

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                                |   |
|--------------------------------|---|
| In re Patent of:               | : |
|                                | : |
| Ian Nuhn                       | : |
|                                | : |
| Patent No. 11,358,425          | : |
|                                | : |
| Issued June 14, 2022           | : |
|                                | : |
| For AMPHIBIOUS PUMPING VEHICLE | : |
|                                | : |
|                                | : |

**DETAILED REQUEST FOR *EX PARTE* PATENT REEXAMINATION**

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 CFR §1.510, Bazooka-Farmstar, LLC (“Requester”), the real party in interest and third-party requester herein, respectfully requests *ex parte* reexamination of claims 1-21 of U.S. Patent No. 11,358,425 (“the ’425 patent”). A Request for *Ex Parte* Reexamination Transmittal Form (PTO/SB/57) is attached hereto.

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### **List of Exhibits**

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| <b><u>Exhibit A</u></b> | U.S. Patent No. 11,358,425 to Nuhn (“the ’425 patent”)                                                                 |
| <b><u>Exhibit B</u></b> | U.S. Patent Application Publication No. 2012/0185129 to Carrier (“Carrier I”)                                          |
| <b><u>Exhibit C</u></b> | U.S. Patent Application Publication No. 2014/0112093 to Puck (“Puck”)                                                  |
| <b><u>Exhibit D</u></b> | U.S. Patent No. 7,478,817 to Carrier (“Carrier II”)                                                                    |
| <b><u>Exhibit E</u></b> | U.S. Patent Application Publication No. 2014/0288763 to Bennett (“Bennett”)                                            |
| <b><u>Exhibit F</u></b> | File History for U.S. Patent No. 11,358,425                                                                            |
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| <b><u>Exhibit I</u></b> | File History for U.S. Patent No. 10,974,557                                                                            |
| <b><u>Exhibit J</u></b> | Claim Chart for Ground 1 (Carrier I)                                                                                   |
| <b><u>Exhibit K</u></b> | Claim Chart for Ground 2 (Carrier I in view of Puck)                                                                   |
| <b><u>Exhibit L</u></b> | Complaint in <i>Nuhn Industries Ltd. v. Bazooka Farmstar, LLC</i> , Civil Action No. 3:22-cv-00044-SMA-HCA (S.D. Iowa) |
| <b><u>Exhibit M</u></b> | Claim Chart for Ground 3 (Carrier II)                                                                                  |
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| <b><u>Exhibit P</u></b> | U.S. Patent Application Publication No. 2013/0033070 to Kinsman (“Kinsman”)                                            |

## **I. Introduction**

Bazooka-Farmstar, LLC (“Requester” or “Bazooka”) respectfully requests *ex parte* reexamination under 35 U.S.C. §§ 301-307 and 37 C.F.R. § 1.510 *et seq.* of claims 1-21 of U.S. Patent No. 11,358,425 (“the ’425 patent”), a copy of which is attached as Exhibit A. These claims may be referred to herein individually, or collectively as the claims subject to reexamination. The ’425 patent issued on June 14, 2022, listing Ian Nuhn as the sole inventor. The ’425 patent is believed to be currently assigned to Nuhn Industries Ltd. (“Applicant”). This is a new request for *ex parte* reexamination (“Request”).

The ’425 patent relates to an amphibious pumping vehicle with a floatable vehicle body, a ground engaging propulsion structure, a fluid pump, a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump, and a remote control structure for controlling the ground engaging propulsion structure and a flow of fluid from the fluid pump. (’425 Pat., Abstr.) The present Request provides ample evidence that such limitations were well-known in the art and provides additional evidence that all claims of the ’425 patent were anticipated or obvious over known art at the time of the invention.

For the reasons detailed herein, there is compelling new prior art that raises substantial new questions of patentability with respect to the claims of the ’425 patent.

## **II. Notice of Co-Pending Litigation**

Pursuant to MPEP § 2282, Applicant has asserted the ’425 patent in patent litigation entitled *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC* in the United States District Court for the Southern District of Iowa, Civil Action No. 3:22-cv-00044-SMA-HCA.

### **III. Citation of Prior Patents and Printed Publications Presented to Show Substantial New Questions of Patentability**

Reexamination of the '425 patent is requested in view of prior art references described herein, as they would have been understood by one of ordinary skill in the art at the time of the invention of the '425 patent. The following references raise substantial new questions of patentability with respect to Claims 1-21:

- 1) U.S. Patent Application Publication No. 2012/0185129 to Carrier, attached as Exhibit B ("Carrier I");
- 2) U.S. Patent Application Publication No. 2014/0112093 to Puck, attached as Exhibit C ("Puck");
- 3) U.S. Patent No. 7,478,817 to Carrier, attached as Exhibit D ("Carrier II"); and
- 4) U.S. Patent Application Publication No. 2014/0288763 to Bennett, attached as Exhibit E ("Bennett").

### **IV. Overview of Applicable Patent Law**

The prior art presented as raising substantial new questions of patentability, alone or in combination, teach the limitations of the claims subject to reexamination. Therefore, the cited prior art establishes a prima facie case of unpatentability for every claim of the '425 patent, as described in detail with respect to Grounds 1 through 5 below.

#### **A. Claim Construction**

Claims in a reexamination are to be given their broadest reasonable interpretation consistent with the specification, and limitations in the specification are not to be read into the claims. *See In re Am. Academy of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984). Although the specification may aid the understanding of claim language, limitations in the specification that are not part of the claim

cannot be imported. *Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004). For example, when the claim language is broader than a disclosed embodiment, the features of the disclosed embodiment may not be read into a claim. *Id.* Furthermore, during reexamination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Academy of Sci. Tech. Ctr.*, 367 F.3d at 1364.

“The [Patent Office] broadly interprets claims during examination of a patent application because the applicant may ‘amend his claims to obtain protection commensurate with his actual contribution to the art.’” *In re Yamamoto*, 740 F.2d at 1571 (citing *In re Prater*, 415 F.2d at 1405 n.31). According to the Federal Circuit, “[t]his approach serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified. Applicants’ interests are not impaired since they are not foreclosed from obtaining appropriate coverage for their invention with express claim language.” *In re Yamamoto*, 740 F.2d at 1571.

The broadest reasonable interpretation must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). The inquiry regarding the meaning of a claim should focus on what would be reasonable from the perspective of one of ordinary skill in the art. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010); *In re Buszard*, 504 F.3d 1364, 1369-70 (Fed. Cir. 2007).

## **B. Legal Basis for Substantial New Question of Patentability**

This Request relies on prior art not previously considered by the PTO. A piece of prior art that was previously before the Office can serve as the basis of a Substantial New Question (SNQ) of patentability, particularly where the prior art did not serve as the basis for any rejection. *In re Swanson*, 540 F.3d 1368, 1379-80 (Fed. Cir. 2008). In considering whether a SNQ exists, the focus is whether the Patent Office previously fully and completely evaluated the particular question of patentability presented by the reference cited during reexamination. *Id.* at 1380 (“[T]o decide

whether a reference that was previously considered by the PTO creates a substantial new question of patentability, the PTO should evaluate the context in which the reference was previously considered and the scope of the prior consideration and determine whether the reference is now being considered for a substantially different purpose.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6 (PTAB August 19, 2021).

Consistent with the *Swanson* decision, MPEP § 2258 provides that “[f]or a reexamination that was ordered on or after November 2, 2002 . . . reliance solely on old art (as the basis for a rejection) does not necessarily preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art.” MPEP § 2258. Thus, “a SNQ may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier concluded examination(s).” *Id. See also* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2258.01 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different way that escaped review during earlier examination.”).

The Patent Trial and Appeal Board has emphasized, “the mere fact that prior art references were previously cited and made of record in the original examination is not determinative of a lack of SNQP,” and “the pertinent inquiry is not whether ‘the Office had before it,’ prior art that already included the teachings now being relied upon by the Examiner during reexamination.” *Ex parte Allied Mach. & Eng’g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13 (P.T.A.B. September 25, 2015). “Rather,” the PTAB explained, “the pertinent inquiry is whether the references of record were **actually considered** during the prosecution of the [underlying] application **in the manner**

*now being considered in the present reexamination.*” *Id.* (emphasis added); *see also Ex parte Samsung Display Devices Co., Ltd.*, 2010 Pat. App. LEXIS 13383, at \*43 (Comm’r Pat. & Trademarks June 30, 2010) (similar).

Where, like here, an examiner does not issue a claim rejection over the prior art in question during prosecution, or the prior art in question forms the basis of the specific rejection presented in the reexamination, that prior art is presented in a new light and properly considered on reexamination. *See Ex parte Allied Mach. & Eng’g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13. The key issue is whether the PTO has already considered the specific argument, or viewed the prior art in the presented light—not whether the prior art reference was cited during prosecution. As the PTAB has explained, “the issue in determining an SNQ is whether an ‘argument’ had already been decided by the PTO.” *Ex parte Invista N. Am., S.A.R.L.*, 2016 Pat. App. LEXIS 12692, at \*10 (P.T.A.B. December 19, 2016). Where the PTO did not issue a specific rejection over the prior art, it is considered in a new light. *See id.* (holding references in question were presented in a new light; “Because none of these questions were decided by the PTO in the original examination that led to the [relevant] patent, the Examiner in this proceeding properly found an SNQ and ordered reexamination.”) (citing MPEP § 2242); *Ex parte Auto. Techs. Int’l, Inc.*, 2014 Pat. App. LEXIS 174, at \*15 (P.T.A.B. January 15, 2014) (“While the Examiner has relied upon the same prior art patents, such reliance on previously considered art does not preclude finding of SNQP. . . . Moreover, this combination is now being considered for a different purpose, that is, for rejecting claims 1-6 and 14 which were neither subjected to this same ground of rejection in the previous reexamination, ***nor overcome.***”) (emphasis in original); *see also Ex parte Omega Patents, LLC*, 2019 Pat. App. LEXIS 11432, at \*10 (P.T.A.B. December 4, 2019) (“Moreover, these rejections are based on different combinations of prior art references—a distinction that further establishes

that these rejections constitute different grounds of rejection despite citing some overlapping references.”); *Ex parte Apple Inc.*, 2016 Pat. App. LEXIS 8496, at \*13-14 (P.T.A.B. September 19, 2016) (finding “a substantial new question of patentability has been established because Frank was not considered in a previous reexamination proceeding” where “no arguments with respect to the patentability were made by the Office with respect to Frank.”).

### **C. Obviousness**

The Patent Office has issued “Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*” See 72 Fed. Reg. 57,526 (Oct. 10, 2007) (hereinafter “Examination Guidelines”). According to the Examination Guidelines, “the Supreme Court particularly emphasized ‘the need for caution in granting a patent based on the combination of elements found in the prior art’” 72 Fed. Reg. at 57,526 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007)). After detailing the role of the Office, the guidelines state that “the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge.” *Id.* at 57,527. As articulated by the Supreme Court in *KSR*, the “person of ordinary skill” should be viewed as “a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421.

Art that is analogous to the subject matter of the patent may properly be used as an obviousness reference. MPEP § 2141.01. Prior art is analogous if one of two conditions are met: (1) the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). A reference is reasonably pertinent if, regardless of its field, it logically

would have commended itself to an inventor's attention in considering his problem. MPEP § 2141.01(a).

*KSR* applies “an expansive and flexible approach” to the obviousness inquiry, rather than requiring the “rigid approach” of the prior “teaching, suggestion, or motivation” (TSM) test. *KSR*, 550 U.S. at 415. *KSR* reiterated the well-established principle that a “patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men.” *Id.* at 415-16 (quoting *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 152-53, 71 S. Ct. 127, 130 (1950)). Indeed, “the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416. In other words, “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* Moreover, “when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.” *Id.* at 417 (quotation omitted).

In order to determine whether it would have been obvious to combine prior art references, *KSR* recognizes:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 417. “[A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* *KSR* authorizes the courts “to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418. “[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* “When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *Id.* at 421.

Although *KSR* held that the Federal Circuit’s prior “teaching, suggestion, motivation” (TSM) was overly narrow, prior art explicitly or implicitly providing a suggestion or motivation to combine is useful when determining obviousness. *KSR*, 550 U.S. at 419; *Intex Rec. Corp. v. Team Worldwide Corp.*, 860 F. App’x 717, 723 (Fed. Cir. 2021) (explaining that “the teaching, suggestion, or motivation test . . . [is] a helpful insight”) (quotation omitted). “A suggestion or motivation to modify prior art teachings may appear in the content of the public prior art, in the nature of the problem addressed by the invention, or even in the knowledge of one of ordinary skill in the art.” *Princeton Biochems., Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1338 (Fed. Cir. 2005). The absence of some explicit instruction to modify or combine does not preclude a conclusion of obviousness. *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992) (“As long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole,

the law does not require that the references be combined for the reasons contemplated by the inventor.”).

When determining whether an invention is obvious, the Examination Guidelines instruct Examiners to “first obtain a thorough understanding of the invention disclosed and claimed in the application under examination by reading the specification, including the claims, to understand what the applicant has invented. The scope of the claimed invention must be clearly determined by giving the claims the ‘broadest reasonable interpretation consistent with the specification.’” 72 Fed. Reg. at 57,527; *see also* MPEP § 2141. Of the rationales relevant to an obviousness determination discussed in the Examination Guidelines, at least the following are pertinent to this reexamination request:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of a known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

*See* 72 Fed. Reg. at 57,529; *see also* MPEP § 2141.

Each of the cited references not previously considered by the examiner presents substantial new questions of patentability, both alone and in combination with the prior art references previously before the Examiner.

## **V. Review of the '425 Patent**

### **A. Disclosure of the '425 Patent**

The '425 patent is titled “Amphibious Pumping Vehicle.” The '425 patent relates to amphibious vehicles equipped for pumping a liquid from a farm lagoon or holding pond, such as liquid animal manure. ('425 Pat., Col. 1:25-29.) The technical field broadly states: “The invention relates to pumps and vehicles equipped for pumping.” ('425 Pat., Col. 1:25-26.)

