

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAZOOKA-FARMSTAR, LLC

Petitioner,

- vs. -

NUHN INDUSTRIES LTD.,

Patent Owner.

Case No: IPR2023-01161

U.S. Patent No. 11,358,425

PETITIONER'S SUR-REPLY IN OPPOSITION TO THE MOTION TO AMEND
INTER PARTES REVIEW OF U.S. PATENT NO. 11,358,425

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I. INTRODUCTION

While Nuhn argues that the prior art does not teach “the specific pump location disclosed in the ’425 Patent”—that is irrelevant. Paper 40 at 1. The prior art teaches all the features *recited in the amended claims*.

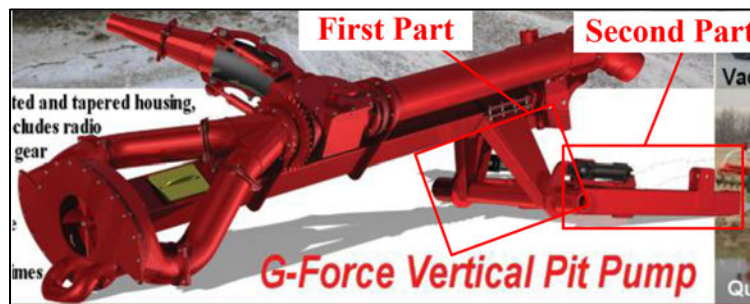
Nuhn asserts that pivoting boom arm pumps do not practice its amended claims. *Id.* But Nuhn’s amended claims do not foreclose a pump on a boom along the underside of the vehicle. Nuhn’s claims do not require a pump mounted to the bottom side of the vehicle, but merely “positioned along the underside.” The claims do not require a “protective perimeter” around the pump. They do not even mention a crust. The ’425 Patent is silent on any “churning action of the wheels” or “working pocket,” nor are these features included in Nuhn’s amended claims. *Id.* at 2.

Nuhn’s expert struggles to justify Nuhn’s incorrect assertions in his supplemental declaration. When Bazooka sought to depose him on these topics, Nuhn refused to produce him. His declaration should therefore be given little (if any) weight. *Donghee Am., Inc. v. Plastic Omnium Advanced Innovation & Rsch.*, No. IPR2017-01633, Paper 27 at 3 (PTAB Aug. 29, 2018) (“should Petitioner refuse to make [its expert] available for deposition in order to allow cross-examination of his reply declaration, we would be inclined to give his reply declaration very little, if any, weight.”). Regardless, positioning a pump along the underside of the vehicle was not new. Nuhn’s attempts to cover any such configuration should be rejected.

II. PUCK, BRYHAM, AND MANURE-MANAGER RENDER OBVIOUS CLAIMS 22-42.

Nuhn does not contest that a POSA would have been motivated to combine Puck, Bryham, and Manure Manager. Nuhn's only arguments focus on the location at which a POSA would have attached the Nuhn Pump to the vehicle. But Nuhn's arguments fail because they incorrectly advocate for positioning the pump in a highly unstable arrangement on the vehicle, ignore Puck's teachings on pump positioning, and rely on Nuhn's groundless and improper assumptions of the size of the Puck vehicle. Paper 40 at 9-12.

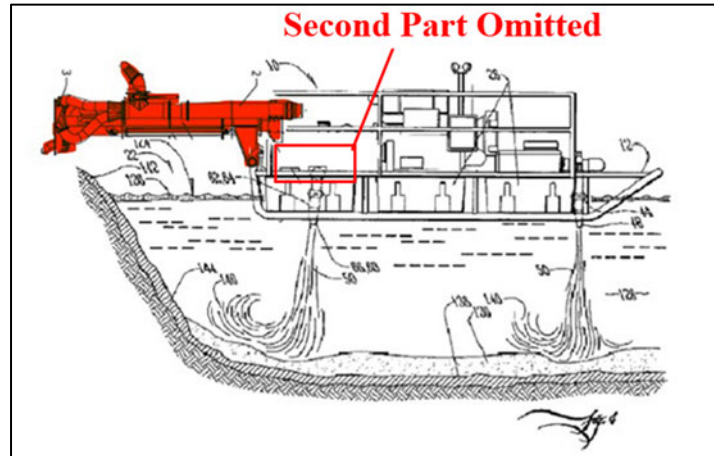
Nuhn asserts that since the Nuhn Pump includes a two-part pivotable frame, the only way to mount it on Puck would be to hang it off the rear of the vehicle. *Id.*



EX1088, 27 (annotated).

