

Bazooka-Farmstar, LLC v. Nuhn Industries Ltd.

Case No.: IPR2024-00098

U.S. Patent No. 11,541,708

PETITIONER'S DEMONSTRATIVES

PTAB ORAL ARGUMENT

March 11, 2025



Key Issues



1. Proper construction of "between" is "in intermediate relationship to."
 - Puck, Truxor, and SenwaTec combinations render obvious this arrangement of wheels and buoyant elements.
2. Regardless, Puck, Truxor and SenwaTec combinations render obvious buoyant elements "in the space that separates" the wheels.

Key Issues



3. Truxor and SenwaTec teach "liquid manure pumps."
4. It would be obvious to combine the Nuhn Pump with Truxor and SenwaTec.



Claim Construction: “Between”

- Merriam-Webster defines “between” in two alternative ways. EX3002, 1.
- The intrinsic record requires usage of the broader definition.

between ^{1 of 2} preposition

be-tween bi-'twēn  bē-

[Synonyms of between >](#)

2 a : in the time, space, or interval that separates
the alley *between* the butcher shop and the pharmacy
should arrive *between* 9 and 10 o'clock

b : in intermediate relation to

weighs somewhere *between* a pound and a pound and a half



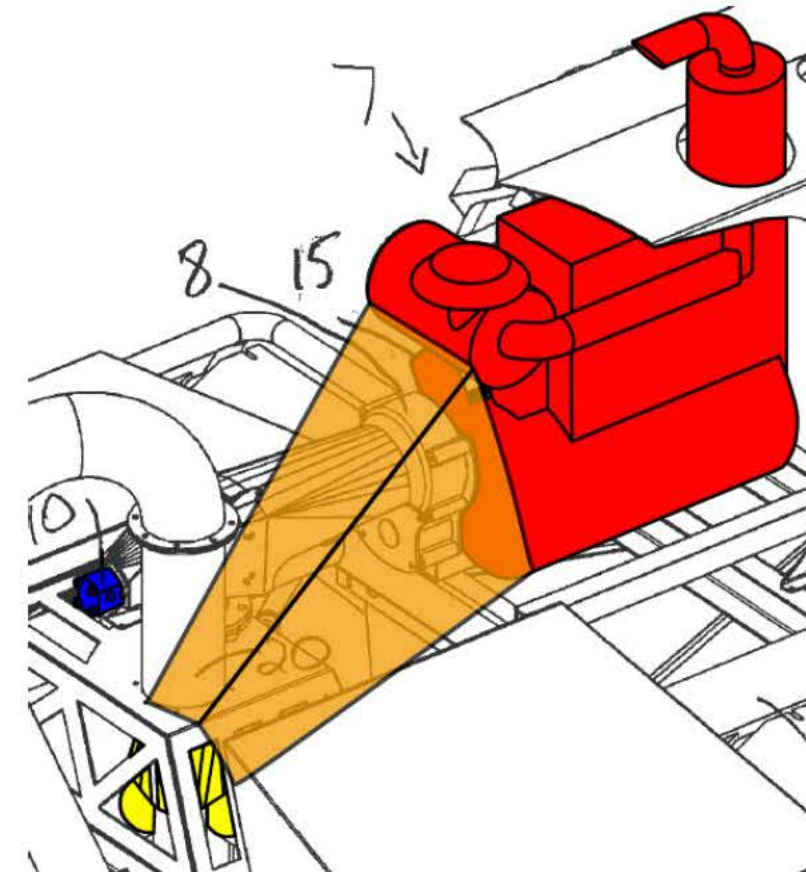
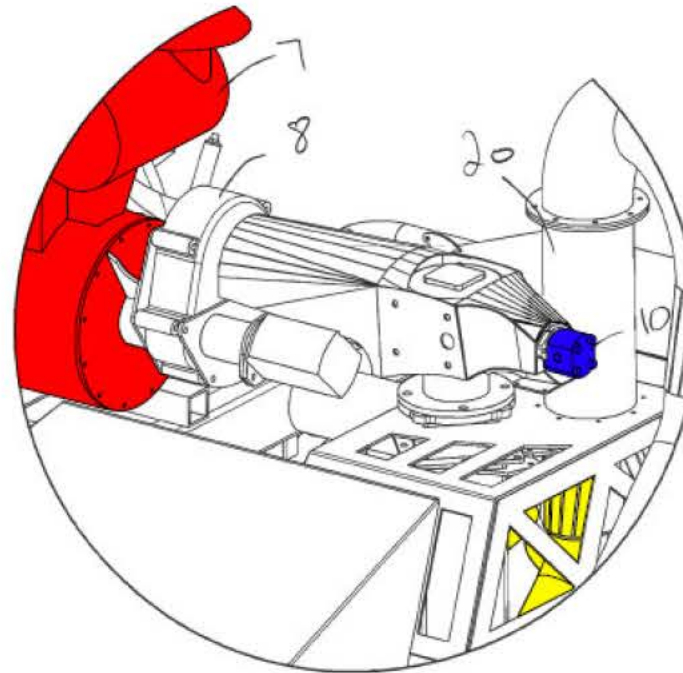
Claim Construction: “Between”

- “Judges are free to . . . rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1322-23 (Fed. Cir. 2005).

Claim Construction: "Between"



- Nuhn's uses "between" to claim arrangements of components that are not "in the space that separates."



IPR2024-00004, Paper 21 at 7-9;
EX2081, FIGS. 2, 7 (annotated);
EX1094, 194:22-195:2;
EX1079, ¶¶41-42.



Claim Construction: "Between"

- Nuhn's expert's understanding of "between" is broader than the Board's definition.

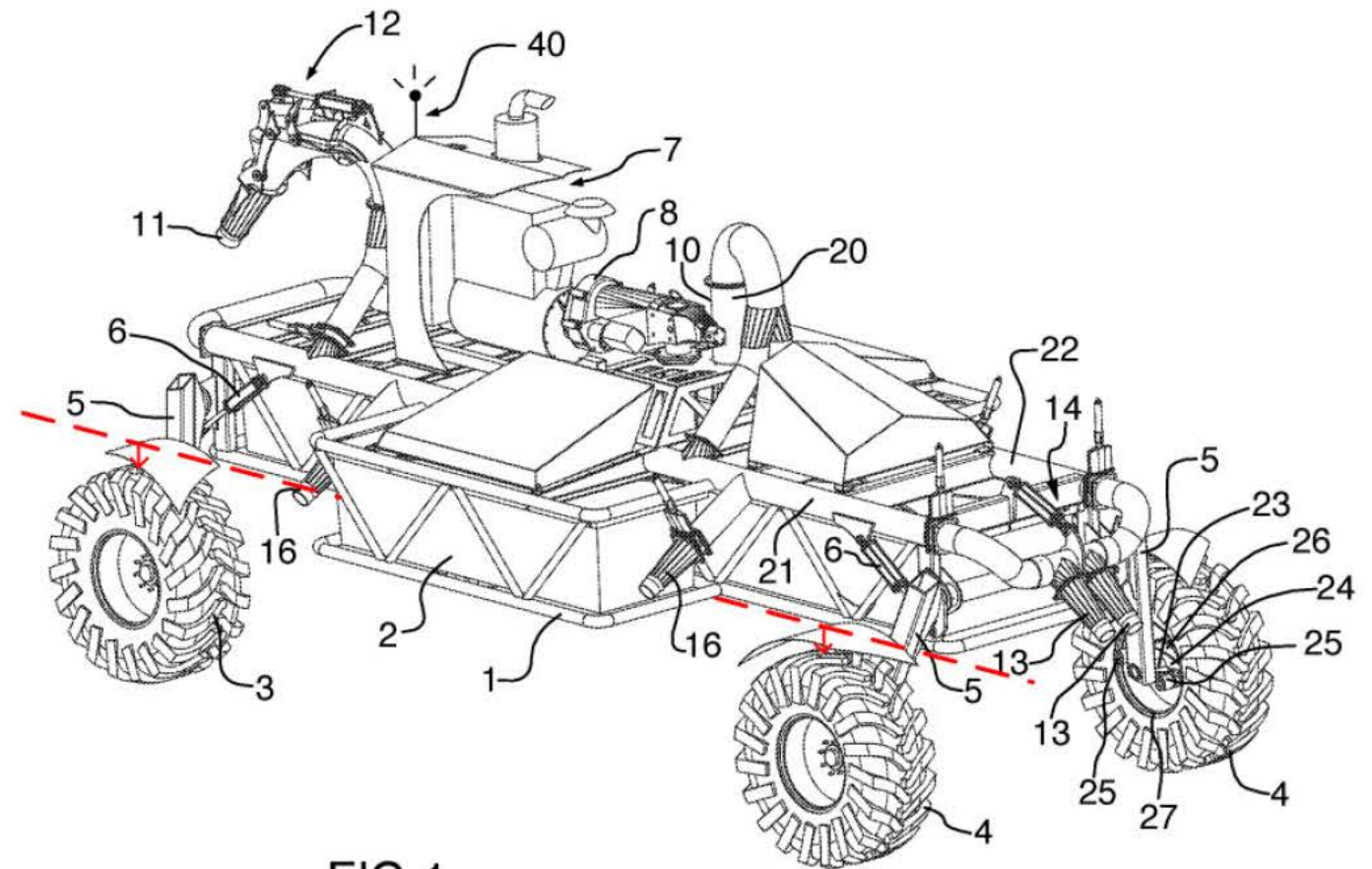


FIG.1

EX1001, FIG. 1 (annotated);
EX1094, 196:25-198:14;
EX1079, ¶44.