Amphibious vehicles configured for operation on land and in water were known in the art when the '425 patent was filed.<sup>1</sup> Pumps for manure lagoons were likewise known in the art at the time the '425 patent was filed. The '425 patent explains:

Manure produced during animal husbandry, particularly hog and cattle manure, is transferred by washing to a pit or lagoon for storage prior to land application or further processing. During storage, a crust can develop on the surface of the pit or lagoon that must be disrupted prior to or during the removal of the manure. Pumps are employed for this purpose with jets that return a percentage of the manure back to the pit or lagoon in the form of a high volume spray to disrupt the crust and recirculate the manure.

('425 Pat., Col. 1:33-41.)

These pumps for manure lagoons identified by the '425 patent were only accessible from the side of the lagoon and required the use of a tractor or other vehicle to operate. They were thus limited in the ability to recirculate manure in the middle of large lagoons:

Pumps for use in recirculating manure from smaller pits are known; however, these pumps are typically suitable for accessing the pit or lagoon from its edge are connected to a tractor or similar land vehicle for operational power. They are therefore limited in their ability to recirculate manure to the middle of large lagoons, which are becoming increasing [*sic*] common as the size of animal husbandry operations increases.

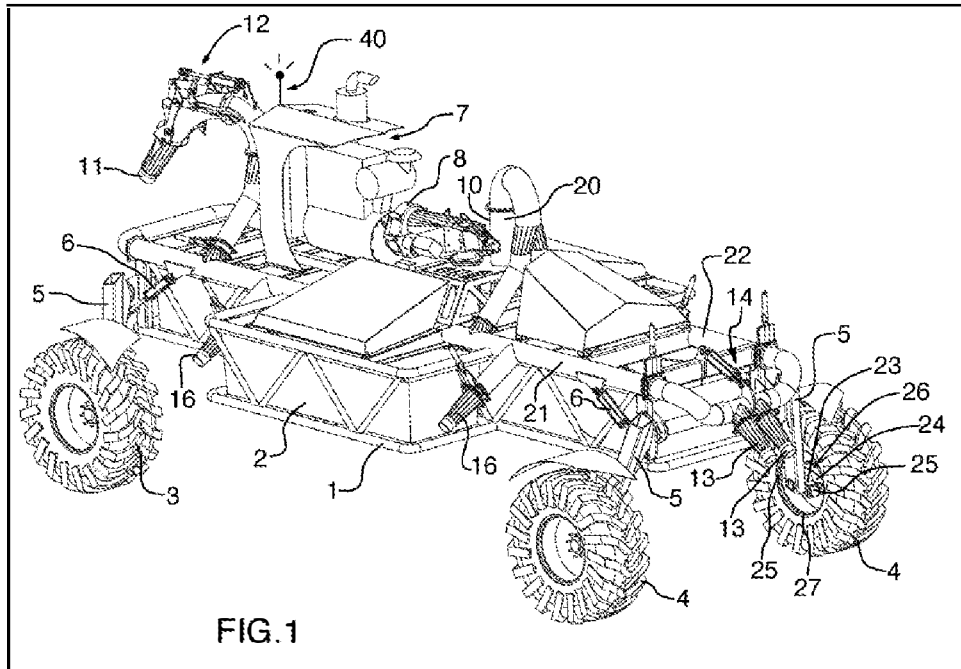
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<sup>1</sup> See, e.g., U.S. Patent No. 7,833,071 to Gaither, which discloses an amphibious, all-terrain vehicle and identifies many amphibious vehicles when surveying the related art, including those disclosed in U.S. Patent No. 3,664,451; U.S. Patent No. 4,744,324; U.S. Patent No. 6,672,916; U.S. Patent No. 3,444,837; U.S. Patent No. 3,199,486; U.S. Patent No. 5,993,273; U.S. Patent No. 6,666,735; U.S. Patent No. 4,664,051; and U.S. Patent No. 3,385,255.

(’425 Pat., Col. 1:41-49.) Therefore, the ’425 patent identifies the problem of reaching, and thus agitating, the entire lagoon from shore as the lagoons increase in size. Prior art manure agitators, such as U.S. Patent Application Publication No. 2014/0112093 to Puck, did not address the additional problems of exiting a floating vehicle from a manure pond and transporting the floating vehicle between manure ponds.

The solution to this problem identified by the ’425 patent was to include a pump on an amphibious vehicle suitable for use with large manure lagoons. (’425 Pat., Col. 1:50-52.) The ’425 patent is directed to an amphibious pumping vehicle. (’425 Pat., Abstr.) The Summary of the Invention explains that the amphibious pumping vehicle includes the following elements: ground engaging propulsion structure; a fluid pump; a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump; and a remote control structure for controlling the ground engaging propulsion structure and a flow of fluid from the fluid pump. (’425 Pat., Col. 1:56-63.) Each of these structures will be addressed in turn:

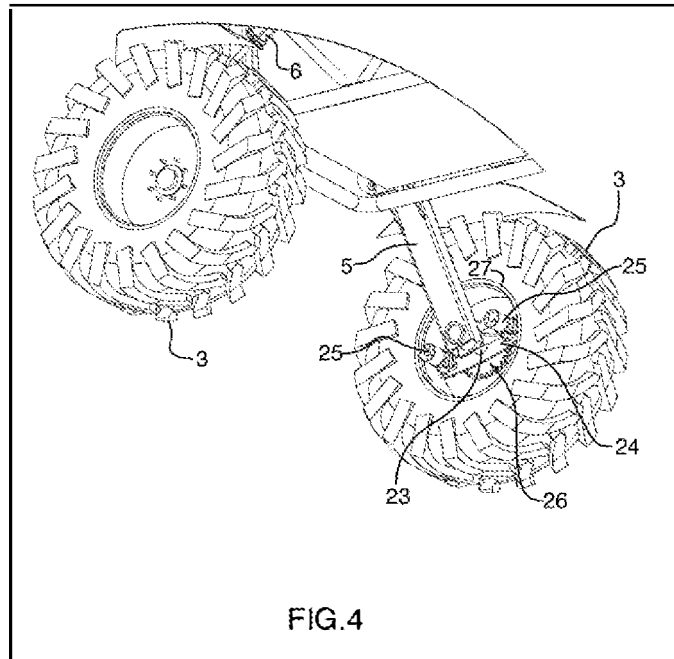
Vehicle Body: The ’425 patent discloses a floatable vehicle body and explains that “[f]lotation of the vehicle body may be provided by a displacement hull, pontoon elements, or buoyant elements.” (’425 Pat., Col. 1:65-67.) The floatable vehicle body 1 is depicted in Figure 1.



('425 Pat., Fig. 1.)

Ground Engaging Propulsion Structure: The '425 patent explains that the ground engaging propulsion structure “may comprise an endless track or a set of wheels.” ('425 Pat., Col. 2:8-9.) “The set of wheels may comprise two or more wheels, for example four wheels, six wheels, or eight wheels.” ('425 Pat., Col. 2:9-11.) It further explains that when the vehicle comprises a set of wheels, “any number of the wheels may be driven to provide propulsion to the vehicle.” ('425 Pat., Col. 2:13-15.)

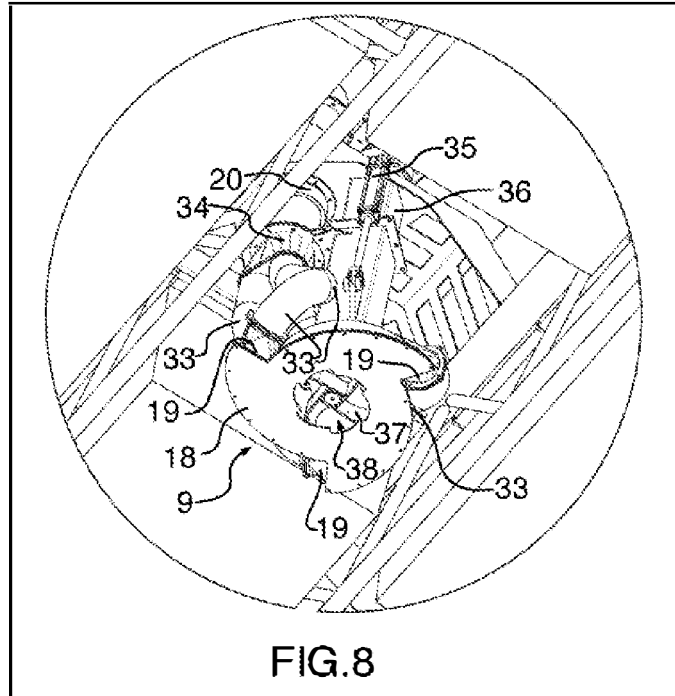
The '425 patent discloses propulsion using hydraulic motors. It explains that “it is preferred that the wheels are independently driven at variable speeds, allowing them to be fixed in direction relative to the vehicle body” and that “at least one motor may be connected to each wheel that is hydraulically . . . operable at variable speed.” ('425 Pat., Col. 2:18-21, 26-28.) This arrangement “provides directional control of the vehicle, even in wet or muddy conditions where conventional steering is likely to be ineffective due to sliding of the steerable set of wheels.” ('425 Pat., Col. 2:21-24.) The hydraulic motors 25 are shown in Figure 4.



('425 Pat., Fig. 4.)

The '425 patent further explains that the amphibious vehicle is steered by varying the speed between the hydraulic motors on the right side and the left side of the vehicle: "By increasing the rotational speed of the hydraulic motors 25 on the right side relative to the motors 25 on the left side, the vehicle is caused to turn to the left. . . . Thus, directional and motive control of the vehicle (forward/reverse) while on land is controlled by varying the relative speed and rotational direction of the hydraulic motors 25." ('425 Pat., Col. 6:32-40.)

Fluid Pump: The '425 patent discloses a fluid pump that is mounted on the amphibious vehicle. ('425 Pat., Col. 2:66 – Col. 3:11.) The fluid pump includes a pump housing 18 with multiple fluid outlets 19 that are combined into a single fluid conduit 20, as shown in Figure 8.



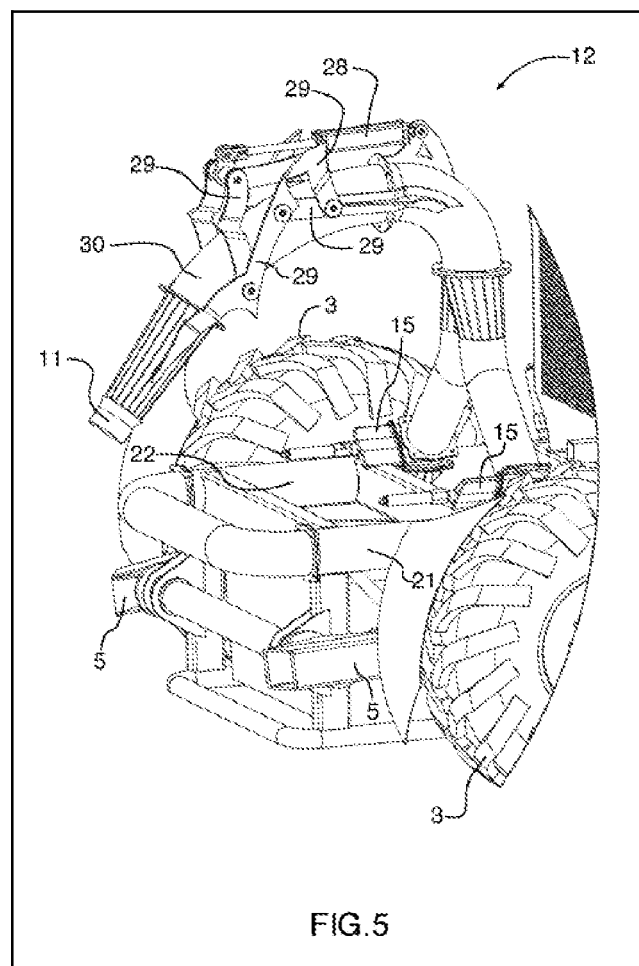
(’425 Pat., Fig. 8.)

Referring to Figure 8, the ’425 patent further explains: “[T]he fluid pump 9 comprises a pump housing 18 comprising three tangential fluid outlets 19 that are connected via flexible pump outlet conduits 33 to a combiner 34 that is used to combine the fluid output of the tangential fluid outlets 19 into the single conduit 20.” (’425 Pat., Col. 7:20-24.)

While the ’425 patent notes that the fluid pump may be used “for pumping liquid manure,” *e.g.*, Claim 1, it does not teach any specific associated structure necessary for pumping liquid manure. The ’425 patent simply explains that the housing of the fluid pump “may comprise a bottom fluid inlet and at least two tangential fluid outlets” and that “[t]he tangential fluid outlets may be combined into a single fluid conduit for directing the combined output of the fluid pump to a desired location.” (’425 Pat., Col. 2:67 – Col. 3:6.) This is consistent with the broad Technical Field description which is not limited to pumping manure: “The invention relates to pumps and vehicles equipped for pumping.” (’425 Pat., Col. 1:25-26.)

The '425 patent also discloses a nozzle that is connected by a fluid conduit to the fluid pump. ('425 Pat., Col. 3:22-44.) The '425 patent explains that the amphibious pumping vehicle “comprises a first fluid nozzle configured to direct fluid through the air” and that “[t]he fluid nozzle is connected by fluid conduit to the fluid pump.” ('425 Pat., Col. 3:22-24.) The vehicle may include “a plurality of fluid nozzles comprising the first fluid nozzle and at least one second fluid nozzle connected to the fluid conduit.” ('425 Pat., Col. 3:27-29.)

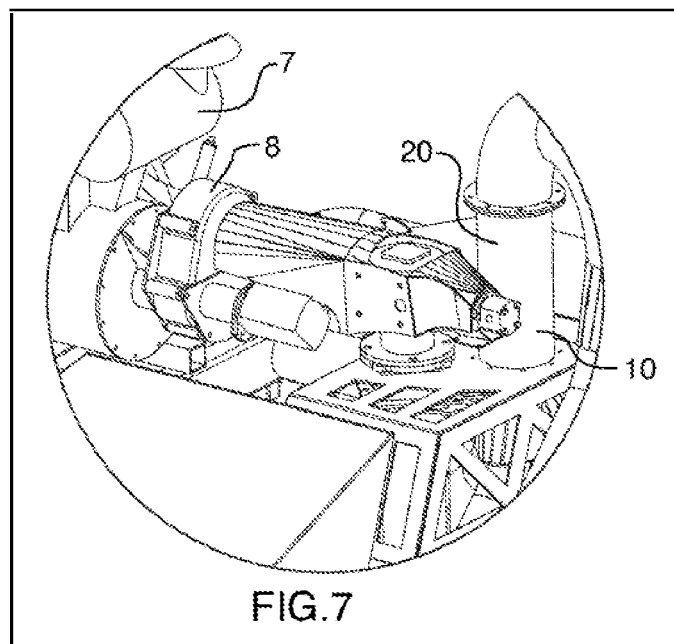
The '425 patent teaches that the nozzle is a separate structure than the fluid conduit. The fluid pump 9 is connected to all the fluid nozzles 11 of the vehicle via the fluid conduits 20-22, as shown in Figure 5.