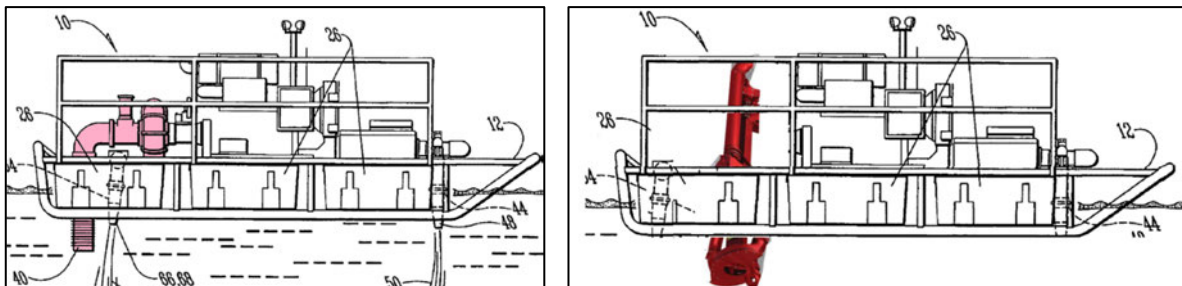
However, Manure Manager does not describe the second part of the frame as a mandatory component of the Nuhn Pump. Nor is pivotability required. Nuhn even omits the second part of the frame in its own figure, as shown below. Just as Nuhn

shows in its figure, a POSA could have easily removed this second part of the frame when attaching the first part of the Nuhn Pump frame to the Puck vehicle.



Paper 40 at 11 (annotated).

When connected to Puck, the pump would be rigidly connected vertically on the vehicle, similar to how Puck describes its pump intake (EX1109, ¶143):



EX1014, FIG. 4; EX1088, 27 (modified and annotated).

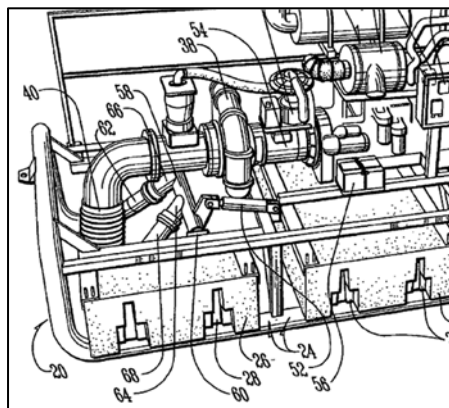
In this same vein, Nuhn's expert suggests that it would be logical to attach the pump's boom arm to the rear of the Puck vehicle body to allow the pump to pivot up and down off the rear of the vehicle. However, Nuhn's expert—who lacks experience in marine vehicle design—wholly overlooks the fact that such an

arrangement significantly shifts the center of gravity of the vehicle to the rear, compromising the vehicle's stability while afloat. EX1109, ¶¶102-104. Indeed, the video Nuhn's expert cites shows that positioning the pump off the end of the vehicle causes it to be weighed down so that manure flows over the vehicle deck.



EX2008, 10:45; *see also* EX2099, ¶176.

A POSA would have understood that the far more logical location for the Nuhn pump would be to extend through the already defined space for the pump intake, as shown below. EX1109, ¶143. Puck even describes the importance of “increase[ing] the stability of the agitator (10)[,]” noting how “the liquid manure intake is positioned between the first liquid manure nozzle and the second liquid manure nozzle.” EX1014, ¶[0041], Claim 19.



EX1014, FIG. 1.