Claim Construction: "Between"

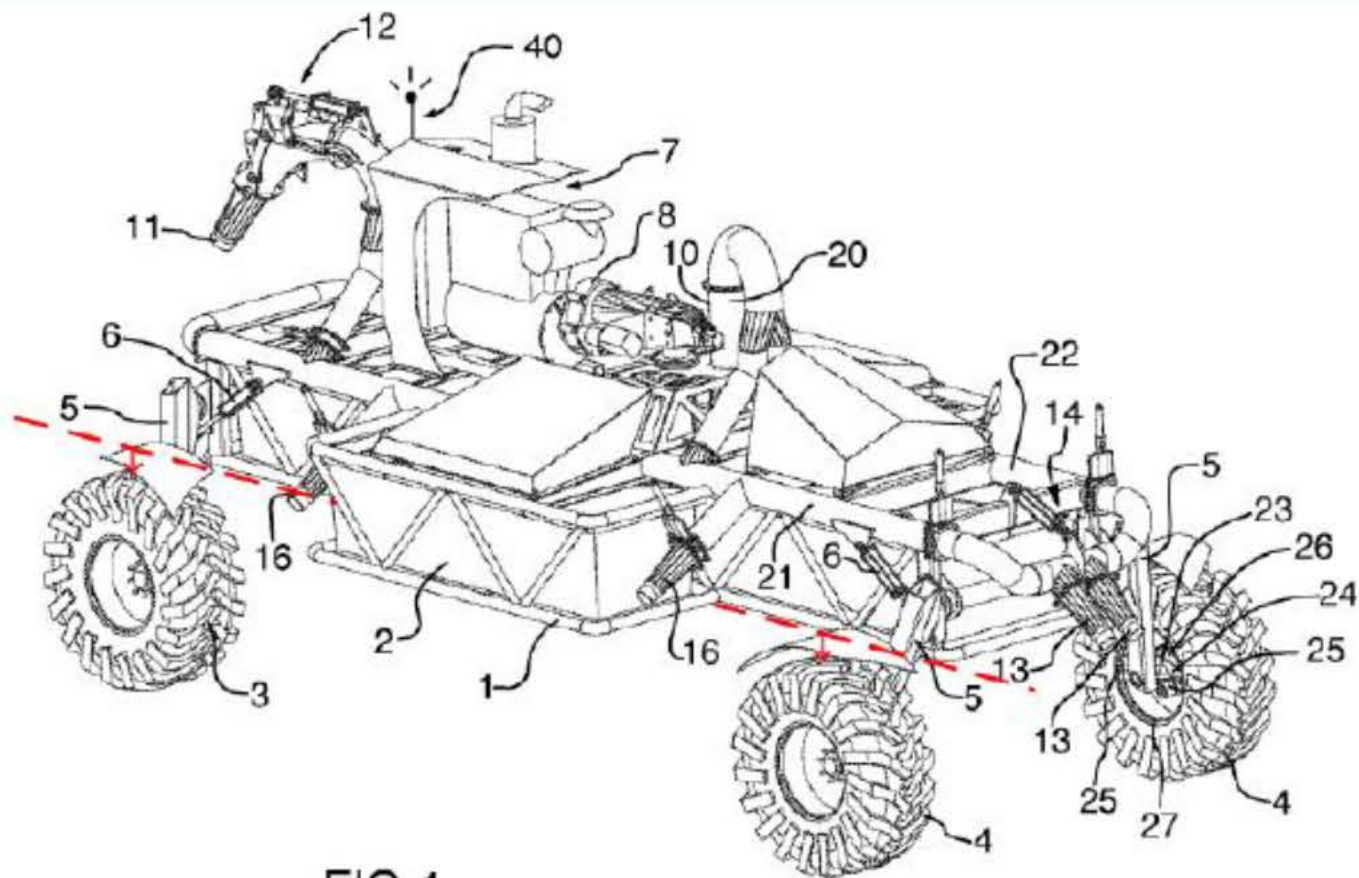


FIG. 1



- Nuhn's commercial embodiment is irrelevant.

EX1094, 196:25-198:14;
EX1001, FIG. 1 (annotated);
EX2036, 1.

Claim Construction: “Between”



- Other intrinsic evidence supports a broader construction.