('425 Pat., Fig. 5.)

Referring to Figure 5 above, the '425 patent explains: "The first fluid nozzle 11 is connected to the fluid conduits 21, 22 via a flexible conduit 30 that permits articulation of the nozzle." ('425 Pat., Col. 6:50-52.)

Power Source: The '425 patent explains that the power source may include an internal combustion engine, for example a diesel engine, mounted to the vehicle body. ('425 Pat., Col. 5:36-38.) "A mechanical drive 8 connects the power source 7 to the hydraulic pump 10 that is used to provide hydraulic system fluid pressure for the vehicle" ('425 Pat., Col. 5:38-41), as shown in Figure 7:



('425 Pat., Fig. 7.)

The '425 patent explains that the power structure "may be self-contained on the vehicle" and that the power source "may comprise an internal combustion engine, a fuel-cell, [or] electric batteries." ('425 Pat., Col. 2:44-47.) It also explains that the "power source may be connected to a hydraulic pump for supplying hydraulic fluid pressure to hydraulic systems on board the vehicle." ('425 Pat., Col. 2:51-54.)

Remote Control: The '425 patent discloses that the amphibious vehicle may be operated using a remote control system: “The vehicle may comprise remote control structure configured to cause the vehicle to be remotely controllable by an operator remote from the vehicle.” ('425 Pat., Col. 4:32-34.) The '425 patent explains that “[t]he vehicle may be remotely controllable by an operator remote from the vehicle . . . .” ('425 Pat., Col. 4:34-37.) The '425 patent further explains that “[t]he remote control structure may be configured to control an amount of fluid flow from at least the first nozzle.” ('425 Pat., Col. 4:41-43.) The remote control structure allows the operator to control vehicle speed and direction on land or when floating. ('425 Pat., Col. 4:34-37.)

As the Request shows, the solution disclosed in the '425 patent to the problem the '425 patent seeks to address, namely the use of an amphibious vehicle including a fluid pump for agitation of manure lagoons, was known, disclosed, and solved in the prior art in well before the effective filing date of the '425 patent.

## **B. Prosecution History**

The U.S. Patent Application No. 17/590,125 that led to the grant of the '425 patent was filed on February 1, 2022. The application No. 17/590,125 is a continuation of application No. 17/201,100, filed on March 15, 2021, which is a continuation of application No. 16/891,627, filed on June 3, 2020, which is a continuation of application No. 16/157,950, filed on October 11, 2018, which is a continuation of application No. 15/586,493, filed on May 4, 2017, which is a continuation of application No. 15/044,905, filed on February 16, 2016, which is a continuation of application No. PCT/CA2014/050789, filed on August 18, 2014, which claims the benefit of Provisional application No. 61/867,598, filed on August 19, 2013. The prosecution history for the '425 patent is attached hereto as Exhibit F.

Applicant filed the application that led to the '425 patent on February 1, 2022. The application requested Track I Prioritized Examination under 37 CFR § 1.102(e)(1). (Application,

Feb. 1, 2022.) The Examiner granted the request for prioritized examination on April 7, 2022. (Decision Granting Request for Prioritized Examination, Apr. 7, 2022.)

Relevant to the prosecution of the '425 patent, Bazooka filed a Request for *Ex Parte* Reexamination for Applicant's U.S. Patent No. 10,974,557 ("the '557 patent") on May 6, 2022. (See Exhibit G.) The '557 patent is in the same patent family as the '425 patent (as its grandparent) and shares a common specification with the '425 patent. The '557 patent Reexamination Request pointed out key prior art that was not considered during the prosecution of the '557 patent and which rendered all claims of the '557 patent anticipated under AIA 35 U.S.C. § 102 and/or obvious under AIA 35 U.S.C. § 103, including U.S. Patent No. 7,478,817 to Carrier, U.S. Patent Application Publication No. 2014/0112093 to Puck, U.S. Patent No. 7,833,071 to Gaither, and U.S. Patent Application Publication No. 2014/0288763 to Bennett. (See Exhibit G.) On May 26, 2022, the USPTO granted the reexamination request and found that this prior art created a substantial new question of patentability with respect to all claims of the '557 patent. (See Exhibit H.) On August 12, 2022, a first office action issued in the *ex parte* reexamination for the '557 patent which rejected all thirteen claims under 35 U.S.C. § 102(a)(1) in view of Carrier II. (Exhibit H. at 18 (Office Action, Aug. 12, 2022).)

During the prosecution of the '425 Patent, the Examiner never commented on the prior art or issued *any* claim rejections. On April 22, 2022, the Examiner issued a Notice of Allowance allowing application claims 1-21. (Exhibit F. at 31 (Notice of Allowance, Apr. 22, 2022).) This Notice of Allowance stated only that "[t]he application identified above has been examined and is allowed for issuance as a patent." (Notice of Allowance, Apr. 22, 2022.) Following the first Notice of Allowance, Applicant filed an Information Disclosure Statement disclosing the '557 patent Reexamination Request as well as the prior art cited therein. (Exhibit F. at 13 (Information

Disclosure Statement, May 9, 2022).) The Examiner acknowledge that the art submitted in the Information Disclosure Statement was considered and issued a second Notice of Allowance allowing claims 1-21 without comment. (Exhibit F, at 5 (Notice of Allowance, May 17, 2022).) The Examiner never substantively engaged with the prior art addressed in the Reexamination Request for the '557 patent. Crucially, the Examiner granted the second Notice of Allowance *before* the USPTO issued its decision granting *ex parte* reexamination for the '557 patent. (*Compare* Notice of Allowance, May 17, 2022, *with* Exhibit G, at 3.) The Examiner therefore never considered the USPTO's determination that the cited prior art created a substantial new question of patentability for the '557 patent.

As shown below with respect to Grounds 1-5, the substance of Applicant's allowed claims was disclosed in the prior art long before Applicant filed the application that led to the '425 patent. All the claims of the '425 patent are therefore unpatentable under AIA 35 U.S.C. §§ 102 & 103.

#### **VI. Statement Pointing Out Each Substantial New Question of Patentability**

The prior art patents and printed publications relied upon by Bazooka in this Request raise the following substantial new questions of patentability and proposed grounds of rejection:

**Ground 1:** Claims 1-7 and Claims 12-19 of the '425 patent are unpatentable under AIA 35 U.S.C. § 102 over U.S. Patent Application Publication No. 2012/0185129 to Carrier ("Carrier I").

**Ground 2:** Claims 1-21 of the '425 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent Application Publication No. 2012/0185129 to Carrier I in view of U.S. Patent Application Publication No. 2014/0112093 to Puck.

**Ground 3:** Claims 1-8, Claim 10, and Claims 12-20 of the '425 patent are unpatentable under AIA 35 U.S.C. § 102 over U.S. Patent No. 7,478,817 to Carrier ("Carrier II").

**Ground 4:** Claims 1-21 of the '425 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent No. 7,478,817 to Carrier II in view of U.S. Patent Application Publication No. 2014/0112093 to Puck.

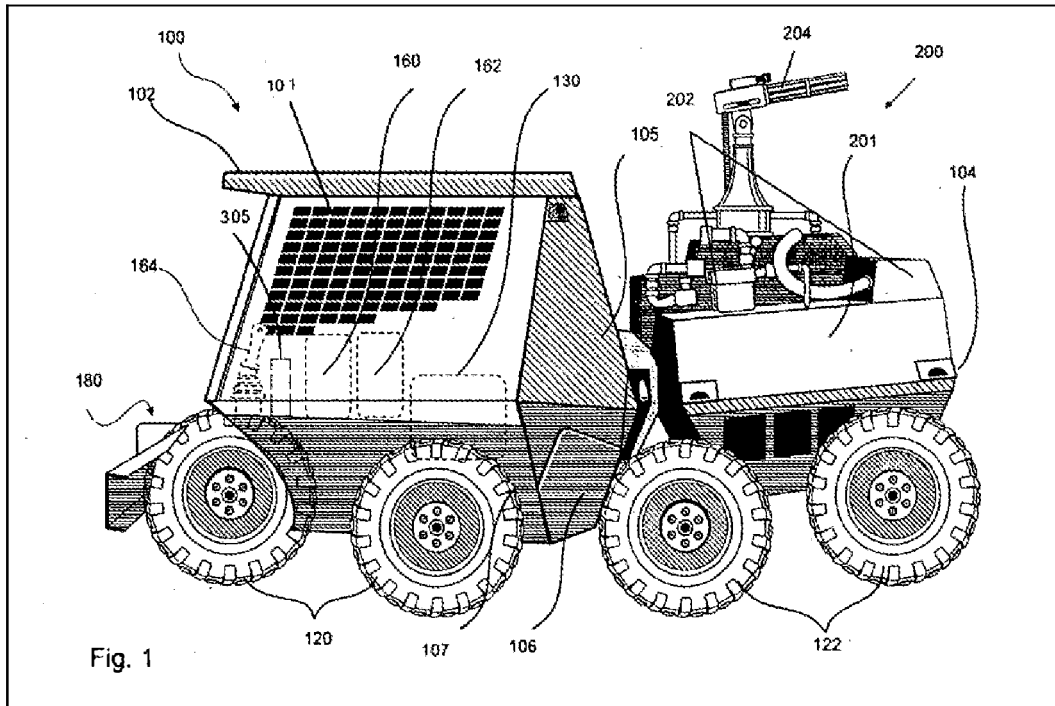
**Ground 5:** Claims 1-21 of the '425 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent Application Publication No. 2014/0112093 to Puck in view of U.S. Patent Application Publication No. 2014/0288763 to Bennett.

## **VII. Overview of Cited Prior Art**

### **A. Review of U.S. Patent Application Publication No. 2012/0185129 to Carrier I**

U.S. Patent Application Publication No. 2012/0185129 to Carrier (“Carrier I”) is directed to a “multi-purpose all-terrain vehicle.” (Carrier I, [0003].) Carrier I was filed December 11, 2008 and published July 19, 2012. The earliest effective priority date asserted for the '425 patent is August 19, 2013. Carrier is prior art under AIA 35 U.S.C. § 102(a). Carrier I was not before the Examiner during prosecution of the '425 patent. While Carrier I shares a common inventor with U.S. Patent No. 7,478,817 to Carrier II, discussed below, these references are in different patent families and do not share a common specification.

Carrier I teaches a “multi-purpose all-terrain vehicle” that is suitable for “amphibious operations” on both land and water. (Carrier I, [0003], [0079].) The amphibious vehicle of Carrier I is shown in Figure 1.



(Carrier I, Fig. 1.)

Like the amphibious vehicle disclosed in the '425 patent, the amphibious vehicle of Carrier I is configured to operate on land and in water and is equipped with a fluid pump for pumping fluid directly out of a body of water. (Carrier I, [0061] (“The use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream onto a fire is another feature of the present invention”); [0063] (“pump 202 to refill the tank 201 from lakes, ponds, or streams”).)

The amphibious vehicle disclosed in Carrier I is adapted to operate on both land and water. (Carrier I, [0074] (“Each of the structural components can preferably be made of ballistic proof material, steel or other suitable material to enable the multiple functions of land and water use to be carried out”); [0079] (“The hull of vehicle 100 can facilitate amphibious operations that accomplish three different sub tasks being (1) eliminating water drag on the vehicle as it moves through the water . . . .”).) While Carrier I discloses pumping water in connection with fighting

fires, it is not limited to this use. Carrier also explains that the amphibious vehicle may pump, for example, water, foam, and dry chemical solutions. (*See* Carrier I, [0051].)

Like the '425 patent, Carrier I explains that the amphibious vehicle includes: a floatable vehicle body; a ground engaging propulsion structure; a fluid pump; a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump; and a remote control to control the fluid pump and the direction of the amphibious vehicle while it is in operation on land and in water. These structures will be addressed in turn:

**Vehicle Body:** Carrier I discloses a floatable vehicle body. The amphibious vehicle of Carrier I “includes a frame having a sealed hull to provide the vehicle with buoyancy.” (Carrier I, [0026].) Carrier I teaches that “[t]he hull (bottom section) of the vehicle 100 can preferably be shaped in such a configuration as that of a boat” and that “[t]he hull of vehicle 100 can facilitate amphibious operations that accomplish three different sub tasks being (1) eliminating water drag on the vehicle as it moves through the water . . . .” (Carrier I, [0079].)

**Ground Engaging Propulsion Structure:** Carrier I teaches a ground engaging propulsion structure. Carrier explains that the ground engaging members may be wheels, “six and preferably eight wheels.” (Carrier I, [0045].) Carrier I further teaches that the wheels may be driven by hydraulic motors. It explains that “a direct drive system can be employed wherein one or more wheels is driven by . . . a hydraulic system as is known in the art.” (Carrier I, [0054].) Carrier I teaches that one hydraulic motor may power more than one wheel: “[I]ncluding a plurality of wheels which are operably connected to a hydraulic motor.” (Carrier I, [0024].) Carrier I further teaches that the wheels may be connected to individual hydraulic motors. (Carrier I, [0039] (“a plurality of wheels 120 and 122 . . . which can each preferably be operably connected to a hydraulic or other propel means wheel motor 124 and 126”).) Carrier I’s hydraulic propulsion system allows

each wheel to be independently driven at variable speeds. (Carrier I, [0039]-[0042].) Figures 5-7 of Carrier I provide separate hydraulic schematics for operating at low speed, mid speed, and high speed, respectively. (Carrier I, Figs. 5-7, [0033]-[0035].)