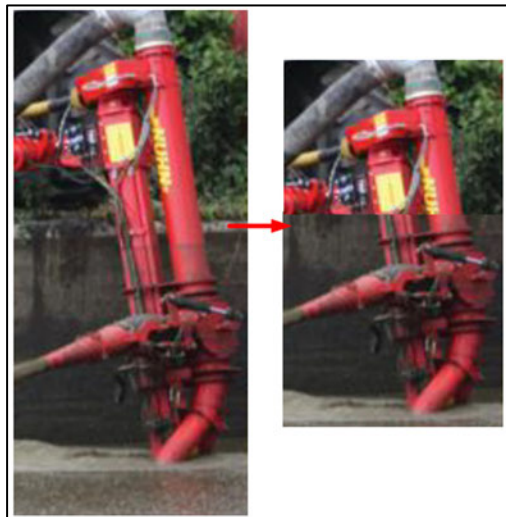
Centrally locating the pump minimizes negative effects of reaction forces and allows the weighty pump to be more stably located over the vehicle hull (EX1109, ¶¶124-126), rather than off the rear of the vehicle, which could cause liquid manure to flow over the deck of the vehicle, possibly causing the vehicle to capsize.

Nuhn's expert argues against using the Nuhn Pump on Puck in this position because "[t]he scale in [the] combination" is off. EX2099, ¶361. But nowhere does Puck say that its drawings are to scale. "Patent figures are not drawn to scale unless otherwise stated." *Intuitive Surgical, Inc. v. P Tech, LLC*, No. IPR2020-00649, Paper 31 at 41 (PTAB Sept. 3, 2021) (rejecting patent owner's arguments on motivation to combine based on relative scale of the figures) (citing *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956 (Fed. Cir. 2000)).

Relying on its expert's assumptions of the Puck vehicle scale and its '758 Patent, Nuhn further asserts that if the PTO input of the Nuhn Pump were aligned with the output of the Puck engine, the Nuhn pump would extend too far below the Puck vehicle. Paper 40 at 12. But merely scaling the Puck vehicle to accommodate the Nuhn Pump would alleviate any such issue. Furthermore, considering the figure cited by Nuhn's expert (EX2099, ¶363) and Manure Manager (EX1088, 27), it is apparent that the purpose of the elongated pump body and extended drive shaft 28 is to permit the pump to extend from an elevated shore surface down to a variable

depth within a reservoir. The '758 Patent recognizes this, noting that the length of the pump body and shaft 28 is adjustable. EX2101, 6:14-16. The extended driveshaft of the Nuhn Pump would be unnecessary when connecting the Nuhn Pump to Puck.

Puck shows the pump intake arranged immediately below the vehicle body, rather than extending to the bottom of the lagoon. *See* EX1014, FIG. 4. Indeed, a POSA would have understood that it would be beneficial to draw from this location, as opposed to pumping the thicker sludge layer from the bottom of the lagoon. EX1112, ¶22; EX1014, ¶¶[0035]-[0036]. Thus, even if the scaling between the Nuhn Pump intake and PTO input did not already match the distance between the pump intake and PTO output of Puck, the distance between the Nuhn Pump intake and PTO input could be readily shortened to accommodate any such discrepancy.



EX1088, 27 (modified).

Finally, even if the Nuhn Pump were used in its elongated form with the PTO connector being positioned above the Puck engine output, belts and chains were known for transmitting power from engine output shafts since the 1940s. EX1116, 6 (noting that PTO driven implements were driven “by a sprocket and chain or a belt from the tractor PTO shaft”). Such power transmissions could be similarly employed to drive an elevated PTO input of the Nuhn Pump from the Puck engine crank shaft while maintaining the intake of the Nuhn Pump at its proper position along the underside of the vehicle body.

Thus, rather than hanging the Nuhn Pump “several feet behind the rear of the floatable vehicle body[,]” as Nuhn incorrectly advocates (EX2099, ¶368), POSAs would have understood that the more natural and stable location for the Nuhn Pump would be to extend through the already-present pump intake opening on the Puck vehicle. EX1109, ¶143. Any pivoting action of the pump would be wholly unnecessary. The Puck vehicle could be scaled, or the Nuhn Pump transmission could be adjusted to accommodate this positioning. Orienting the pump in this more stable location would render obvious claims 22-42.

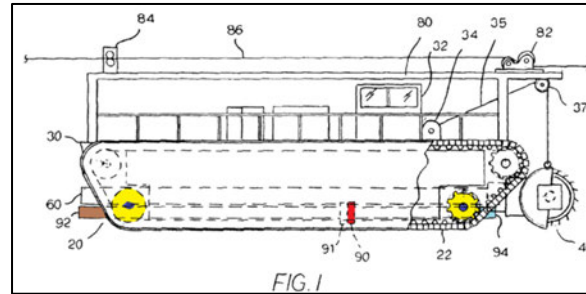
III. CHERAMIE AND YOON OR CARRIER RENDER OBVIOUS CLAIMS 22-25, 27-28, AND 33-40.