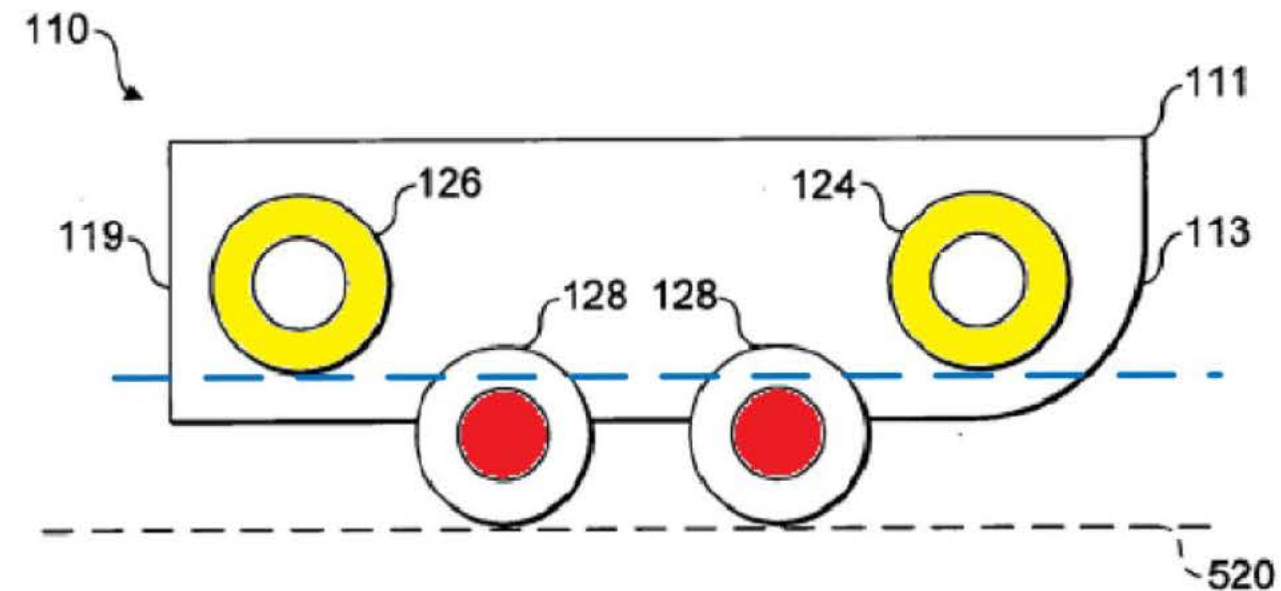


FIG. 6

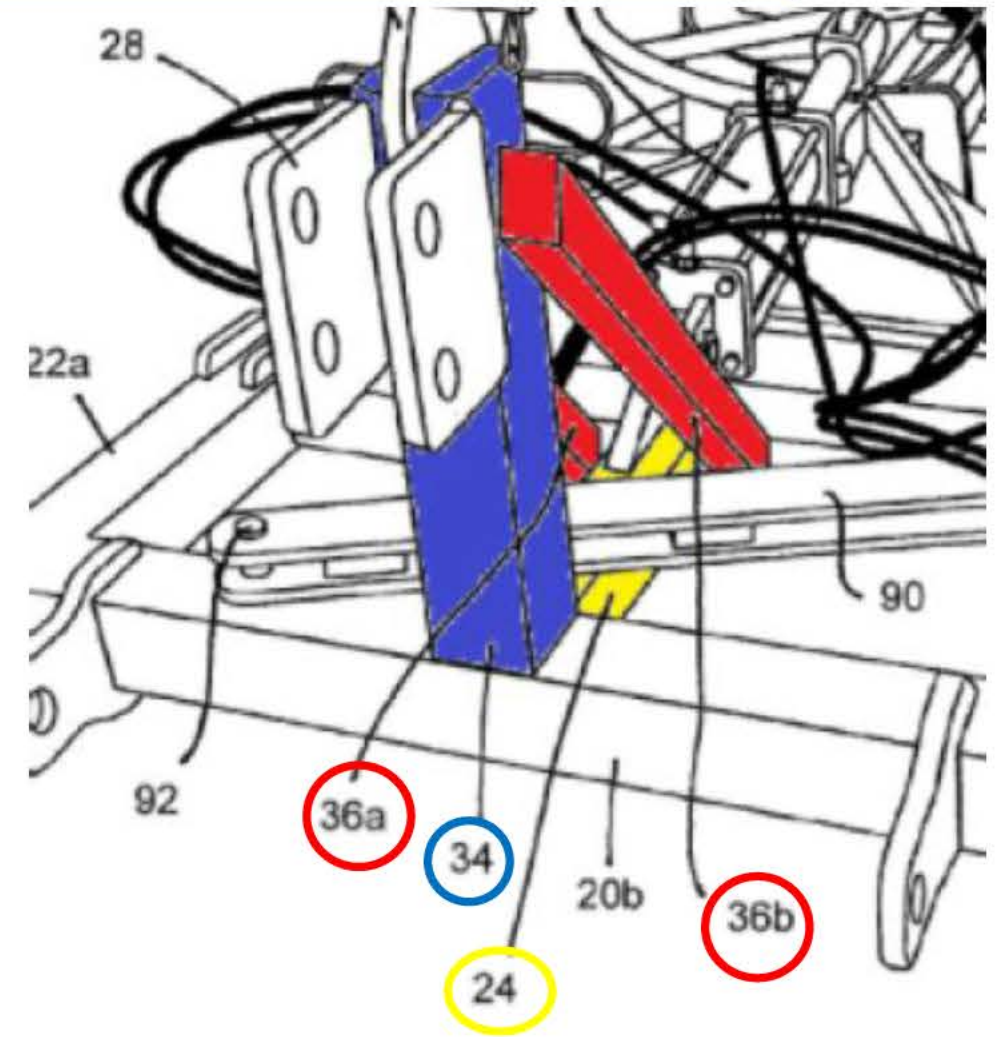
126 (all shown retracted). Two pairs of intermediate axles supporting wheels **128** are located between the front and rear wheels **124**, **126**, each pair of wheels **128** on either side of the vehicle **110** (all shown protracted). All or any of the front and

EX2084, FIG. 6, ¶32 (annotated);
EX1079, ¶¶46-51;
EX1094, 99:7-23.



Claim Construction: “Between”

- Other intrinsic evidence supports a broader construction.



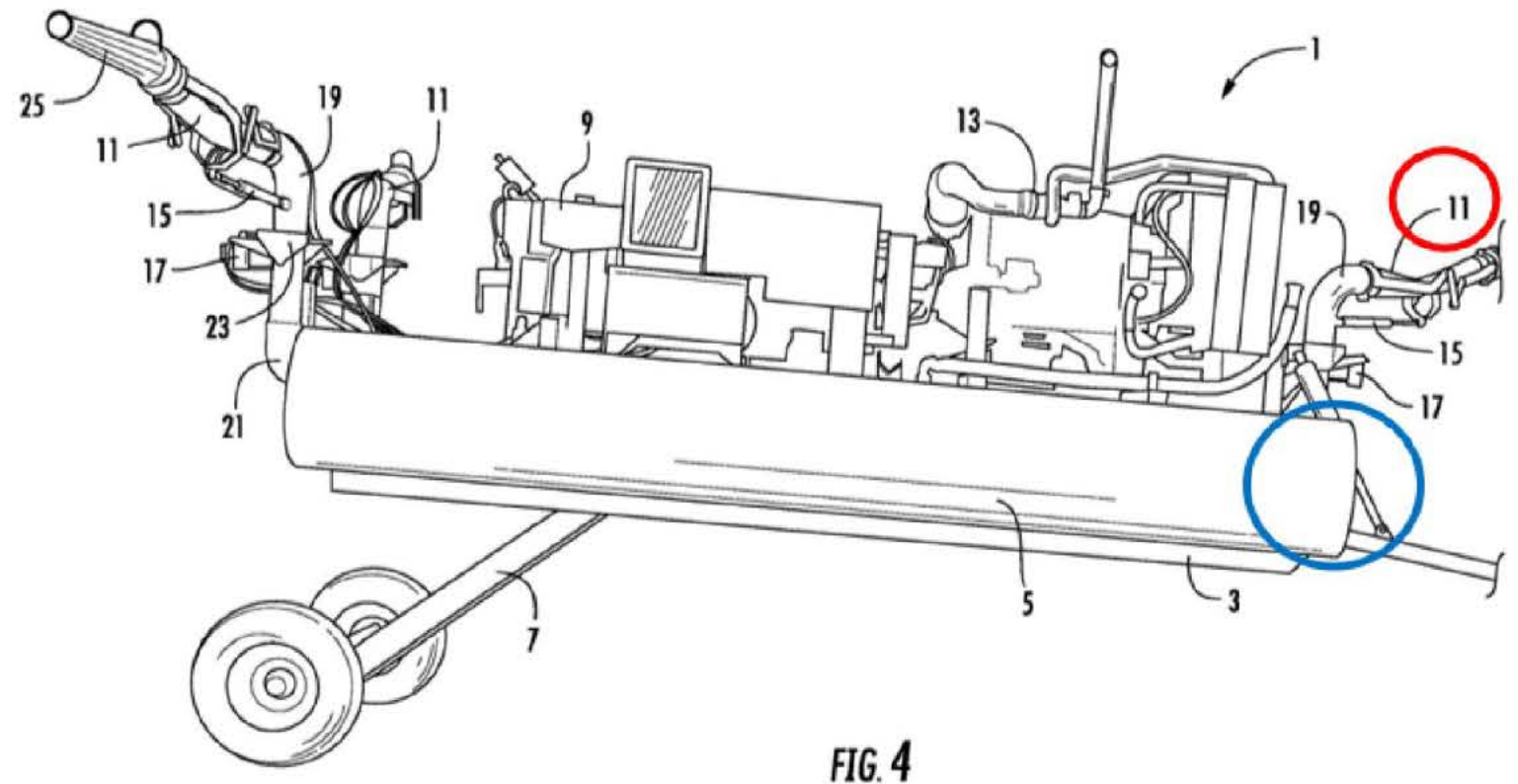
forward beam **20b**, and a pair of braces **36a** and **36b** rigidly secured to and extending between the upright structural member **34** and the center beam **24**.

EX1079, ¶152;
EX1086, FIG. 7; 4:53-55
(annotated).

Claim Construction: “Between”



- Other intrinsic evidence supports a broader construction.



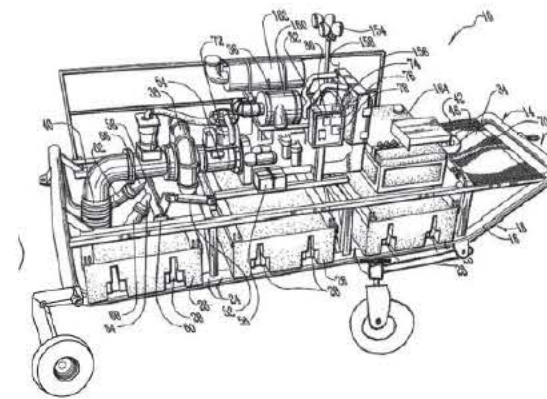
rear corner of the vessel 1, with the nozzle at the bow being centrally located between the opposing front corners thereof. As noted above, for maximum versatility and reach, each

EX1079, ¶153-54;
EX1093, FIG. 4, 5:54-55 (annotated);
EX1094, 221:13-222:1.



Claim Construction: "Between"

- The prior art references render obvious buoyant elements "in intermediate relation to" the front and rear wheels on each side of the vehicle.



EX1012, 1 (annotated);
EX1006, 3;
EX1014, FIG. 1; EX1015, FIGS. 3, 13 (modified).

