402
Phone: 612-336-4670
Fax: 612-332-9081
merbele@merchantgould.com

Case No. IPR2023-01161
U.S. Patent No. 11,358,425

Taylor R. Stemler
MERCHANT & GOULD P.C.
150 South Fifth Street, Suite 2200
Minneapolis, MN 55402
Phone: 612-371-5215
Fax: 612-332-9081
tstemler@merchantgould.com
USPTO Reg. No. 79,777

/James B. Luchsinger/
JAMES B. LUCHSINGER
HARNESS DICKEY & PIERCE, P.L.C.