As the PTAB acknowledged in the Preliminary Guidance, Cheramie teaches a water pump used for propulsion that is positioned between the front and rear

spindles. Paper 39 at 8. A POSA would have understood that a pump used for propulsion would have included an impeller and a housing. EX1109, ¶62. Nuhn and its expert do not contest this statement.

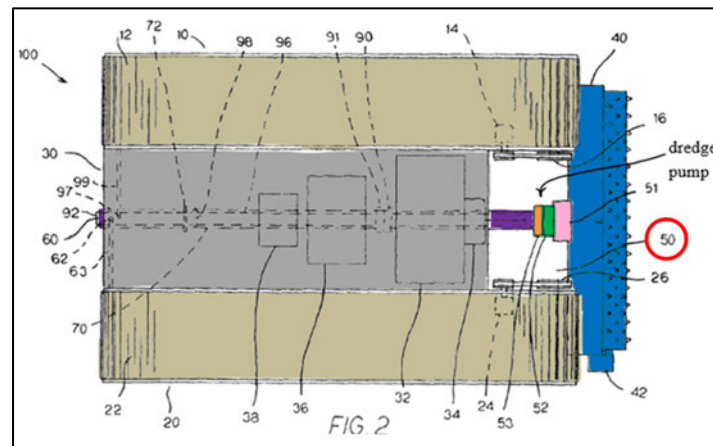
Nuhn's sole argument regarding Cheramie's propulsion pump fails for the same reasons as explained with respect to Carrier in Bazooka's Reply to Nuhn's Patent Owner Response. Paper 41 at 10-11. [REDACTED] Nuhn's own definition of "liquid manure" includes forms of manure having less than five percent total solids. [REDACTED] These dilute forms of manure have long been pumped using impeller-based water pumps. EX1112, ¶40 (citing EX1040, 64) (collecting citations); *see also* EX1029, 1:14-17; EX1114, ¶7; EX1115, ¶15. This is the same type of pump that a POSA would have understood to have been the logical choice for the propulsion pump of Cheramie. EX1109, ¶78. Thus, a POSA would have understood the Cheramie propulsion pump to be a "liquid manure pump," as recited in the substitute claims.

Nuhn and its expert conclude that because the propulsion pump is positioned on a boom arm, it is not "along the underside" of the vehicle. Paper 40 at 6. But the substitute claims do not exclude arm mounted pumps. And the figures show that despite being positioned on the discharge plumbing, the propulsion pump 90 is along the underside of the vehicle. *See* EX1087, FIG. 1. If the Cheramie propulsion pump (red) is not "along the underside" of the vehicle, what would be?



EX1087, FIG. 1 (annotated).

Nuhn and its expert focus on the dredging pump 50—re-labeling the figures and ignoring Cheramie’s text. Paper 40 at 5. Nuhn provides the below figure, labeling the deck as the gray portion and labeling the pump with an arrow and text:



Paper 40 at 5.

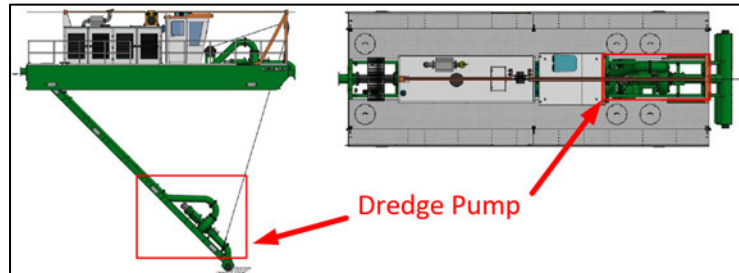
But Cheramie uses reference number 50 to identify the dredge pump (circled in red). The PTAB “must disregard the testimony of an expert that is plainly inconsistent with the record[.]” *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1378 (Fed. Cir. 2017); *see also Ericsson Inc. v. Intellectual Ventures I LLC*, 890 F.3d 1336, 1346 (Fed. Cir. 2018). Reference number 50 does not merely

refer to the combination of the impeller 51 and hydraulic pump 52—rather, it identifies the broader region surrounding these components as the dredge pump 50, which a POSA would understand to include other components, such as a pump housing and passageways for fluid flow. *See, e.g.*, EX1109, ¶¶109-110, 141.