Ground 4: Puck in View of Bryham and Manure-Manager

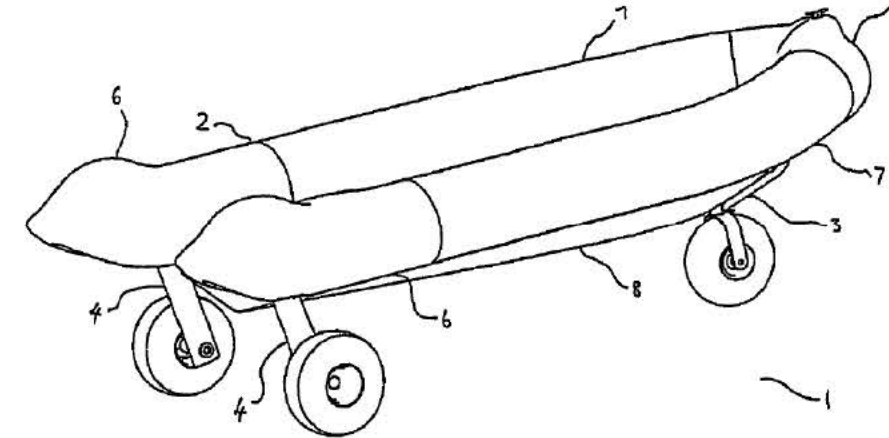
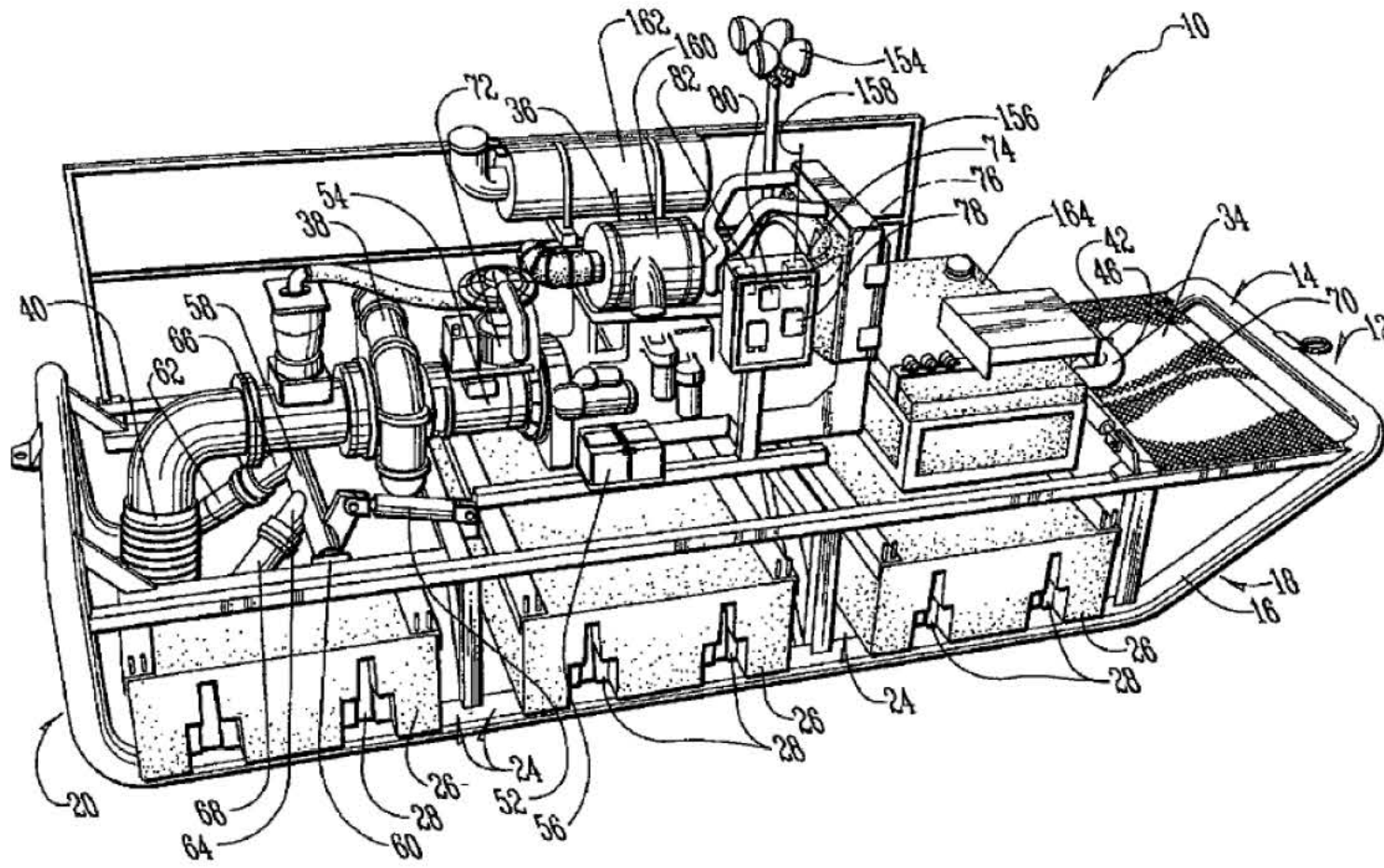


Figure 1

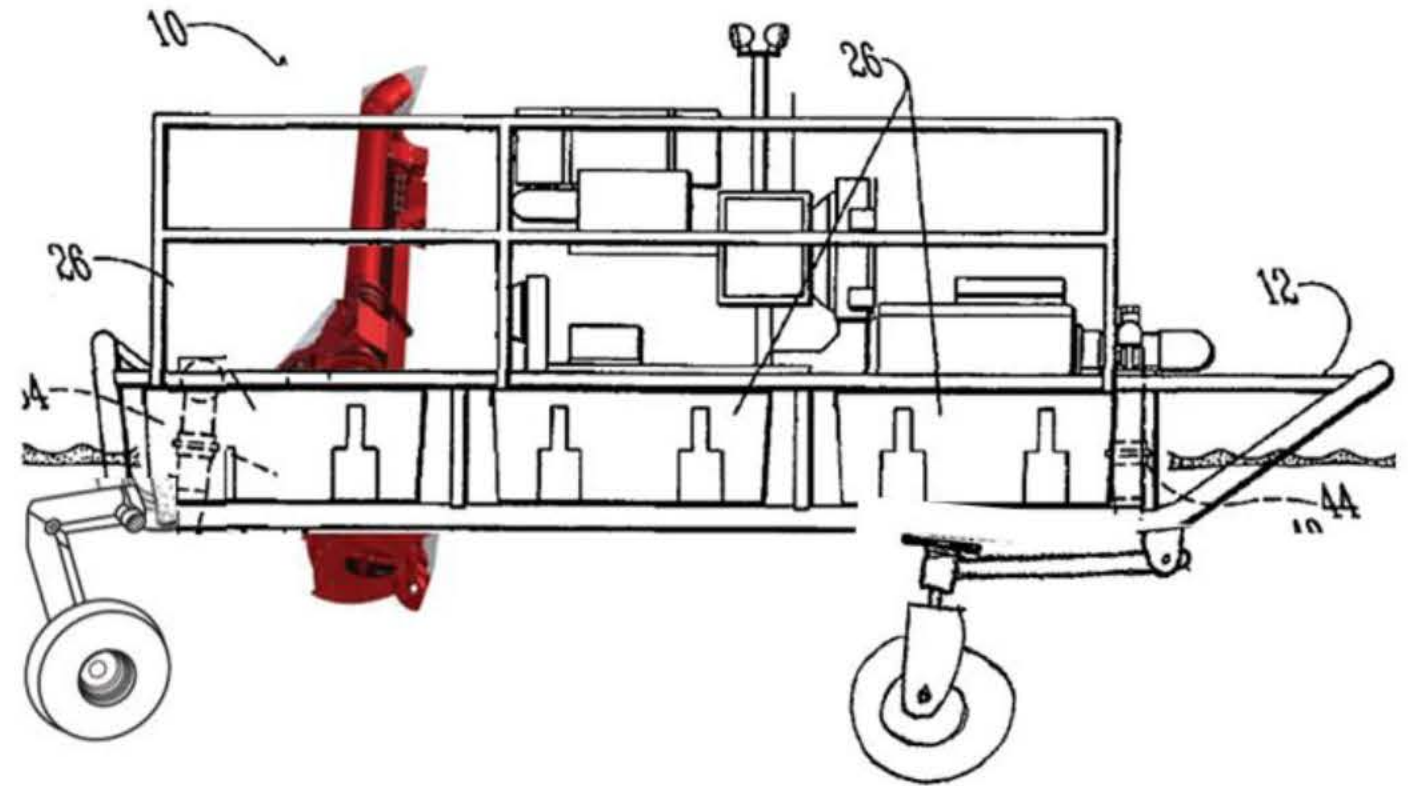


EX1014, FIG. 1;
EX1015, FIG. 1;
EX1113.



Manure-Manager Discloses a Bottom Fluid Inlet in the Pump Housing

- Nuhn's arguments about Puck's intake pump are irrelevant.