**Fluid Pump:** Carrier I teaches a fluid pump. (*See* Carrier I, [0050] (referencing “dual engine pumps”), [0051] (referencing “quick release pump systems”).) Carrier I explains that it is “equipped with a pump for providing various pressure and volume outputs to shoot sufficient volumes of water.” (Carrier I, [0052].) It explains: “The use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream onto a fire is another feature of the present invention.” (Carrier I, [0061].) Carrier I explains that the fluid pump is capable of pumping numerous liquids: (“The water cannon is as well capable to shoot streams of water . . . foam, dry chemical, or decon [decontamination] solutions in any combination.” (Carrier I, [0059]; *see also id.* (referencing “the ability to transport a pump or other device to direct the water, foam and dry chemicals at the fire, as well as decontamination solutions . . .”).) Carrier I also discloses a filter for filtering out debris that would otherwise clog the pump. (Carrier I, [0063] (“a screen to filter out debris that would otherwise clog hoses”).)

Carrier I explains that a fluid nozzle is connected to the fluid pump by a fluid conduit, *e.g.*, hose: “[F]ire fighting equipment 200 including . . . dual engine pumps 202 and hoses with nozzles 204 all of which are operatively interconnected.” (Carrier I, [0050].)

**Power Source:** Carrier I discloses a power source that can power the amphibious vehicle and the fluid pump. It explains that the hydraulic pump is powered by a diesel engine:

The hydraulic or other propel means wheel motors 124 and 126 can preferably be of a direct wheel mount type, such as the Bosch Rexroth MCR5-380 which are operably connected a transmission and or hydraulic pump or a combination of pumps which are operably connected to an engine 130 which can preferably be operably connected to the first chassis 102 or optionally second chassis 104. The

engine 130 can be a relatively low horsepower diesel unit, such as 166 horse power (124 KW) (a 3500 RPM FPT (Fiat Power Train) diesel engine.

(Carrier I, [0039].)

The fluid pump is also powered by the vehicle's power source. (Carrier I, [0051] ("The fighting equipment 200 can be self powered (i.e., dual engines 202) or can be powered by the vehicle engine 130."))

**Remote Control:** Carrier I discloses a remote control that can control both the vehicle and the fluid pump when the vehicle is in operation on land and in water. Carrier I explains: "[T]he *operations of each unit described herein* can be performed by remote control as part of processor 160." (Carrier I, [0064] (emphasis added).) Carrier I teaches, for example, that the vehicle's "steering, braking, engine, [and] transmission" may be remotely controlled. (Carrier I, [0065].) Carrier I also teaches that the remote control can control the flow of water from the fluid pump: "The water cannon is as well capable to shoot streams of water (straight streams, fog, wide streams) of just water, foam, dry chemical or decon solutions in any combination and can be remotely controlled either wirelessly or wired in manned, unmanned and autonomous modes . . . ." (Carrier I, [0059].)

## **B. Review of U.S. Patent Application Publication No. 2014/0112093 to Puck**

U.S. Patent Application Publication No. 2014/0112093 to Puck is directed to "[a] floating manure agitator that floats on the surface of a manure lagoon and that may be remotely controlled." (Puck, Abstr.) Puck was filed on December 12, 2011 and published on April 24, 2014. The earliest effective priority date asserted for the '425 patent is August 19, 2013. Puck is prior art under AIA 35 U.S.C. § 102(a). While Puck was before the Examiner during prosecution of the '425 patent, it is proper to consider Puck here in light of the substantial new questions of patentability it presents when considered differently than how it was considered by the Examiner during prosecution, as

discussed more fully with respect to Grounds 2, 4, and 5 below. *See* 35 U.S.C. § 303(a); MPEP § 2216.

Puck discloses “[a] floating manure agitator that floats on the surface of a manure lagoon and that may be remotely controlled to agitate manure supernatant into a slurry with sludge settling on the bottom of the lagoon.” (Puck, Abstr.) Puck explains: “The present invention relates in general to a manure agitator and, more particularly, to a floating manure agitator for use in association with a manure lagoon.” (Puck, [0001].) It further explains: “In the preferred embodiment of this invention, a floating manure agitator is provided with a floating vessel and a power source.” (Puck, [0011].)

The problem identified in Puck is identical to the problem the ’425 patent sought to solve, namely, the agitation of manure in manure ponds. Puck identifies the drawbacks of prior art manure agitation methods:

Prior art methods of agitating the manure include attaching a shaft with a propeller or auger to the power takeoff of a tractor or other farm vehicle resting on the shore. The rotating propeller or auger forces the supernatant down into the sludge, causing the solids within the sludge to move upward into suspension within the supernatant. While this method does place some solids into suspension, the method has several drawbacks. One drawback is that the propeller or auger forces sludge up from the bottom of the lagoon in only a narrow area. While the propeller or auger may be moved to provide a more even distribution of solids within the supernatant, moving the propeller or auger is time consuming.

(Puck, [0004].)

One solution to this problem is to use a vehicle that is lowered into the lagoon, but as Puck explains, existing manure agitation vehicles were not easily mobile or controllable because they were moved with cables by operators on the shore. (Puck, [0006].) Puck explains:

One drawback associated with such devices is that these devices are not easily maneuverable. Another drawback associated with such prior art devices is the difficulty associated with controlling such devices. Often elaborate systems of wires and securement posts must be erected near the shores of the manure lagoon

to provide a guide for the vehicle to move during the agitation process. As the vehicle typically makes several passes across the lagoon, several guide wires and posts must be set up to accommodate multiple passes. The devices can be difficult to steer during passes across the lagoon.

(Puck, [0007].)

Puck's solution is to provide a floating manure agitation boat that is mobile on the surface of a manure pond and that may be controlled via remote control.

It would, therefore, be desirable to provide a vehicle which floats on the manure pond and which is maneuverable. It would also be desirable to provide the vehicle with multiple outlet nozzles to direct the fluid downward into the lagoon a sufficient distance to agitate the solids in the bottom of the lagoon . . .

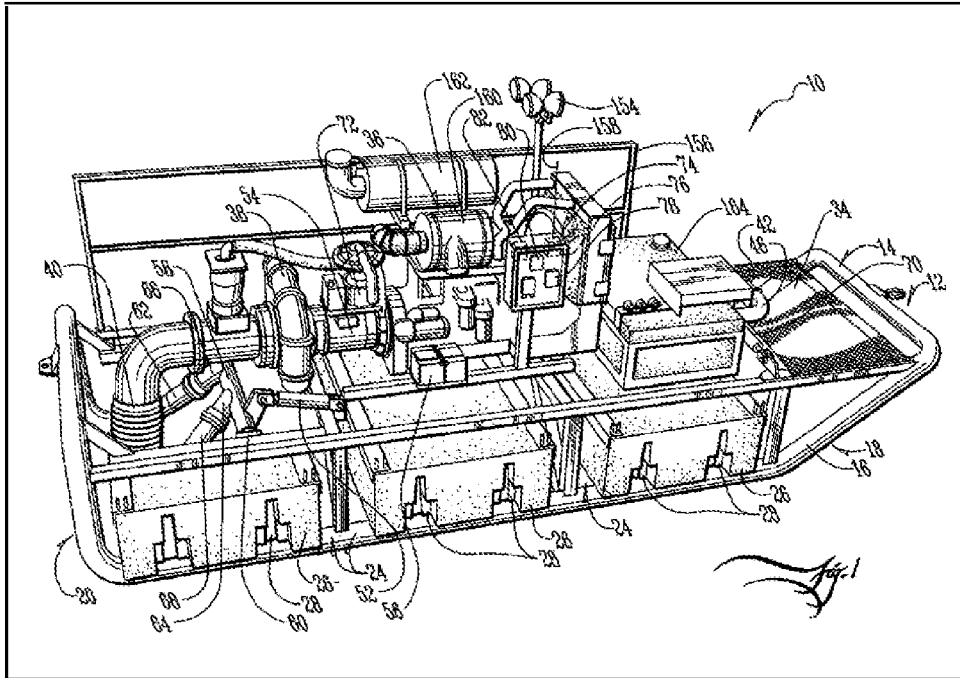
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Additionally, it would be desirable to provide a floating manure agitation vehicle that may be remotely controlled and guided to specific portions of the lagoon to move solids of the sludge into suspension with the supernatant as desired.

(Puck, [0008]-[0009].)

Puck discloses a manure agitator comprising a vehicle body, a power source, a fluid pump for pumping liquid manure, and a remote control to control the flow of fluid from the fluid pump and the speed and direction of the manure agitator. These structures will be addressed in turn.

**Vehicle Body:** Puck discloses a floatable vehicle body: "A floating fluid agitator is shown generally as (10) in FIG. 1". (Puck, [0022].) The floatable vehicle body of Puck is shown in Figure 1.

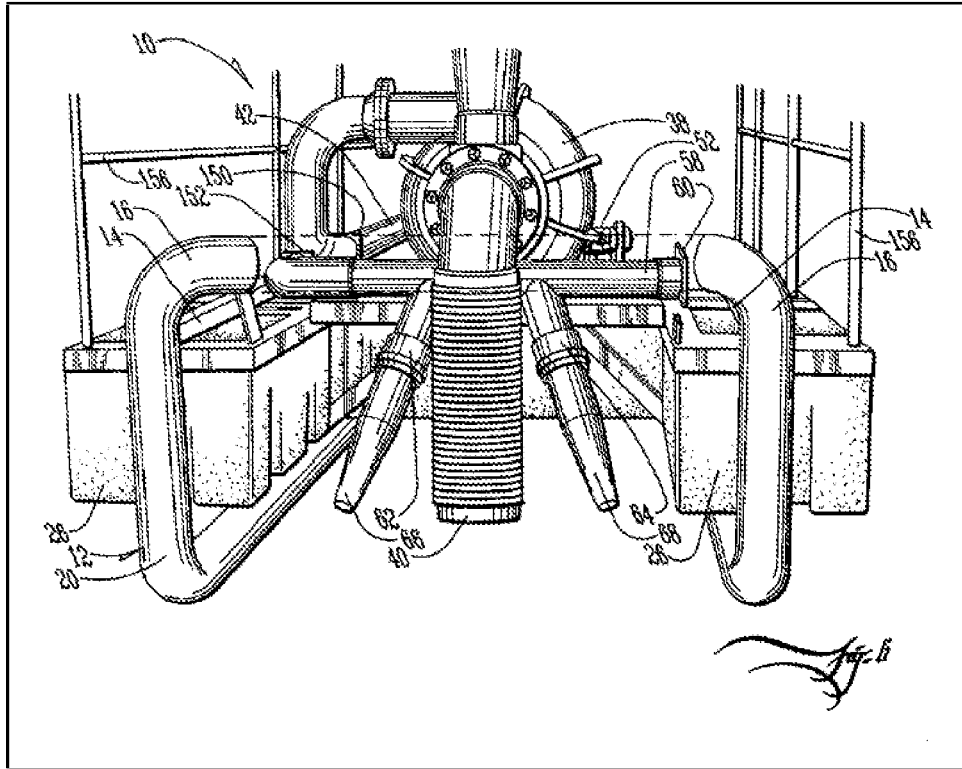


(Puck, Fig. 1.)

**Fluid Pump:** Puck further discloses a fluid pump for pumping liquid manure. Puck explains:

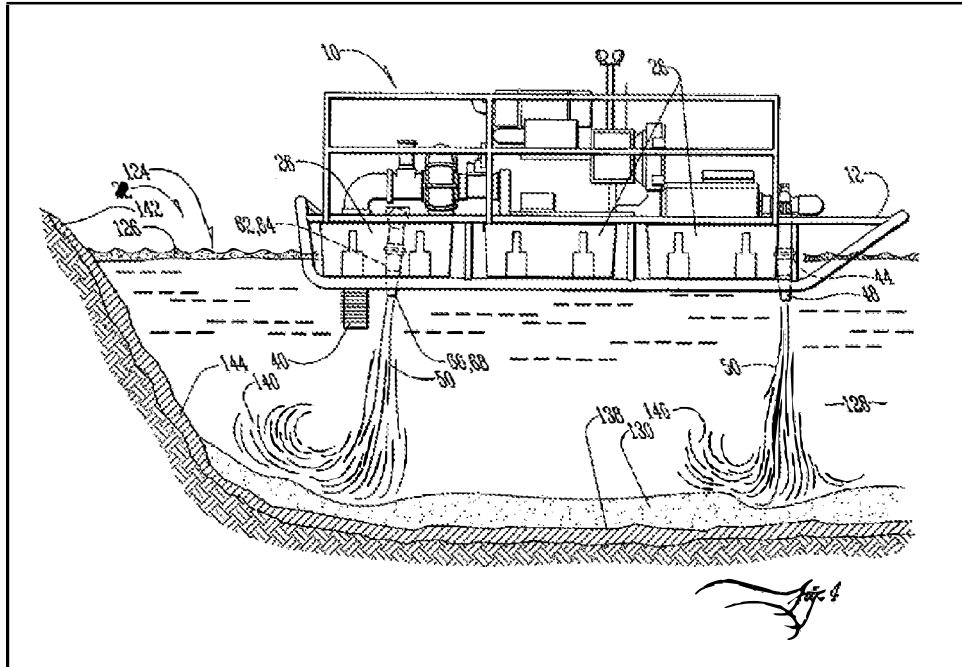
The slurry pump (38) is coupled to a liquid manure intake, such as a slurry intake, which is a downwardly directed intake pipe (40) in the preferred embodiment and is capable of handling manure crust, supernatant, sludge and the combined slurry. (FIGS. 1 and 4). If desired, the intake pipe (40) may be extensible to adjust the depth of the intake pipe (40). The intake pipe (40) is constructed to extend about twenty-four inches below the surface of the lagoon (22), but may be extended or retracted to any desired depth, including the entire depth of the lagoon (22).

(Puck, [0026]; *see also* [0027].) The fluid pump 38 is depicted in Figure 6.



(Puck, Fig. 6.)

Puck also discloses a plurality of fluid nozzles. As Puck explains, “[r]eleasably coupled to the second slurry output (62) and third slurry output (64) are a pair of nozzles (66) and (68) pivotably coupled to the vessel (12).” (Puck, [0029].) The operation of the fluid nozzles is shown in Figure 4.



(Puck, Fig. 4.)