Additionally, Nuhn’s theory that the deck terminates at the front edge of Nuhn’s grayed out region contradicts Cheramie’s text. Cheramie discloses the front-ends of the pontoons 10, 20 “are aligned with the front[-]end portion of the deck 30” and “mounted to the deck 30 is dredge pump 50[.]” EX1087, 4:10-25. Cheramie identifies Nuhn’s “empty space” as a dredge pump 50. Thus, a POSA would have understood that the dredge pump extends rearward of the spindles. EX1109, ¶77.

Nuhn and its expert reference several unrelated third-party publications—none of which are even cited in Cheramie’s prosecution history—in alleging that Cheramie is mislabeled. Paper 40, at 4-6; EX2099, ¶¶191-192. This argument has no basis in the text of Cheramie. These references further support that the Cheramie dredge pump 50 *does* extend rearward of the front wheel spindles. For example, Nuhn’s expert identifies a cutterhead dredge with a pump that is depicted as a large structure extending through the middle of the vehicle in the same region identified as the dredge pump 50 in Cheramie. EX2099, ¶191. This reference also demonstrates the ease at which the pump may be moved along the discharge pipe 60 rearward

from the front of the vehicle, which, as explained previously, would have been beneficial to optimize the center of gravity of the vehicle. *See* Paper 36 at 11-12.



EX2099, ¶191 (annotated).

Nuhn does not contest the motivation to combine Cheramie with Yoon or Carrier. Nor does it provide any further argument regarding claims 23-25, 28, or 33-40. Cheramie renders obvious proposed Claims 22-25, 27-28, and 33-40.

IV. SENWATEC OR TRUXOR AND YOON OR CARRIER RENDER OBVIOUS CLAIMS 22-25, 27-28, AND 33-40.

The Preliminary Guidance acknowledges that Bazooka provided testimony stating that the SenwaTec pump *could be moved* into the claimed position but suggests that Bazooka did not establish that it would have been obvious to do so. Paper 39 at 9. Bazooka’s evidence conclusively shows that others *did in fact move* the pump into the claimed position. Specifically, Eckhard Funck, the operator of the vehicle in the video of EX1081, stated that prior to 2013, he publicly “[m]ov[ed] the crane on which the pump was mounted so that the pump was placed in a position along the bottom of the Amphi-King body and was pumping sewage slurry.” EX1094, ¶33.1. That a POSA would have understood that the SenwaTec pump could

be moved by the crane to such a location (EX1109, ¶97), further corroborates this testimony. A POSA would have understood that when placed in this position, the pump would be rearward of the front of the vehicle body and in between the front wheels. *Id.*; see *ParkerVision, Inc. v. Qualcomm Inc.*, 903 F.3d 1354, 1361 (Fed. Cir. 2018) (noting that an invalidating reference need not do so in all modes of operation).

Furthermore, the Preliminary Guidance faults Bazooka for not identifying any teaching in SenwaTec or Truxor that calls for or suggests the claimed positioning of the pump. However, “use of common sense does not require a ‘specific hint or suggestion in a particular reference,’ only a reasoned explanation that avoids conclusory generalizations.” *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009). As outlined by Bazooka and explained by Bazooka’s expert Dr. Winkel, a POSA would have been motivated to move the pump to a central location on the vehicle based on their understanding that doing so would increase the stability of the vehicle by centrally locating the center of gravity and minimizing the influence of reaction forces generated by the pump. EX1109, ¶¶102-105, ¶¶122-126; see also Paper 36 at 17 and 19-20.

V. CONCLUSION

For at least the reasons stated above, Petitioner asks that the PTAB deny Patent Owner’s motion to amend.

Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. § 42.6(e), that service was made on Counsel for Patent Owner as detailed below.

Date of service:	September 17, 2024
Manner of service:	Electronic mail addressed to: bluchsinger@harnessip.com syackey@harnessip.com mcutler@harnessip.com
Documents served:	Petitioner's Sur-Reply in Opposition to the Motion to Amend <i>Inter Partes</i> Review of U.S. Patent No. 11,358,425
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