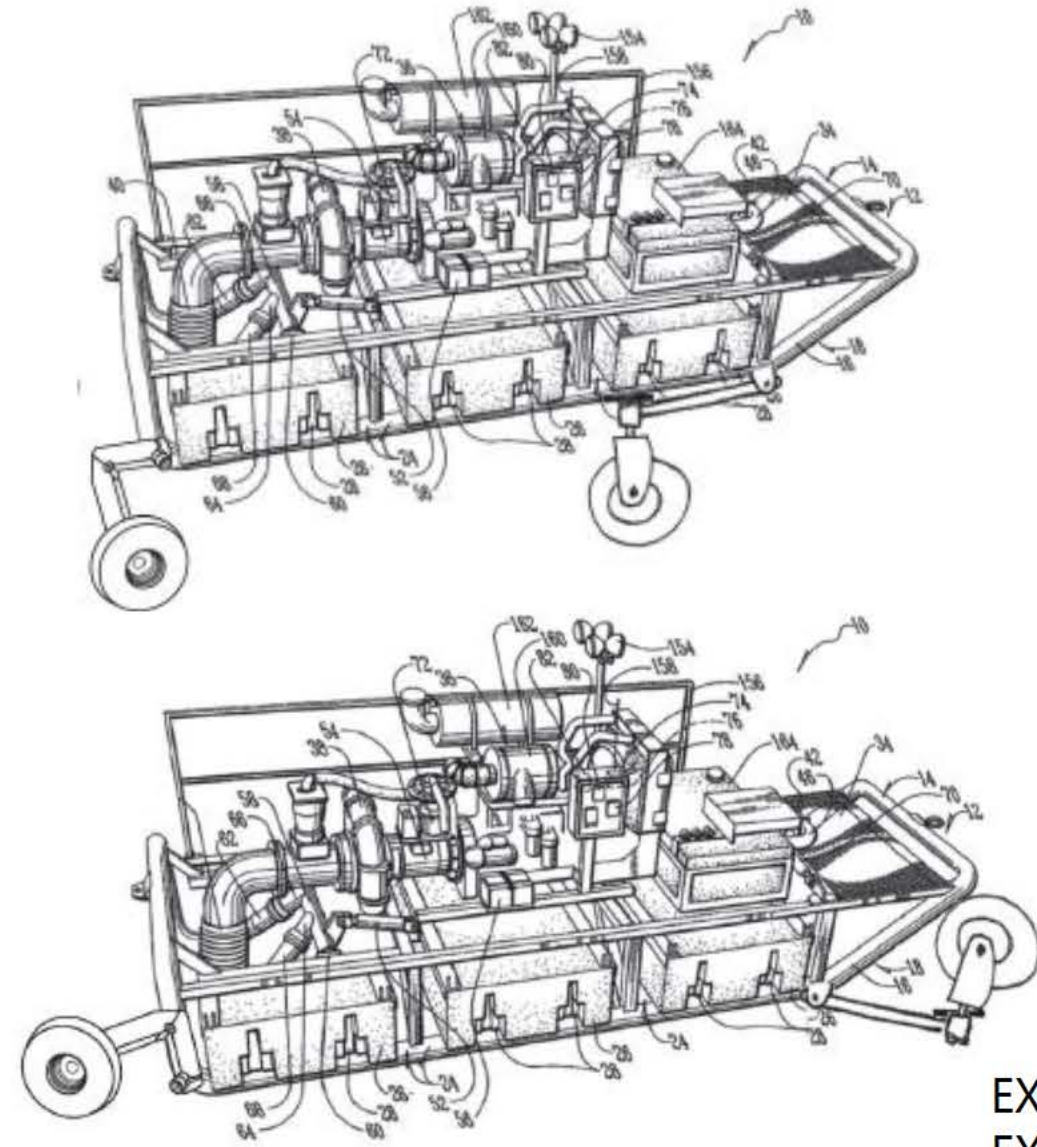


EX1014, FIG. 4;
EX1015, FIGS. 3, 13;
EX1019, 27.



The Puck Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

- Obvious to place one wheel at each corner.
- Obvious to retain retractability for reducing drag.

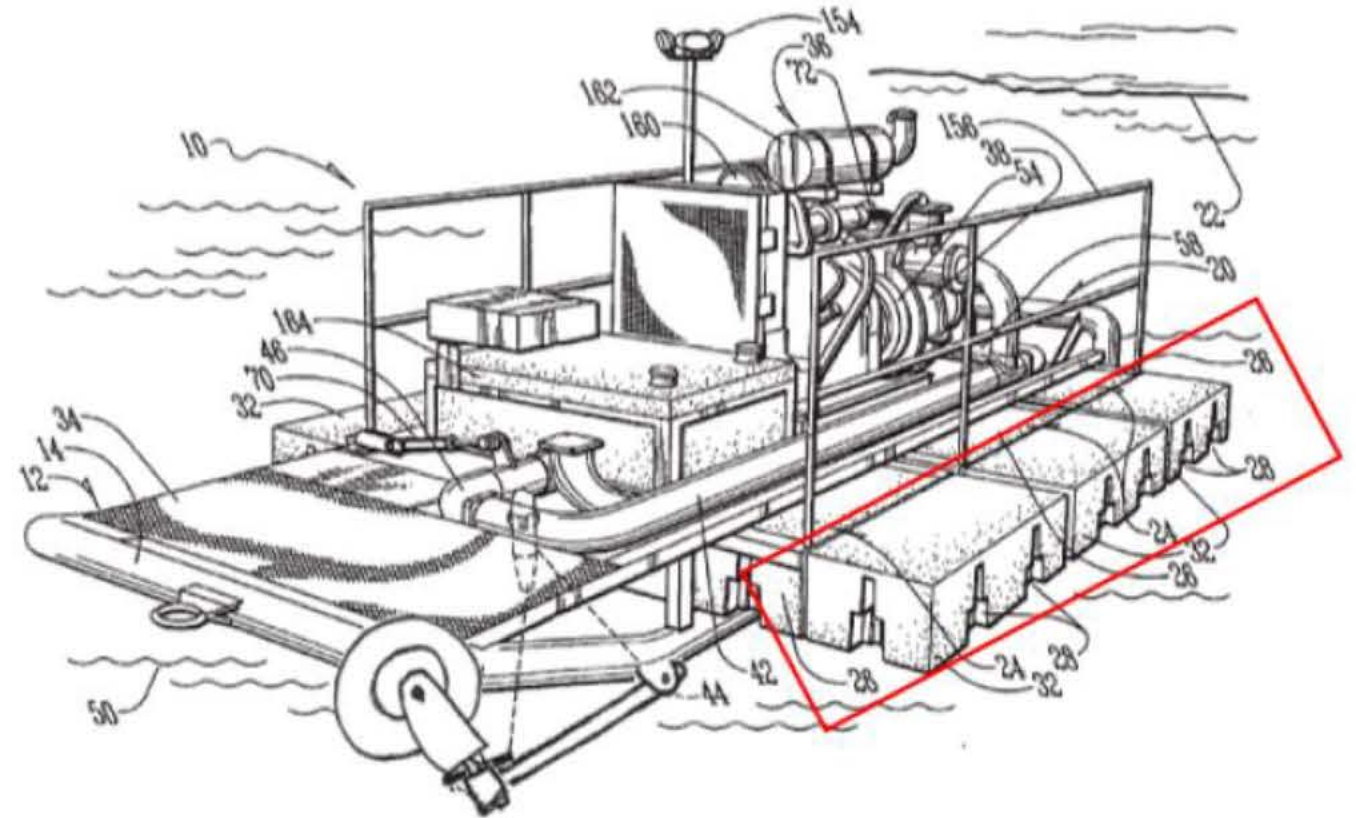


EX1079, ¶¶166-168;
EX1014, FIG. 1;
EX1015, FIGS. 3, 13.



The Puck Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

- “Dock sections 28” and “additional dock sections 32” would be “between the wheels.”