Puck explains that the fluid nozzle is connected by a fluid conduit (transport pipe) to the fluid pump. Puck explains:

Coupled to the slurry pump (38) by a transport pipe (42) is a first slurry output (44). (FIG. 5). The first slurry output (44) is an angled pipe (46) pivotably coupled to the transport pipe (42). Releasably coupled to the angled pipe (46) is a tapered liquid manure nozzle (48) to increase the velocity of slurry (50) passing through the nozzle (48). (FIGS. 4-5). If desired, different sizes and configurations of nozzles (48) may be coupled to the angled pipe (46) to adjust the direction and velocity of slurry (50) exiting through the first slurry output (44).

(Puck, [0027].)

**Power Source:** Puck also discloses a power source (internal combustion engine) to provide power to the fluid pump. Puck explains: “The vessel (12) is provided with a deck (34) and a power source (36). (FIG.1). While the power source (36) may be any suitable power source, in the preferred embodiment the power source (36) is a John Deere Tier 3 diesel engine.” (Puck, [0024].) The power source provides power to the fluid pump: “Coupled to the power source (36) is a liquid manure pump such as a slurry pump (38).” (Puck, [0025].)

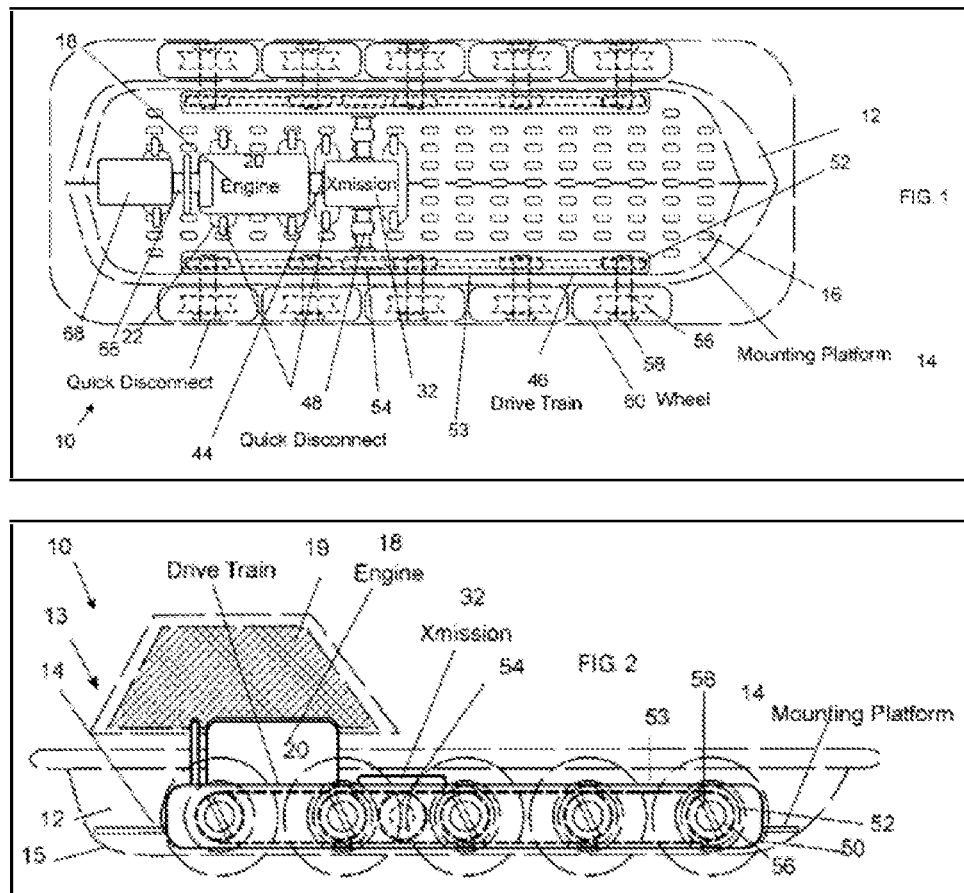
**Remote Control:** Puck also discloses a remote control that allows the agitation vehicle to be controlled from shore: “A remote control device may be coupled to the slurry control to allow the floating vehicle to be steered from the shore.” (Puck, [0011]; *see also* Puck [0032], [0035], [0037].) Puck specifically included use of a remote control to solve the problems associated with prior art agitation vehicles—the inability to control the vehicle. (*See* Puck, [0009].)

While Puck discloses the solution of using a floating manure agitator to agitate manure ponds, Puck does not address the additional problems of exiting a floating vehicle from a manure pond and transporting the floating vehicle between manure ponds. These problems are addressed through the combination of Puck with amphibious pumping vehicles. As detailed more fully with respect to Grounds 2, 4, and 5 below, a person of ordinary skill in the art would have known to combine Puck with various amphibious vehicles, such as the amphibious vehicles disclosed in Carrier I, Carrier II, and Bennett, to arrive at the invention of the ’425 patent.

### **C. Review of U.S. Patent No. 7,478,817 to Carrier II**

U.S. Patent No. 7,478,817 to Carrier (“Carrier II”) is directed to a “multi-purpose all-terrain vehicle.” (Carrier II, Col. 1:10-11.) Carrier II was filed August 15, 2005 and issued January 20, 2009. The earliest effective priority date asserted for the ’425 patent is August 19, 2013. Carrier II is prior art under AIA 35 U.S.C. § 102(a). While Carrier II was before the Examiner during prosecution of the ’425 patent, it is proper to re-consider Carrier II here in light of the substantial new questions of patentability it presents when considered differently than how it was considered by the Examiner during prosecution, as discussed more fully with respect to Grounds 3-4 below. *See* 35 U.S.C. § 303(a); MPEP § 2216. While Carrier II shares a common inventor with Carrier I, discussed above, these references are in different patent families and do not share a common specification.

Carrier II teaches a “manned or unmanned robotic amphibious ground vehicle.” (Carrier II, Col. 1:66-67.) The amphibious vehicle of Carrier II is shown in Figures 1 and 2.



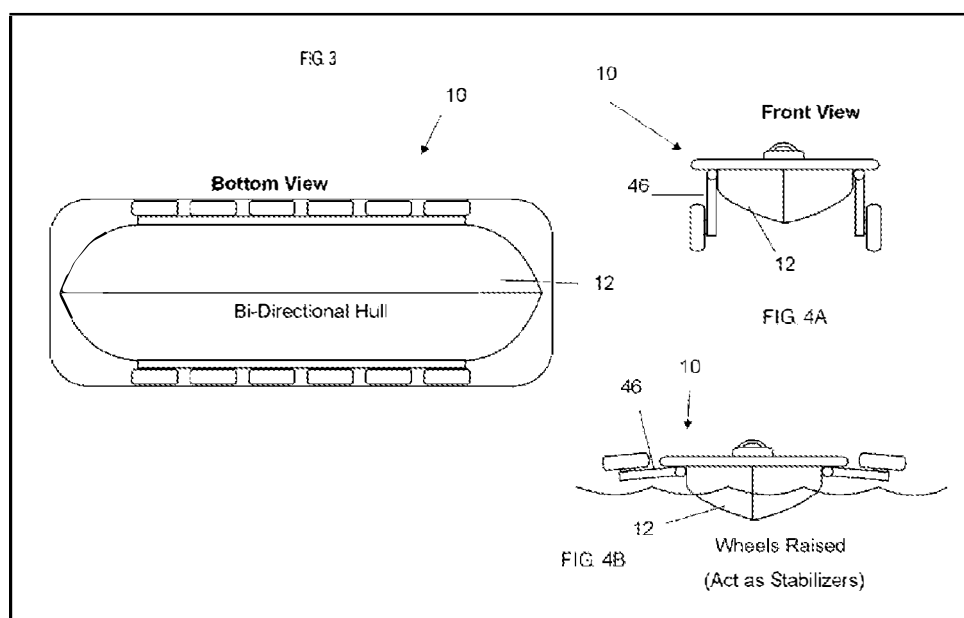
(Carrier II, Figs. 1-2.)

Carrier II is specifically “equipped for quick exchange of all its functional components . . .” (Carrier II, Col. 2:7-8.) Like the amphibious vehicle disclosed in the ’425 patent, the amphibious vehicle of Carrier II provides a vehicle that is configured to operate on land and in water, and which is equipped with a fluid pump for pumping fluid directly out of a body of water. (Carrier II, Col. 9:18-20 (“If there is a convenient nearby source of water, such as a lake or stream, the water from the available source can be pumped directly by pump”); Col. 10:51-52 (“The use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream”).) The vehicle disclosed in Carrier II is adapted to operate on both land and water.

(Carrier II, Col. 5:62-65 (“[T]he drive train housing 53 can be pivotally mounted to the platform 14, for example so that the same can be actuated between two modes, i.e., a land and a water use, as seen in FIGS. 4A and 4B”).) While Carrier II discloses pumping water in connection with fighting fires, it is not limited to this use. Carrier II also explains that the amphibious vehicle may pump, for example, water, foam, and decontamination solutions. (Carrier II, Col. 5:22-23.)

Like the '425 patent, Carrier II explains that the amphibious vehicle includes: a floatable vehicle body; a ground engaging propulsion structure; a fluid pump; a fluid nozzle; a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump; and a remote control to control the amphibious vehicle while it is in operation on land and in water. These structures will be addressed in turn:

**Vehicle Body:** Carrier II teaches that “[t]he all terrain vehicle 10 includes a sealed hull 12 having a platform 14 operably disposed within the hull 12” and that “[t]he hull 12 can be substantially sealably molded for providing buoyancy for water crossings and provide way for necessary functional attachment of units.” (Carrier II, Col. 3:8-10, 26-28.) Carrier II’s floatable vehicle body is depicted, for example, in Figures 3, 4A, and 4B.

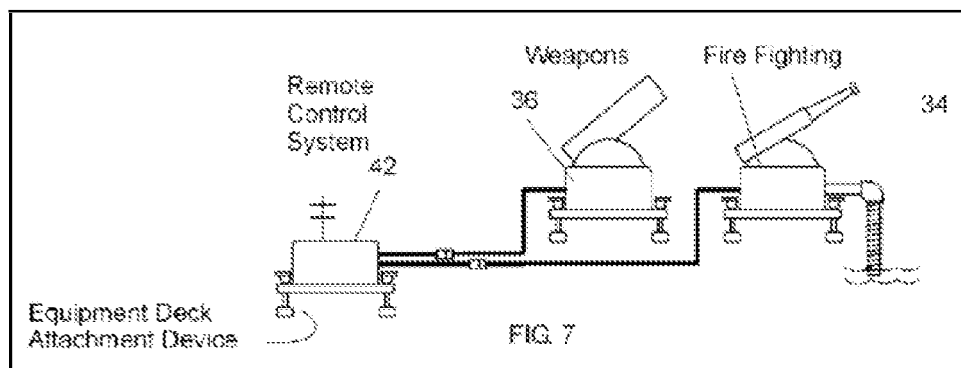


(Carrier II, Figs. 3; 4A; 4B.)

**Ground Engaging Propulsion Structure:** Carrier II also teaches a ground engaging propulsion structure. Carrier explains that the ground engaging members may be wheels or tracks. (Carrier II, Col. 3:32-38 (wheels); Col. 6:3-6 (tracks).) It also explains that “[t]he vehicle 10 can be direct all wheeled [*sic*] drive (8, 10, or 12 wheeled drive).” (Carrier II, Col. 3:32-33.)

Carrier II further teaches that the propulsion structure may be driven by hydraulic motors. It explains that “a direct drive system can be employed wherein one or more wheels is driven by . . . a hydrostatic drive transmission or via a hydraulic system as is known in the art.” (Carrier II, Col. 6:41-44.) Carrier II’s hydraulic propulsion system allows each wheel to be independently driven at variable speeds: “The drive train can also be configured in such a manner where as one or more wheels can be driven by one or more drive component systems.” (Carrier II, Col. 7:5-8; *see also* Col. 7:51-54 (disclosing variable speed transmission).)

**Fluid Pump:** Carrier II teaches a fluid pump. (*See* Carrier II, Col. 4:14-32 (referencing “fire fighting equipment and pumps” and “pump engines”).) The fluid pump of Carrier II is depicted, for example, in Figure 7.



(Carrier II, Fig. 7.)

Carrier II explains that it is “equipped with a pump for providing various pressure and volume outputs to shoot sufficient volumes of water.” (Carrier II, Col. 8:46-47.) It explains: “The

use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream onto a fire is another feature of the present invention.” (Carrier II, Col. 10:51-53.) Carrier II explains that the fluid pump is capable of pumping numerous liquids: “The water cannon is capable of flowing water, and or foamed water and or dry chemicals at the same time or independently.” (Carrier II, Col. 9:26-27; *see also* Col. 10:31-33 (“The water cannon is as well capable to shoot streams of water . . . foam, dry chemical, or decon [decontamination] solutions in any combination.”).) Carrier II also discloses a filter for filtering out debris that would otherwise clog the pump. (Carrier II, Col. 10:64-67 (“a screen to filter out debris that would otherwise clog hoses”).)

Carrier II teaches a fluid nozzle, explaining that when the pump is in operation “water is discharged through a standard e[j]ector jet nozzle attached to the end of hoses.” (Carrier II, Col. 9:3-4.) Carrier II explains that the fluid nozzle is connected to the fluid pump by a fluid conduit, *e.g.*, hose: “The hose can be fluidly attached to the pump.” (Carrier II, Col. 9: 61-62.) Carrier II also explains that the nozzle is a separate structure from the fluid conduit and discloses a plurality of nozzles:

If there is a convenient nearby source of water, such as a lake or stream, the water from the available source can be pumped directly by pump into the fire hoses, or the tank at the same time refilling the tank[']s water supply and continuing to supply water to the hoses, water tank and cannon thereby providing a continuous uninterrupted supply or flow of water by removing an end cap from pump and simple valve manipulations feeding water therethrough. The water cannon is capable of flowing water, and or foamed water and or dry chemicals at the same time or independently through a dual chambered water cannon with the appropriate corresponding nozzle affixed to each independent chamber[']s output end.

(Carrier II, Col. 9:18-30 (emphasis added).)