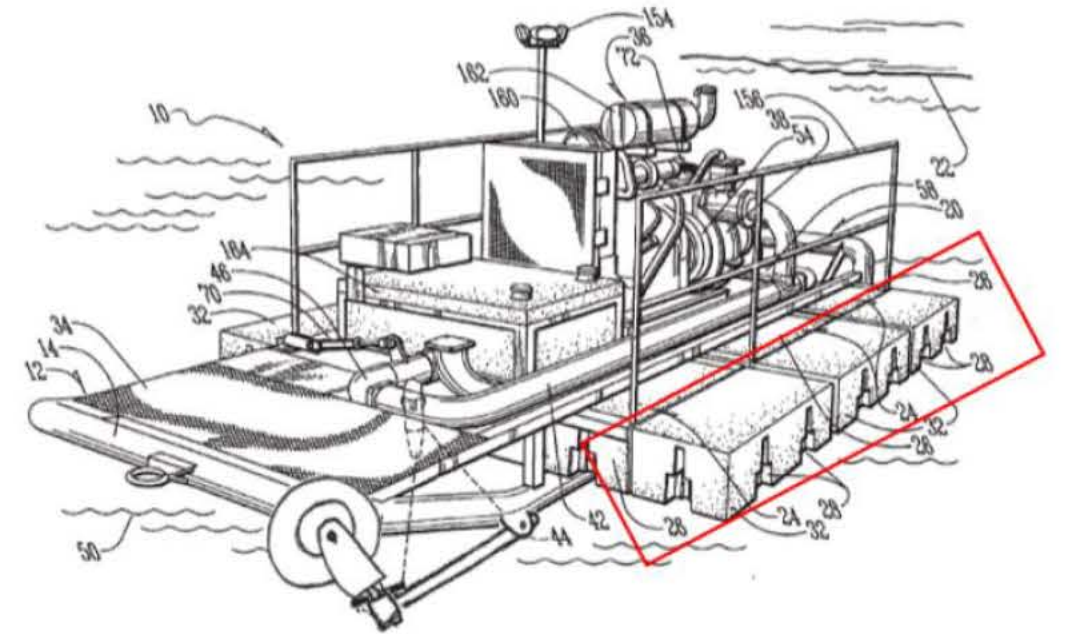


EX1014, FIG. 2;
EX1015, FIG. 3 (modified and annotated);
EX1079, ¶¶169-170.

The Puck Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels



- POSAs would have understood that floatable elements “in the space that separates” the wheels is beneficial.
- Allows wheels and floatable to be spaced outboard from the vehicle centerline, enhancing “stability.” EX1014, ¶[0041].
- Keeps the width of the vehicle sized to permit “highway travel.” EX1014, ¶[0009].



EX1014, FIG. 2;
EX1015, FIG. 3 (modified and annotated);
EX1079, ¶171;
EX1100, ¶¶7, 11-13, 21.

The Puck Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

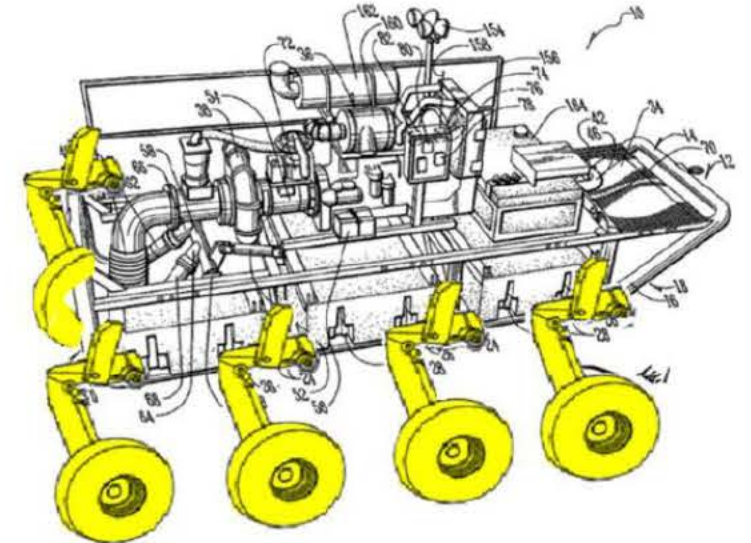
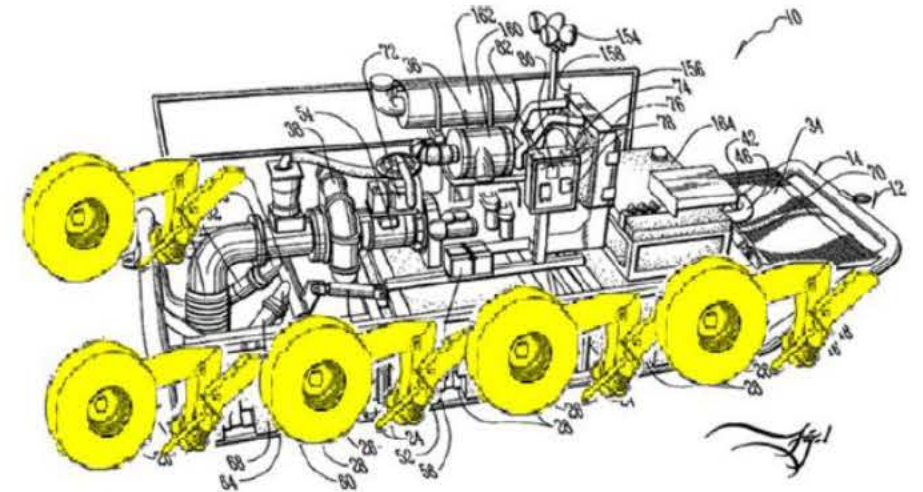
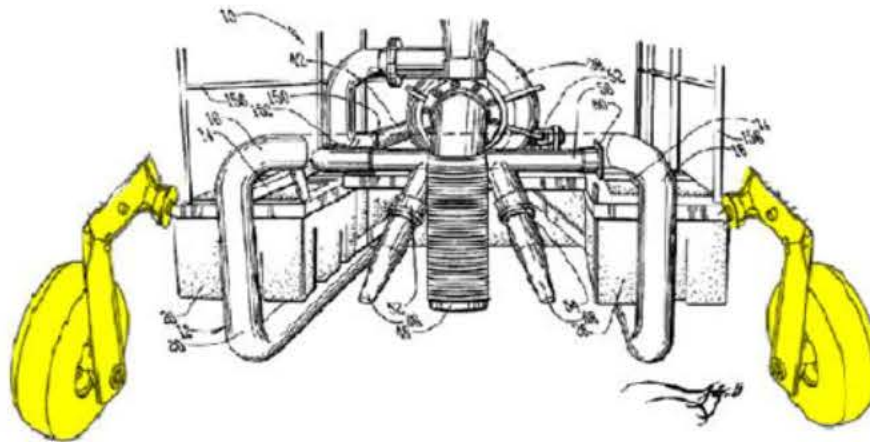


EX1100, 117;
EX1100
EX2008, 8-9.

Puck's Engine Would Power Bryham's Hydraulic Transmission



- Nuhn's proposed combination renders obvious.





Puck's Engine Would Power Bryham's Hydraulic Transmission

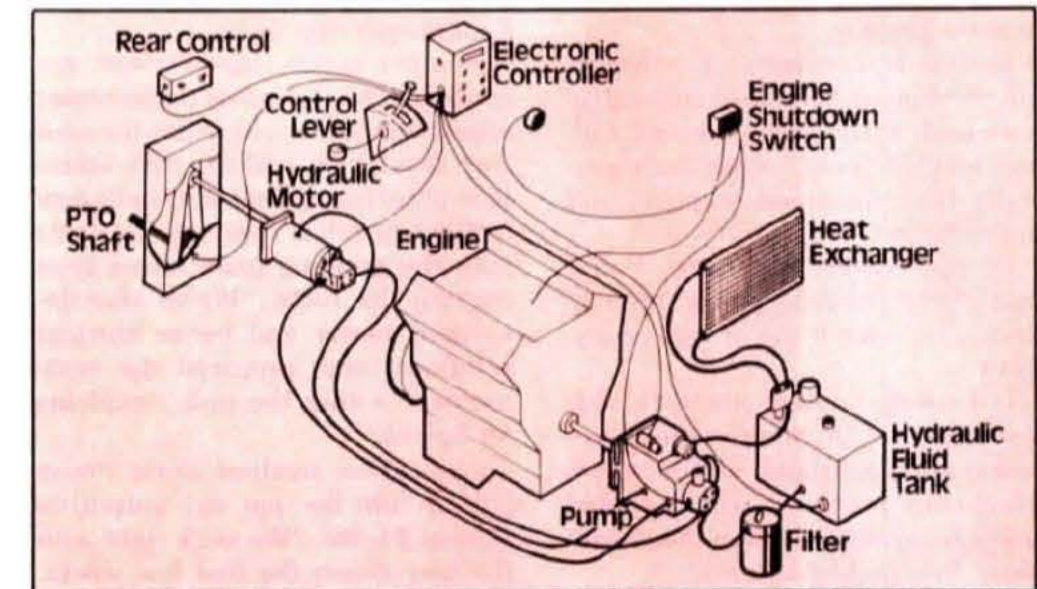
- POSAs understood the benefits of a central power source.
- POSAs understood that adding extra engines were heavier, costlier, took up extra space, and were therefore undesirable. EX1079, ¶¶180-183 (citing EX1122, 5; EX1133, 71-72; EX1107, 18).

The extra cost and complications of adding an engine to the implement prompted the re-introduction of the independent PTO.

Puck's Engine Would Power Bryham's Hydraulic Transmission



- **Petitioner's expert, Dr. Winkel:** "A POSA would have further understood that using the hydraulic drivetrain of Bryham to power the Puck pump with a PTO shaft would be trivial—as Mr. Prairie concedes (IPR2023-01161, EX2029 at ¶172), such configurations were well understood by POSAs since the 1970s."
 - EX1079, ¶¶175-183.



Bryham Discloses Individual Hydraulic Wheel Motors



- Bryham describes power by “hydraulic motors” mounted “within the ground engagement means **16**”

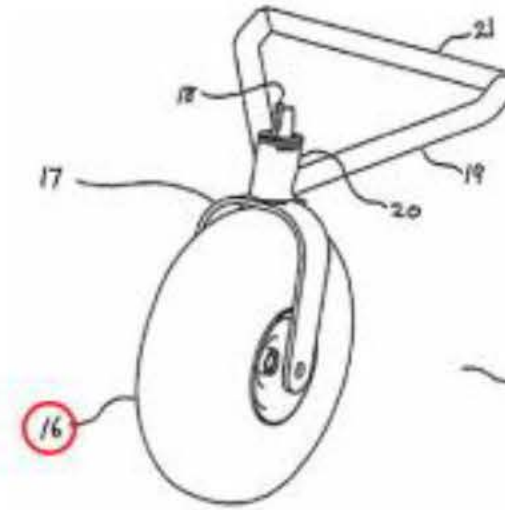


Figure 3A

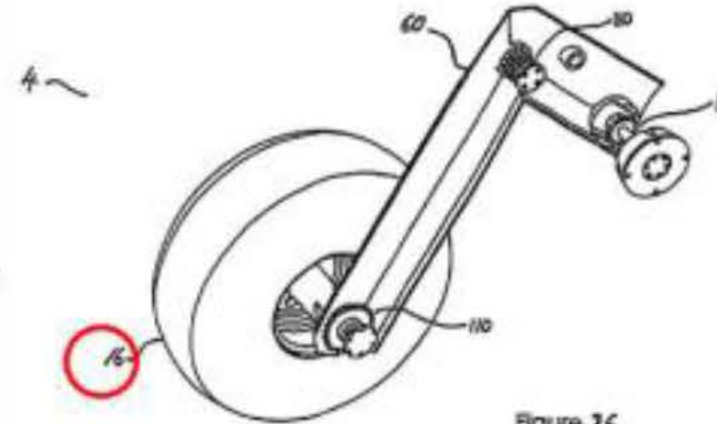


Figure 26



Claim Construction: "Liquid Manure Pump"

- Nuhn's "liquid manure pump" is described in the '835 Patent as "a fluid pump."
- The Board previously construed "a fluid pump for pumping liquid manure" as "a pump with a structure that is capable of pumping liquid with suspended solids." IPR2023-01161, Paper 71 at 11-13.



Claim Construction: "Liquid Manure Pump"

- The '708 Patent provides no basis for construing a "liquid manure pump" differently from "a fluid pump for pumping liquid manure."
- The record shows that a wide variety of pumps were considered "liquid manure handling pumps." *See, e.g.,* EX1037, 52; EX1051, 76.



Claim Construction: “Liquid Manure Pump”

- Nuhn’s arguments on design intent, Newtonian fluids, and corrosion are wrong.
- *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997); EX1079, ¶¶92-95.

Ground 3: SenwaTec in view of Yoon or Carrier / and Manure-Manager





The SenwaTec Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

SenwaTec buoyant elements are “in intermediate relation to” the wheels.





The SenwaTec Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

SenwaTec floating middle wheel is “in the space that separates” the wheels.



SenwaTec Discloses an Immersible Liquid Manure Pump



- Dredge pumps such as SenwaTec Pump were capable of pumping higher solid content forms of manure in addition to dilute liquid manure. EX1079, ¶136.
- EX1031, EX1071-1074, EX1077-EX1078 show the Amphi-King's manure pumping capabilities.
- Nuhn's distinction between human manure and livestock manure is irrelevant. EX1077, ¶32; EX1100, ¶14; EX1110, ¶¶140-143.

SenwaTec Discloses an Immersible Liquid Manure Pump



- "The sewage slurry I pumped often **contained human feces as well as debris**. For example, the sewage slurry often contained debris **such as condoms, tampons or toilet paper, which I pumped** from the lagoon together with the sewage slurry. This waste also included other natural waste such as **reeds, branches or leaves** from the areas around the lagoon, **which I pumped as well.**"
 - – Eckhard Funck (the operator of the vehicle in EX1031).



SenwaTec and Yoon or Carrier Disclose the Remote-Control Limitations



- Melnikov explicitly taught adding remote control to Amphibious pumping vehicles. EX1028, 4.
- Remote control of the vehicle would allow the operator to better position themselves to observe the vehicle (and any tilting) than if they were seated thereon. EX1079, ¶¶104-105.
- Nuhn does not contest that the vehicles would be safer to operate with remote-control.



Yoon and Carrier Disclose Claimed Remote Control

- Both disclose remote control wheels, i.e. speed. EX1005, ¶¶[0064]-[0065]; EX1011, ¶[0048].
- Both disclose remote control of the fluid pump. EX1005, ¶¶[0059], [0064]; EX1011, ¶[0048].
- Both disclose remote control of “one of” speed and direction on the ground. EX1005, ¶¶[0064]-[0065]; EX1011, ¶[0048].
- Both disclose remote control of “one of” speed and direction while floating. EX1005, ¶¶[0058], [0064]-[0065], [0079]; EX1011, ¶[0048].



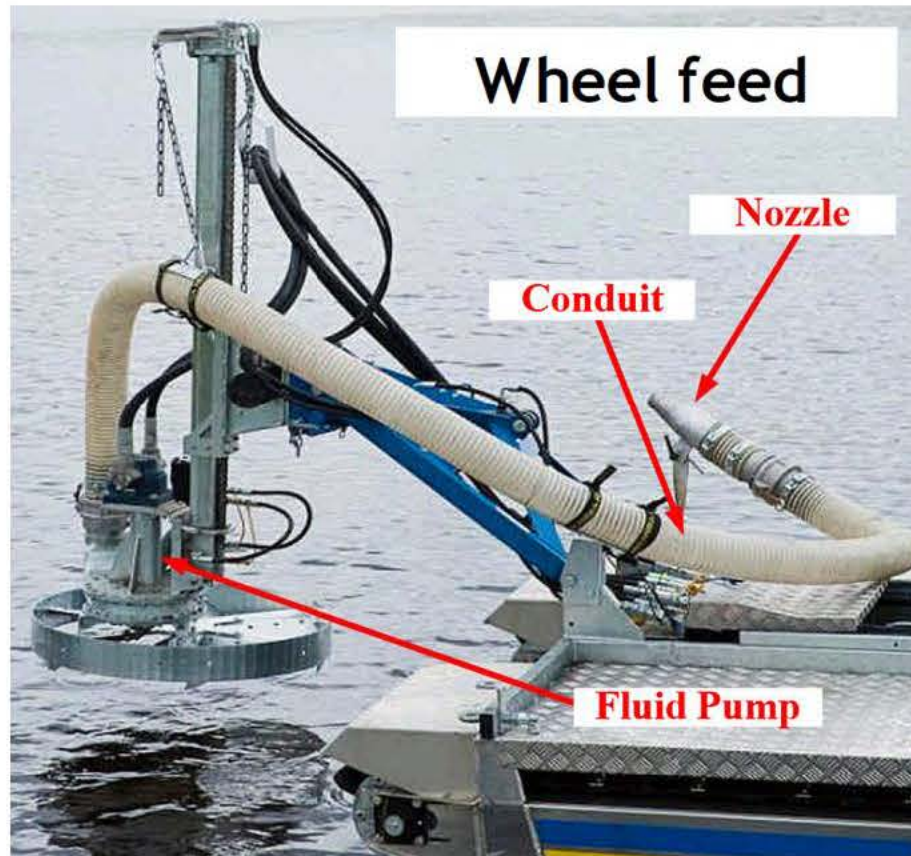
It Would Have Been Obvious to Combine the Nuhn Pump with Truxor

- Nuhn pump could dredge and be useful for SenwaTec's fecal agitation.
- PTO power is not required.
- Pump can be downsized.
- Nuhn's horsepower requirement arguments are contradicted by its marketing.