**Power Source:** Carrier II discloses a power source that can power the amphibious vehicle and the fluid pump. It explains: “The vehicle 10 includes a self contained (main vehicle drive

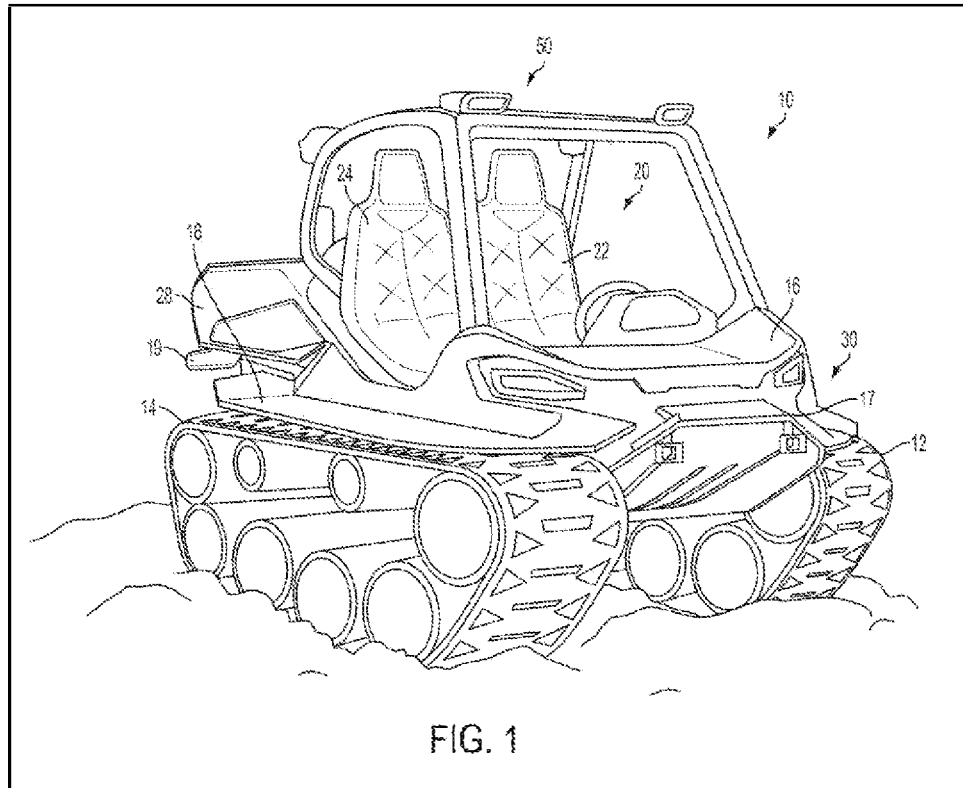
power plant), engine unit 18, (that can be P-8 compatible, gasoline, diesel, hybrid-electric, propane, natural gas or a combination thereof).” (Carrier II, Col. 4:33-36.) The pump can be powered by the vehicle’s power source: “The unit 34 can be powered by the vehicle engine unit 18.” (Carrier II, Col. 5:40-42.)

**Remote Control:** Carrier II discloses a remote control that can control both the vehicle and the pump when the vehicle is in operation on land and in water. Carrier II explains: “The operations of *each unit described herein* can be performed by remote control unit 42 which is operably quick connectable to each unit on the vehicle 10 having suitable connections therewith.” (Carrier II, Col. 11:5-8 (emphasis added).) Carrier II teaches that the remote control unit “enable[es] the vehicle 10 to be remotely controlled . . . .” (Carrier II, Col. 11: 12.) Carrier II further explains that “[t]he water cannon . . . can be remotely controlled either wirelessly or wired in manned, unmanned and autonomous modes.” (Carrier II, Col. 10:31-35.)

#### **D. Review of U.S. Patent Application Publication No. 2014/0288763 to Bennett**

U.S. Patent Application Publication No. 2014/0288763 to Bennett is directed to “a tracked ATV [all-terrain vehicle].” (Bennett, Abstr.) Bennett was filed on March 25, 2014 and published on September 25, 2014. Bennett claims the benefit of Provisional Application No. 61/805,113, which was filed on March 25, 2013. The earliest effective priority date asserted for the ’425 patent is August 19, 2013. Bennett is prior art under AIA 35 U.S.C. § 102(a). While Bennett was before the Examiner during prosecution of the ’425 Patent, it is proper to consider Bennett here in light of the substantial new questions of patentability it presents when considered differently than how it was considered by the Examiner during prosecution, as discussed more fully with respect to Ground 5 below. *See* 35 U.S.C. § 303(a); MPEP § 2216.

Bennett is an amphibious vehicle that is adapted for use on land and in water. (Bennett, [0043].) The structure of Bennett is seen in Figure 1.



(Bennett, Fig. 1.)

Bennett discloses a remote control system in which the amphibious vehicle can be remotely controlled while it is on water and while it is on land. Bennett teaches: “[V]ehicle 10 is configured for both land and amphibious operation. Additionally, vehicle 10 may be operated by remote control.” (Bennett, [0043].) Bennett is clear that the vehicle may be operated by remote control when in operation in water and on land: “In one embodiment, vehicle 10 is adapted to be remotely controlled. For example, a remote control electronic device may be used to control vehicle 10 wirelessly without an operator being positioned in the vehicle 10.” (Bennett, [0121].) As the Examiner found during prosecution of the ’557 patent, which shares a common specification with the ’425 patent and to which the ’425 patent claims priority, “Bennett teaches a remote control for land and water (paragraphs 0043, 0121).” (Exhibit I, at 31 (’557 Pat., Final Office Action, February 1, 2021).)

Like the '425 patent, Bennett also discloses a floatable vehicle body (Bennett, [0043], [0051]); a ground engaging propulsion structure including a hydraulic assembly (Bennett, [0044], [0083], Fig. 1); a fluid pump (Bennett, [0059], [0079]); and a power source (Bennett, [0083]).

As detailed more fully with respect to Ground 5 below, a person of ordinary skill in the art would have combined the amphibious vehicle of Bennett with the manure agitation boat of Puck.

### **VIII. Detailed Explanation of the Relevance and Manner of Applying the Patents to Every Claim for Which Reexamination Is Requested**

#### **A. Ground 1 (Carrier I): Detailed Prior Art Application to Claims 1-7 and Claims 12-19**

Claims 1-7 and Claims 12-19 of the '425 patent are unpatentable under AIA 35 U.S.C. § 102 because every limitation of such claims is disclosed in Carrier I. These claims are reproduced below, including citations to Carrier I indicating where each limitation is taught. A claim chart detailing this ground of invalidity is attached hereto as Exhibit J.

##### **1. Claim 1**

Carrier I discloses all the limitations of Claim 1:

“An amphibious vehicle (Carrier I, [0003], [0058], [0074], [0079]) comprising:

a floatable vehicle body (Carrier I, [0026], [0079]);

ground engaging propulsion structure (Carrier I, [0045]) comprising a plurality of ground engaging elements (*id.*) powered by a hydraulic motor (Carrier I, [0024], [0039]-[0042], [0054]);

a fluid pump (Carrier I, [0050]-[0052], [0061]) for pumping liquid manure;

a power source connected to a hydraulic pump (Carrier I, [0039]), the power source configured to provide power to both the ground engaging propulsion structure (*id.*) and the fluid pump (Carrier I, [0051]); and,

a wireless remote control (Carrier I, [0059], [0064]) configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure (Carrier I,

[0064], [0065]); (2) control a flow of liquid manure from the fluid pump (Carrier I, [0059]); (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging (Carrier I, [0064], [0065]); and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating (Carrier I, [0064], [0065]).”

To the extent it is determined that that Carrier I does not disclose a pumping system “for pumping liquid manure,” or a remote control “to control a flow of liquid manure” from the fluid pump, these are statements of intended use in Claim 1 and not structural limitations. *See* MPEP § 2114 (manner of operating a device does not differentiate an apparatus claim from the prior art). The functional language “for pumping liquid manure” is simply a statement of intended use under its broadest reasonable interpretation. In the reexamination of Applicant’s related ’557 patent, the Examiner determined that “the type of material pumped is intended use.” (Exhibit H, at 21 (Office Action, Aug. 12, 2022).) The same holds true for the ’425 patent.

The title of the ’425 patent is “Amphibious Pumping Vehicle,” and the “Technical Field” explains that “[t]he invention relates to pumps and vehicles equipped for pumping.” (’425 Pat., Col. 1:25-26.) There is nothing in the specification of the ’425 patent that suggests that the claimed fluid pump has a special or distinct structure that is required for pumping liquid manure. The ’425 patent does not teach that the fluid pump must have a specific structure for pumping liquid manure.

For example, the specification of the ’425 patent explains:

The fluid pump may comprise a pump housing configured for immersion within the fluid. The pump housing may comprise a bottom fluid inlet and at least two tangential fluid outlets. A greater number of tangential fluid outlets may be provided, for example three fluid outlets. The tangential fluid outlets may be combined into a single fluid conduit for directing the combined output of the fluid pump to a desired location.

(’425 Pat., Col. 2:66 – Col. 3:6.)

The specification of the ’425 patent also provides:

The fluid pump 9 comprises a pump housing 18 with three tangential fluid outlets 19 that are combined into a single fluid conduit 20. The single fluid conduit 20 is then split into left side 21 and right side 22 fluid conduits which connect at the front and rear of the vehicle to form a complete circuit. The fluid pump 9 is thus fluidically connected to all fluid nozzles of the vehicle via the fluid conduits 20-22.

(’425 Pat., Col. 5:42-48.)

Nothing in the specification of the ’425 patent provides that any additional structure would be required for the fluid pump to operate “for pumping liquid manure,” which is simply a statement of intended use under the broadest reasonable interpretation of this claim.

Likewise, nothing in the specification of the ’425 patent provides any additional structure that would require the remote control “to control a flow of liquid manure” from the fluid pump. The specification states only: “The remote control structure may be configured to control an amount of fluid flow from at least the first nozzle.” (’425 Pat., Col. 4:41-43.) The specification also provides:

In operation, an operator uses the remote controls to maneuver the vehicle to the lagoon entrance, drive the vehicle into the lagoon, raise the ground engaging propulsion structure (wheels), lower the fluid pump, begin pumping fluid with the fluid pump through the fluid conduits and selectively open at least the second fluid nozzles to cause the vehicle to move out on to the surface of the lagoon.

(’425 Pat., Col. 8:5-11.)

There is no associated structure that is required “to control a flow of liquid manure” (as opposed to a flow of fluid) from the fluid pump. This too is a statement of intended use under the broadest reasonable interpretation of this claim.

When faced with similar functional language, the Federal Circuit has determined that unless the specification provides a specific additional required structure, such statements are simply statements of intended use, not claim limitations. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997) (“Although Schreiber is correct that Harz does not address the use of the disclosed

structure to dispense popcorn, the absence of a disclosure relating to function does not defeat the Board’s finding of anticipation. It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable. . . . A reference may be from an entirely different field of endeavor than that of the claimed invention or may be directed to an entirely different problem from the one addressed by the inventor, yet the reference will still anticipate if it explicitly or inherently discloses every limitation recited in the claims.”); *see also Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1379 (Fed. Cir. 2017) (reversing a finding of no anticipation and holding that all claims were anticipated; “That Figure 25 contains all the structural limitations of claim 1, according to the correct construction, completes the anticipation analysis, regardless of intended use.”); *Textron Innovations Inc. v. Am. Eurocopter Corp.*, 498 F. App’x 23, 28 (Fed. Cir. 2012) (“In cases in which functional language adds a structural limitation to an apparatus claim, however, it does so because the language describes something about the structure of the apparatus rather than merely listing its intended or preferred uses.”).

The same holds true for the ’425 Patent. The language “for pumping liquid manure” and “to control a flow of liquid manure” does not describe any specific structure of the fluid pump or remote control system. It simply provides intended uses. Carrier I’s disclosure of a fluid pump and remote control system thus meets these limitations.

## **2. Claim 2**

Carrier I discloses the additional limitations of Claim 2:

“The vehicle of claim 1, wherein the vehicle further comprises a conduit fluidly connected to the fluid pump (Carrier I, [0050]).”

## **3. Claim 3**

Carrier I discloses the additional limitations of Claim 3:

“The vehicle of claim 2, wherein the conduit comprises an opening at an end thereof (Carrier I, [0052]).”

Carrier I discloses that the fluid conduit (hose) may have quick connect end couplings to connect it to the fluid pump, which necessarily includes the presence of an opening at its end. (Carrier I, [0052].) Moreover, a conduit (hose) for pumping a fluid must have an opening at its end. Based on the teaching of Carrier, a person of ordinary skill in the art at the time of the invention would understand that the conduit would necessarily have an opening at its ends in order to connect to the fluid pump and discharge fluid.

**4. Claim 4**

Carrier I discloses the additional limitations of Claim 4:

“The vehicle of claim 3, wherein the wireless remote control is configured to control an orientation of the opening (Carrier I, [0059]).”

**5. Claim 5**

Carrier I discloses the additional limitations of Claim 5:

“The vehicle of claim 4, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier I, [0050]).”

**6. Claim 6**

Carrier I discloses the additional limitations of Claim 6:

“The vehicle of claim 2, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier I, [0050]).”

**7. Claim 7**

Carrier I discloses the additional limitations of Claim 7:

“The vehicle of claim 1, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Carrier I, [0058], [0079]; *see also* [0049]).”

Carrier I explains that the amphibious vehicle “is designed to be drivable . . . through deep water” and that “[t]o achieve this effect, the vehicle can be relatively lightweight, having eight, ten or twelve-wheel drive or more, which can preferably be sealed against water intrusion.” (Carrier I, [0058].) Carrier I further explains that the vehicle “can facilitate amphibious operations” including “eliminating water drag on the vehicle as it moves through the water” and “significantly enhanc[ing] both the movement directional speed i.e. forward or reverse and significantly enhance[ing] the turning capabilities left or right.” (Carrier I, [0079].) The movement of the amphibious vehicle of Carrier I is controlled by the wheels. (Carrier I, [0058].) Under the broadest reasonable interpretation of the term, the wheels are a fluid mover. Additionally, Carrier I discloses a “propulsion pump[]” which is also a fluid mover under the broadest reasonable interpretation of that term. (Carrier I, [0049].) The propulsion pump controls the speed and direction of the vehicle of Carrier I when the vehicle is floating.

## **8.      *Claim 12***

Carrier I discloses the additional limitations of Claim 12:

“The vehicle of claim 4, wherein the power source is connected to the hydraulic pump by a mechanical drive and connected to the fluid pump by the mechanical drive (Carrier I, [0026], [0039], [0051]).”