EX1012, 1 (modified);
EX1019, 27 (modified);
EX1079, ¶¶273-275.

Ground 2: Truxor in view of Yoon or Carrier / and Manure-Manager





The Truxor Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

- Sole dispute is where to put buoyant elements.
 - Inboard of wheels
 - Outboard of wheels
 - Between wheels





The Truxor Combinations Render Obvious Buoyant Elements Positioned Between the Front and Rear Wheels

- POSAs already understood this to be a successful arrangement of wheels and buoyant elements.



Sundstrom Pit Pumping stir boat

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Sundstrom Pit Pumping stir boat stirring a dairy manure pit.



Truxor Discloses a Liquid Manure Pump

- Dredge pumps such as the Doro Pump were capable of pumping higher solid content forms of manure in addition to dilute liquid manure.
- The Doro Pump can pump roots, hard sediments, stones, bits of wood, and sand.
- Dr. Winkel testified that Truxor discloses a pump for pumping liquid manure, i.e. the Doro Pump.
- Mr. Olofsson testified that the Doro Pump could pump up to 30% total solids.



EX1055, 2;
EX1075, 1;
EX1076, 4-5;
EX1004, ¶¶136-137;
EX1006, 5, 10;
EX1079, ¶¶84-97;
EX1110, 104:18-105:7.



Truxor and Yoon or Carrier Disclose the Remote-Control Limitations

- Melnikov explicitly taught adding remote control to Truxor. EX1028, 4.
- Mr. Olofsson testified that remote-control was added to Truxor before 2013. EX1110, 104:18-107:1.
- Remote control of the vehicle would allow the operator to better position themselves to observe the vehicle (and any tilting) than if they were seated thereon. EX1079, ¶¶105-106.
- Nuhn does not contest that the vehicles would be safer to operate with remote-control.



Yoon and Carrier Disclose Claimed Remote Control

- Both disclose remote control wheels, i.e. speed. EX1005, ¶¶[0064]-[0065]; EX1011, ¶[0048].
- Both disclose remote control of the fluid pump. EX1005, ¶¶[0059], [0064]; EX1011, ¶[0048].
- Both disclose remote control of “one of” speed and direction on the ground. EX1005, ¶¶[0064]-[0065]; EX1011, ¶[0048].
- Both disclose remote control of “one of” speed and direction while floating. EX1005, ¶¶[0058], [0064]-[0065], [0079]; EX1011, ¶[0048].



It Would Have Been Obvious to Combine the Nuhn Pump with Truxor

- Nuhn pump could dredge.
- PTO power is not required.
- Pump can be downsized.
- Nuhn's horsepower requirement arguments are contradicted by its marketing.



EX1019, 27 (modified);
EX1006, 10 (modified);
EX1079, 11254-262.



Secondary Considerations

- Commercial success, long-felt unmet need, copying, praise by others, licensing, and skepticism arguments are the same as those advanced in the '425 and '835 Patent IPR.



Secondary Considerations

- Nuhn's commercial success was based on the look and the [REDACTED] of the Lagoon Crawler between 2013 and 2019. *See* EX1096, 173:3-174:16.

Secondary Considerations



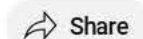
- Nuhn's new "unexpected results":
 - Replacing "four (4) PTO-driven tractor mounted manure agitation pumps" was already advertised by Puck in 2011. Paper 20 at 19.



Puck Agitation Boat - Jeremy Puck



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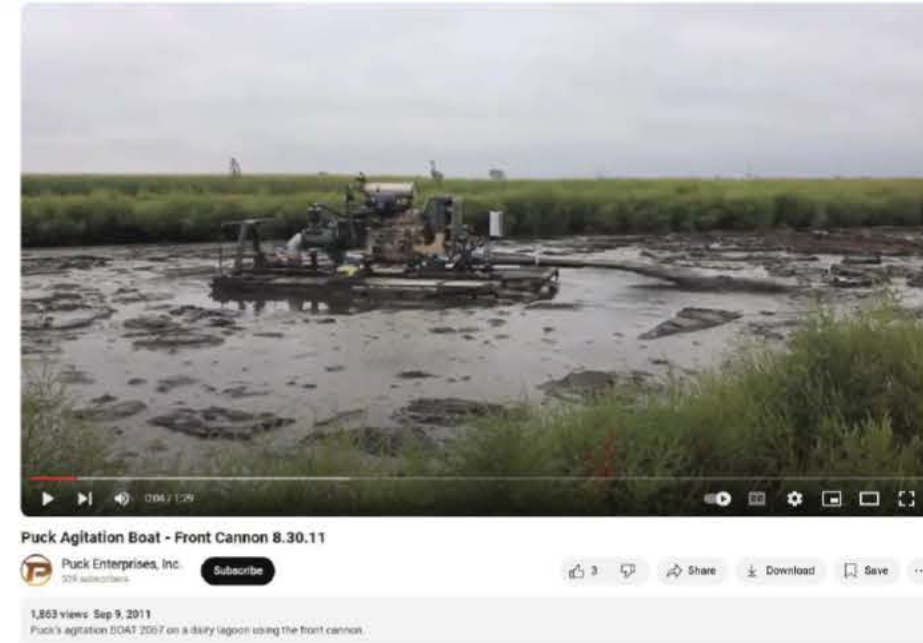
3,160 views Aug 10, 2011

Jeremy Puck explains the benefits of Puck's agitation boat.

Secondary Considerations



- Puck floatable body created a "working pocket," and hydraulic wheels were already used on SenwaTec to disrupt crust on waste lagoons. EX1077, ¶¶19, 26; EX1031, 3:54-4:25.



EX1101, ¶11;
EX1031, 3:54-4:25.

Bennett-II Anticipates Claim 23



- Claim 23 does not require wheels to be ground engaging.
- Nuhn fails to provide any evidence supporting its late arguments on the construction of "chamber."
- Bennett-II's chambers are closed when the vehicle is assembled.

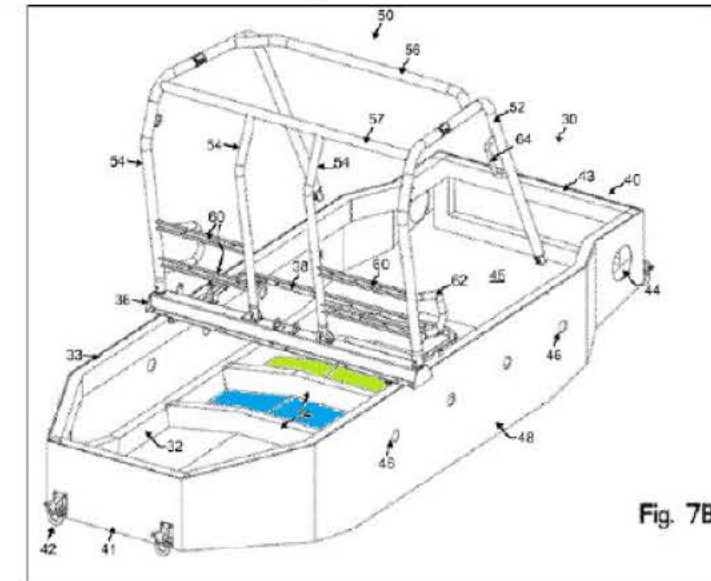


Fig. 7B

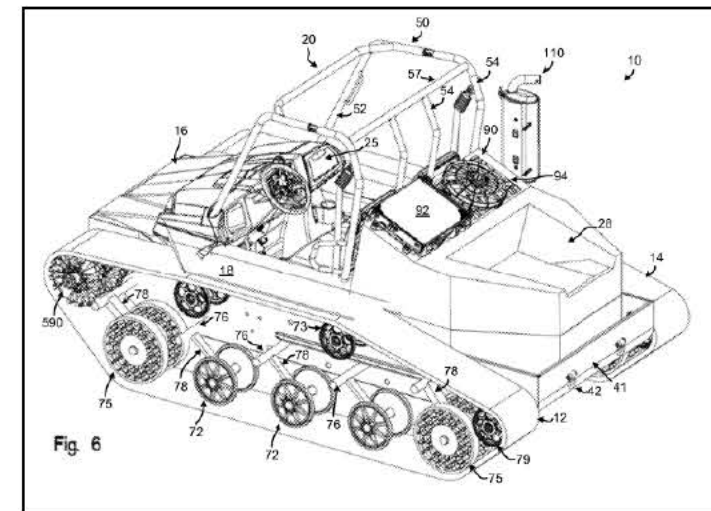


Fig. 6

EX1017, FIGS. 6 and 7B;
Paper 32 at 10 (citing EX2099, ¶¶140, 141, 143).