Carrier I explains: “[T]he hydraulic pump . . . [is] operably connected to an engine 130.” (Carrier I, [0039].) A person of ordinary skill in the art at the time of the invention would understand that a mechanical means would be necessarily present in such operable connection. Carrier I likewise explains that “[t]he [fire]fighting equipment 200 . . . can be powered by the vehicle engine 130 through stacked hydrostatic PTO (Power Take Off) . . . drive systems.” (Carrier I, [0051].) The firefighting equipment includes the fluid pump. (*See* Carrier, [0050].)

**9.      *Claim 13***

Carrier I discloses all the limitations of Claim 13:

“The vehicle of claim 12, wherein the wireless remote control (Carrier I, [0064], [0065]) is configured to operate the hydraulic motor to operate the ground engaging propulsion structure at variable speed (Carrier I, [0039]-[0042], [0045], [0054]).”

**10.     *Claim 14***

Carrier I discloses the additional limitations of Claim 14:

“The vehicle of claim 13, wherein the ground engaging propulsion structure comprises a set of wheels (Carrier I, [0039], [0045], [0054]).”

**11.     *Claim 15***

Carrier I discloses the additional limitations of Claim 15:

“The vehicle of claim 14, wherein the set of wheels comprises at least two powered wheels (Carrier I, [0039], [0045], [0054]).”

**12.     *Claim 16***

Carrier I discloses the additional limitations of Claim 16:

“The vehicle of claim 14, wherein the set of wheels comprises four powered wheels, each wheel of the set of wheels is independently powered and is operable at variable speed (Carrier I, [0039]-[0042], [0045], [0054]).”

**13.     *Claim 17***

Carrier I discloses the additional limitations of Claim 17:

“The vehicle of claim 16, wherein the wheels are operable at variable speed by the hydraulic motor (Carrier I, [0039]-[0042], [0045], [0054]).”

**14.     *Claim 18***

Carrier I discloses the additional limitations of Claim 18:

“The vehicle of claim 17, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier I, [0050]).”

**15. Claim 19**

Carrier I discloses the additional limitations of Claim 19:

“The vehicle of claim 17, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Carrier I, [0058], [0079]; *see also* [0049]).”

As discussed above with respect to Claim 7, the wheels and/or propulsion pump of Carrier I are a fluid movers under the broadest reasonable interpretation of that term.

**B. Ground 2 (Carrier I in view of Puck): Detailed Prior Art Application to Claims 1-21**

Claims 1-21 of the '425 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Carrier I in view of Puck. A claim chart detailing this ground of invalidity is attached hereto as Exhibit K.

As discussed with respect to Ground 1 above, Carrier I discloses all limitations of Claims 1-7 and Claims 12-19 of the '425 patent. The combination of Carrier I and Puck discloses the additional limitations of Claims 8-11 and Claims 20-21 of the '425 patent.

While Puck was before the Examiner during prosecution of the '425 patent, it is apparent from the prosecution history that the Examiner did not consider the full scope of Puck. *See* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different

way that escaped review during earlier examination.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6.

During prosecution of the ’425 Patent, the Examiner never issued a claim rejection over Puck, or specifically applied Puck to the claims at issue. The Examiner made no comment on Puck during prosecution. Indeed, the Examiner never issued **any** claim rejections at all during prosecution of the ’425 Patent. As the Federal Circuit and PTAB have determined, the present SNQ presents this reference in a new light because Puck never formed the basis of a rejection during prosecution and were never considered in the manner in which they are presented in the SNQ. *See In re Swanson*, 540 F.3d at 1379-80; *Ex parte Allied Mach. & Eng’g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13; *Ex parte Invista N. Am., S.A.R.L.*, 2016 Pat. App. LEXIS 12692, \*10; *see also Ex parte Omega Patents, LLC*, 2019 Pat. App. LEXIS 11432, at \*10; *Ex parte Apple Inc.*, 2016 Pat. App. LEXIS 8496, at \*13-14. Additionally, the Examiner issued the second Notice of Allowance without comment for the ’425 Patent **before** the USPTO found a substantial new question of patentability and granted the ’557 patent Reexamination Request. The SNQ finding for the ’557 patent, at least, presents Puck in a new light with respect to the patentability of the ’425 patent, and Puck is properly considered here. *See* 35 U.S.C. § 303(a); MPEP § 2216.

To the extent it is determined that Carrier I does not disclose a fluid pump for pumping liquid manure or a remote control to control a flow of liquid manure, and these statements of intended use are determined to be required structural limitations, they are disclosed by Puck, which is especially adapted for pumping liquid manure and discloses a remote control for controlling a flow of liquid manure. The “technical field” for the ’425 patent is “pumps and vehicles equipped for pumping.” (’425 Pat., Col. 1:25-26.) It further specifies that “[i]n particular, the invention relates to manure pumps and amphibious vehicles equipped for pumping liquid manure.” (’425

Pat., Col. 1:26-28.) A person of ordinary skill in the art at the time of the invention would have looked to the teachings of Carrier I and Puck when attempting to solve the problem addressed by the '425 patent, namely, the efficient agitation of manure ponds without having to move shore devices or complex guide wires to reach the entire pond.

Carrier I, a multi-purpose amphibious pumping vehicle, and Puck, a floating manure agitator, are analogous art to the '425 patent. Here, both Carrier I and Puck are analogous art under either prong of *In re Bigio*. These references are in the same field of endeavor as the invention of the '425 patent and they are reasonably pertinent to the problem addressed by the invention of the '425 patent. During prosecution of the '557 patent, which shares a common specification with the '425 patent and to which the '425 patent claims priority, the Examiner cited Puck, which also demonstrates that it is analogous art. (See '557 Pat., Non-Final Office Action, September 14, 2020, at p. 2.) The Examiner also cited other amphibious vehicles such as U.S. Patent No. 5,176,098 to Royle ("Royle") during prosecution of the '557 patent. Applicant did not challenge the Examiner's determination that Puck or other amphibious vehicles were analogous art, nor did Applicant challenge the motivation of a person of ordinary skill in the art to combine Puck with amphibious vehicles. (See '557 Pat., Amendment/Response, January 14, 2021, at p. 8.)

A person of ordinary skill in the art at the time of the invention would have been motivated to combine the amphibious vehicle of Carrier I with the floating manure agitator of Puck based on the teachings in the field of amphibious vehicles and manure agitation vehicles. One of ordinary skill, considering the teachings of Carrier I, would have recognized the value of including the features of Puck. Specifically, one of ordinary skill looking to adapt the amphibious pumping vehicle of Carrier for use to remotely agitate manure lagoons would have naturally looked to the teachings of other vehicles, such as Puck, that are adapted for pumping liquid manure and disclose

remote controls for remotely agitating manure lagoons. One of ordinary skill looking to adapt the manure agitation boat of Puck to permit easier exit from a manure pond, and easier transportation between manure ponds, would have looked to the teachings of amphibious vehicles such as Carrier I, which were already adapted for use in water and on land.

In fact, Applicant has admitted that prior art manure agitation boats (which include Puck) suffered from drawbacks such as an inability to exit a manure pond. In its Complaint in the underlying litigation disclosed above, Applicant pled:

18. While other agitation boat devices were introduced to the market, they had numerous drawbacks that the Patent-in-Suit overcame. For example, the Lagoon Crawler made it easier for the vehicle to enter and exit the lagoon. A typical lagoon has a berm that requires navigation both up and then back down. Prior art designs required a trailer to launch the boat. Compounding this difficulty was the fact that the terrain around a lagoon is often muddy and wet. Indeed, a typical problem with the prior art boats was that they would get stuck on the bank or enter the lagoon too quickly and nosedive under the liquid.

19. Relatedly, prior art designs were often ineffective in exiting the lagoon, either because they got stuck in the mud at the bottom of the lagoon or got stuck on “islands” of solid buildup in the lagoon. This could lead to safety concerns when a tractor used chains to pull the boat from the lagoon. If the boat was stuck in the mud, the chains were known to break, endangering the drivers of the tractors.

(Exhibit L, at ¶¶ 19-20.)

One of ordinary skill in the art would naturally look to solve this problem by combining prior art manure agitation boats, such as Puck, with amphibious vehicles, such as Carrier I, that would be capable of entering and exiting a manure pond. Prior art may be considered in a variety of ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

During prosecution of the '557 patent, the Examiner found that other amphibious vehicles in combination with Puck “combine[] known features to achieve predictable results.” ('557 Pat., Non-Final Rejection, September 14, 2020 at pp. 2-3.) The Applicant did not challenge this combination. (See '557 Pat., Amendment/Response, January 14, 2021, at p. 8.) The same reasoning applies with equal force to the combination of the amphibious vehicle of Carrier I with Puck. The combination of the amphibious pumping vehicle of Carrier I with the fluid pump of Puck for pumping liquid manure according to known methods would yield the predictable result of a remotely-controlled amphibious pumping vehicle that is capable of pumping liquid manure.

### **1. *Claim 1***

As discussed in Ground 1 above, Carrier I discloses all limitations of Claim 1. However, to the extent it is determined that Carrier I does not disclose a fluid pump “for pumping liquid manure” or a remote control structure to control “a flow of liquid manure,” and these statements are determined to be required structural limitations, they are disclosed by Puck. Faced with the problem of remotely agitating liquid manure in a manure lagoon, it would have been obvious to one skilled in the art to use a pump for pumping the liquid manure, and a remote control for controlling that pump, in connection with an amphibious pumping vehicle.

Puck disclosed the use of a fluid pump for pumping liquid manure before the effective filing date of the '425 patent. Puck is a “manure agitator for use in association with a manure lagoon.” (Puck, [0001].) Puck teaches a fluid pump for pumping liquid manure: “Coupled to the slurry pump (38) by a transport pipe (42) is a first slurry output (44). (FIG. 5). The first slurry output (44) is an angled pipe (46) pivotably coupled to the transport pipe (42). Releasably coupled to the angled pipe (46) is a tapered liquid manure nozzle (48) to increase the velocity of slurry (50) passing through the nozzle (48).” (Puck, [0027]; *see also* [0026].)

Puck's description of the advantages of using a pumping system for pumping liquid manure is strikingly similar to the advantages described in the '425 patent. Puck provides:

It would, therefore, be desirable to provide a vehicle which floats on the manure pond and which is maneuverable. It would also be desirable to provide the vehicle with multiple outlet nozzles to direct the fluid downward into the lagoon a sufficient distance to agitate the solids in the bottom of the lagoon into suspension and create vortices within the lagoon to assist in carrying solids within the sludge into suspension in the supernatant. It would additionally be desirable to direct the nozzles to create vortices that mix the solids of the sludge into suspension with the supernatant, while minimizing the amount of unpleasant smelling hydrogen sulfide rising to the surface and escaping into the air.

(Puck, [0008].)

To that end, like Carrier I, Puck also discloses the following limitations of Claim 1: a floatable vehicle body (Puck, Abstr., [0001], [0006], [0008], Fig. 1); a fluid pump for pumping liquid manure (Puck, [0006], [0026], [0027], Fig. 6); a power source configured to provide power to the fluid pump (Puck, [0024], [0025]); and a remote control system to control the flow of fluid from the fluid pump and the speed and direction of the vehicle (Puck, [0009], [0011], [0027], [0035], [0037]). As discussed above with respect to Ground 1, Carrier discloses the remaining limitations of Claim 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the amphibious pumping vehicle of Carrier I with the manure agitator of Puck to create the invention of Claim 1.

## **2.      *Claims 2-7***

As shown with respect to Ground 1 above, Carrier I discloses all the limitations of Claims 2-7. The addition of Puck is not necessary to meet all limitations of these claims. However, the combination of Carrier I and Puck is presented in the alternative to the extent it is determined that Carrier I does not disclose all limitations of these claims.

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 2, Puck discloses a conduit fluidly connected to the fluid pump. (Puck, [0011], [0027], [0035], Figs. 4-6.)

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 3, Puck discloses a conduit comprising an opening at an end thereof. (Puck, [0027].)

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 4, Puck discloses a wireless remote control configured to control an orientation of the opening. (Puck, [0027], [0033], [0035], [0037], Fig. 7.)

To the extent it is determined that Carrier I does not disclose the additional limitations of Claims 5 and 6, Puck discloses a nozzle at the end of the conduit. (Puck, [0008], [0027], [0029], [0033], Figs. 4-6.)

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 7, Puck discloses a fluid mover controlling at least one of speed and direction of the vehicle when the vehicle is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].)

### **3.      *Claim 8***

Puck discloses the additional limitations of Claim 8:

“The vehicle of claim 1, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0027], [0029], Fig. 4, Fig. 6).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

### **4.      *Claim 9***

Puck discloses the additional limitations of Claim 9:

“The vehicle of claim 8, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Fig. 7).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

#### **5. Claim 10**

Puck discloses the additional limitations of Claim 10:

“The vehicle of claim 4, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0027], [0029], Fig. 4, Fig. 6).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

#### **6. Claim 11**

Puck discloses the additional limitations of Claim 11:

“The vehicle of claim 10, wherein 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 (Puck, Abstr., [0009], [0011], [0032], [0033], [0035], [0037]).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

#### **7. Claim 12**

As shown with respect to Ground 1 above, Carrier I discloses all the limitations of Claim 12. The addition of Puck is not necessary to meet all limitations of this claim. However, the

combination of Carrier I and Puck is presented in the alternative to the extent it is determined that Carrier II does not disclose all limitations of this claim.

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 12, Puck discloses a power source connected to the hydraulic pump by a mechanical drive and connected to the fluid pump by the mechanical drive. (Puck, [0011] (“A slurry pump is coupled to the power source.”), [0024], [0025] (“Coupled to the power source (36) is a liquid manure pump . . . .”), [0027].)

#### **8.      *Claims 13-18***

As shown with respect to Ground 1 above, Carrier I discloses all the limitations of Claims 13-18. The addition of Puck is not necessary to meet all limitations of these claims.

#### **9.      *Claim 19***

As shown with respect to Ground 1 above, Carrier I discloses all the limitations of Claim 19. The addition of Puck is not necessary to meet all limitations of this claim. However, the combination of Carrier I and Puck is presented in the alternative to the extent it is determined that Carrier I does not disclose all limitations of this claim.

To the extent it is determined that Carrier I does not disclose the additional limitations of Claim 19, Puck discloses a fluid mover controlling at least one of speed and direction of the vehicle when the vehicle is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].)

#### **10.     *Claim 20***

Puck discloses the additional limitations of Claim 20:

“The vehicle of claim 17, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0011], [0027], [0029], [0035], [0037], Fig. 4, Fig. 6).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

#### **11. Claim 21**

Puck discloses the additional limitations of Claim 21:

“The vehicle of claim 20, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Fig. 7).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier I and Puck to arrive at the claimed invention of the '425 patent.

#### **C. Ground 3 (Carrier II): Detailed Prior Art Application to Claims 1-8, Claim 10, and Claims 12-20**

Claims 1-8, Claim 10, and Claims 12-20 of the '425 patent are unpatentable under AIA 35 U.S.C. § 102 because every limitation of such claims is disclosed in Carrier II. These claims are reproduced below, with citations to Carrier II indicating where each limitation is taught. A claim chart detailing this ground of invalidity is attached hereto as Exhibit M.

While Carrier II was before the Examiner during prosecution of the '425 patent, it is apparent from the prosecution history that the Examiner did not consider the full scope of Carrier II, which discloses every element of Claims 1-8, Claim 10, and Claims 12-20 of the '425 patent as shown below. *See* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is

presented in a new light or a different way that escaped review during earlier examination.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6.

During prosecution of the '425 Patent, the Examiner never issued a claim rejection over Carrier II, or specifically applied Carrier II to the claims at issue. The Examiner made no comment on Carrier II during prosecution. Indeed, the Examiner never issued *any* claim rejections at all during prosecution of the '425 Patent. As the Federal Circuit and PTAB have determined, the present SNQ presents this reference in a new light because Carrier II never formed the basis of a rejection during prosecution and were never considered in the manner in which they are presented in the SNQ. *See In re Swanson*, 540 F.3d at 1379-80; *Ex parte Allied Mach. & Eng'g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13; *Ex parte Invista N. Am., S.A.R.L.*, 2016 Pat. App. LEXIS 12692, \*10; *see also Ex parte Omega Patents, LLC*, 2019 Pat. App. LEXIS 11432, at \*10; *Ex parte Apple Inc.*, 2016 Pat. App. LEXIS 8496, at \*13-14. Additionally, the Examiner issued the second Notice of Allowance without comment for the '425 Patent *before* the USPTO found a substantial new question of patentability with respect to Carrier II and granted the '557 patent Reexamination Request. The SNQ finding for the '557 patent, at least, presents Carrier II in a new light with respect to the patentability of the '425 patent, and Carrier II is properly considered here. *See* 35 U.S.C. § 303(a); MPEP § 2216.

### **1. Claim 1**

Carrier II discloses all the limitations of Claim 1:

“An amphibious vehicle (Carrier II, Col. 1:10-16, Col. 1:37-41, Col. 1:66-67) comprising:  
a floatable vehicle body (Carrier II, Col. 3:8-10, Col. 3:26-28, Col. 5:61-65, Figs. 4A, 4B);  
ground engaging propulsion structure (Carrier II, Col. 3:25-38) comprising a plurality of  
ground engaging elements (*id.*) powered by a hydraulic motor (Carrier II, Col. 6:41 – Col. 7:11,  
Col. 7:46-54);

a fluid pump (Carrier II, Col. 4:14-32, Col. 10:51-56) for pumping liquid manure;

a power source connected to a hydraulic pump (Carrier II, Col. 4:33-40, Col. 5:40-43, Col. 6:41-54, Col. 6:60 – Col. 7:5, Col. 8:54-58), the power source configured to provide power to both the ground engaging propulsion structure (Carrier II, Col. 5:40-46, Col. 5:53-56) and the fluid pump (Carrier II, Col. 8:45-47, Col. 9:54-56); and,

a wireless remote control (Carrier II, Col. 11:5-16, Fig. 7) configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure (Carrier II, Col. 11:5-16, Col. 11:47-53); (2) control a flow of liquid manure from the fluid pump (Carrier II, Col. 10: 2-5, Col. 10:31-35); (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging (Carrier II, Col. 11:5-16, Col. 11:47-53); and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating (*id.*).”

As discussed with respect to Ground 1 above, to the extent it is determined that that Carrier II does not disclose a pumping system “for pumping liquid manure,” or a remote control “to control a flow of liquid manure” from the fluid pump, these are statements of intended use in Claim 1 and not structural limitations. *See In re Schreiber*, 128 F.3d at 1477; *see also Homeland Housewares*, 865 F.3d at 1379; *Textron Innovations*, 498 F. App’x at 28. Carrier II’s disclosure of a fluid pump and a remote control system for controlling that pump is therefore sufficient. *See* MPEP § 2114 (manner of operating a device does not differentiate an apparatus claim from the prior art). In fact, when considering the Carrier II reference in the reexamination of Applicant’s related ’557 patent, the Examiner determined that “the type of material pumped is intended use and the Carrier device is clearly capable of pumping manure.” (Exhibit H, at 21 (Office Action, Aug. 12, 2022).) The same holds true for the ’425 patent.

## **2. Claim 2**

Carrier II discloses the additional limitations of Claim 2:

“The vehicle of claim 1, wherein the vehicle further comprises a conduit fluidly connected to the fluid pump (Carrier II, Col. 4:14-32, Col. 5:19-40, Col. 8:45-53, Col. 9:13-30, Col. 9:60-62, Col. 10:51-56).”

**3.      *Claim 3***

Carrier II discloses the additional limitations of Claim 3:

“The vehicle of claim 2, wherein the conduit comprises an opening at an end thereof (Carrier II, Col. 5:19-40, Col. 9:13-30).”

Carrier II discloses that the fluid conduit (hose) may have quick release end couplings to connect it to the fluid pump, which necessarily includes an opening at its end. (Carrier II, Col. 5:19-40.) Based on the teaching of Carrier II, a person of ordinary skill in the art at the time of the invention would understand that the conduit would necessarily have an opening at its end in order to connect to the fluid pump.

**4.      *Claim 4***

Carrier II discloses the additional limitations of Claim 4:

“The vehicle of claim 3, wherein the wireless remote control is configured to control an orientation of the opening (Carrier II, Col. 9:13-30, Col. 10:2-5, Col. 11:5-16).”

**5.      *Claim 5***

Carrier II discloses the additional limitations of Claim 5:

“The vehicle of claim 4, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier II, Col. 4:14-32, Col. 9:26-30).”

**6.      *Claim 6***

Carrier II discloses the additional limitations of Claim 6:

“The vehicle of claim 2, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier II, Col. 4:14-32, Col. 9:26-30).”

**7.      *Claim 7***

Carrier II discloses the additional limitations of Claim 7:

“The vehicle of claim 1, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Carrier II, Col. 8:16-18, Col. 8:27-28).”

Carrier II explains that the amphibious vehicle “is designed to be drivable . . . through deep water” (Carrier II, Col. 8:16-18.) Carrier II further explains that the amphibious vehicle may include “a propeller unit 68 to operate in water.” (Carrier II, Col. 8:27-28.) The “propeller unit” is a fluid mover under the broadest reasonable interpretation of that term. The propeller unit controls the speed and direction of the vehicle of Carrier II when the vehicle is floating.

**8.      *Claim 8***

Carrier II discloses the additional limitations of Claim 8:

“The vehicle of claim 1, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Carrier II, Col. 9:26-30).”

Carrier II explains that the water cannon may have dual chambers, each with a corresponding nozzle: “The water cannon is capable of flowing water, and or foamed water and or dry chemicals at the same time or independently through a dual chambered water cannon with the appropriate corresponding nozzle affixed to each independent chambers output end.” (Carrier II, Col. 9:26-30).

**9.      *Claim 10***

Carrier II discloses the additional limitations of Claim 10:

“The vehicle of claim 4, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Carrier II, Col. 4:14-32, Col. 5:19-40, Col. 8:45-53, Col. 9:26-30, Col. 9:60-62, Col. 10:51-56).”

**10.     *Claim 12***

Carrier II discloses the additional limitations of Claim 12:

“The vehicle of claim 4, wherein the power source is connected to the hydraulic pump by a mechanical drive and connected to the fluid pump by the mechanical drive (Carrier II, Col. 5:40-43, Col. 6:41-54, Col. 6:60 – Col. 7:5, Col. 9:54-56).”

Carrier II discloses, for example, “independently stacked hydro-static drives that can be mechanically driven by . . . the engine.” (Carrier II, Col. 7:1-2.)

**11.     *Claim 13***

Carrier II discloses all the limitations of Claim 13:

“The vehicle of claim 12, wherein the wireless remote control is configured to operate the hydraulic motor to operate the ground engaging propulsion structure at variable speed (Carrier II, Col. 5:40-46, Col. 6:41 – Col. 7:11, Col. 11:5-16).”

**12.     *Claim 14***

Carrier II discloses the additional limitations of Claim 14:

“The vehicle of claim 13, wherein the ground engaging propulsion structure comprises a set of wheels (Carrier II, Col. 3:25-38, Col. 5:51-56, Col. 6:25-32, Col. 6:41-54).”

**13.     *Claim 15***

Carrier II discloses the additional limitations of Claim 15:

“The vehicle of claim 14, wherein the set of wheels comprises at least two powered wheels (Carrier II, Col. 7:5-11).”

**14.     *Claim 16***

Carrier II discloses the additional limitations of Claim 16:

“The vehicle of claim 14, wherein the set of wheels comprises four powered wheels, each wheel of the set of wheels is independently powered and is operable at variable speed (Carrier II, Col. 6:41 – Col. 7:11, Col. 7:46-54).”

**15.     *Claim 17***

Carrier II discloses the additional limitations of Claim 17:

“The vehicle of claim 16, wherein the wheels are operable at variable speed by the hydraulic motor (Carrier II, Col. 6:41 – Col. 7:11).”

**16.     *Claim 18***

Carrier II discloses the additional limitations of Claim 18:

“The vehicle of claim 17, wherein the vehicle further comprises a nozzle at the end of the conduit (Carrier II, Col. 4:14-32, Col. 9:26-30).”

**17.     *Claim 19***

Carrier II discloses the additional limitations of Claim 19:

“The vehicle of claim 17, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Carrier II, Col. 8:16-18, Col. 8:27-28).”

As discussed above with respect to Claim 7, the propeller unit of Carrier II is construed as a fluid mover under the broadest reasonable interpretation of that term.

**18.     *Claim 20***

Carrier II discloses the additional limitations of Claim 20:

“The vehicle of claim 17, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Carrier II, Col. 9:26-30).”

**D. Ground 4 (Carrier II in view of Puck): Detailed Prior Art Application to Claims 1-21**

Claims 1-21 of the '425 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Carrier II in view of Puck. A claim chart detailing this ground of invalidity is attached hereto as Exhibit N.

While both Carrier II and Puck were before the Examiner during prosecution of the '425 patent, it is apparent from the prosecution history that the Examiner did not consider the full scope of these references, which disclose every element of Claims 1-21 of the '425 patent as shown below. *See* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different way that escaped review during earlier examination.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6.

During prosecution of the '425 Patent, the Examiner never issued a claim rejection over Carrier II or Puck, or specifically applied these references to the claims at issue. The Examiner made no comment on Carrier II or Puck during prosecution. Indeed, the Examiner never issued *any* claim rejections at all during prosecution of the '425 Patent. As the Federal Circuit and PTAB have determined, the present SNQ presents these references in a new light because Carrier II and Puck never formed the basis of a rejection during prosecution and were never considered in the manner in which they are presented in the SNQ. *See In re Swanson*, 540 F.3d at 1379-80; *Ex parte Allied Mach. & Eng'g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13; *Ex parte Invista N. Am., S.A.R.L.*, 2016 Pat. App. LEXIS 12692, \*10; *see also Ex parte Omega Patents, LLC*, 2019 Pat.

App. LEXIS 11432, at \*10; *Ex parte Apple Inc.*, 2016 Pat. App. LEXIS 8496, at \*13-14. Additionally, the Examiner issued the second Notice of Allowance, without comment, for the '425 Patent *before* the USPTO found a substantial new question of patentability and granted the '557 patent Reexamination Request. The SNQ finding for the '557 patent, at least, presents these references in a new light with respect to the patentability of the '425 patent, and Carrier II and Puck are properly considered here. *See* 35 U.S.C. § 303(a); MPEP § 2216.

As discussed with respect to Ground 3 above, Carrier II discloses all limitations of Claims 1-8, Claim 10, and Claims 12-20 of the '425 patent. The combination of Carrier I and Puck discloses the additional limitations of Claim 9, Claim 11, and Claim 21 of the '425 patent.

For the same reasons as discussed in Ground 2 above, to the extent it is determined that Carrier II does not disclose a fluid pump for pumping liquid manure or a remote control to control a flow of liquid manure, and these statements of intended use are determined to be required structural limitations, they are disclosed by Puck, which is especially adapted for pumping liquid manure and discloses a remote control for controlling a flow of liquid manure. A person of ordinary skill in the art at the time of the invention would have looked to the teachings of Carrier II and Puck when attempting to solve the problem addressed by the '425 patent, namely, the use of a pumping vehicle in connection with the agitation of manure ponds.

Carrier II, a multi-purpose amphibious pumping vehicle, and Puck, a floating manure agitator, are analogous art to the '425 patent. Here, both Carrier II and Puck are analogous art under either prong of *In re Bigio*. These references are in the same field of endeavor as the invention of the '425 patent and they are reasonably pertinent to the problem addressed by the invention of the '425 patent. During prosecution of the '557 patent, which shares a common specification with the '425 patent and to which the '425 patent claims priority, the Examiner cited

Puck, which also demonstrates that it is analogous art. (*See* '557 Pat., Non-Final Office Action, September 14, 2020, at p. 2.) The Examiner also cited other amphibious vehicles such as Royle during prosecution of the '557 patent. Applicant did not challenge the Examiner's determination that Puck and other amphibious vehicles were analogous art, nor did Applicant challenge the motivation of a person of ordinary skill in the art to combine Puck with amphibious vehicles. (*See* '557 Pat., Amendment/Response, January 14, 2021, at p. 8.)

For the same reasons as discussed in Ground 2 above, a person of ordinary skill in the art at the time of the invention would have been motivated to combine the amphibious vehicle of Carrier II with the floating manure agitator of Puck based on the teachings in the field of amphibious vehicles and manure agitation vehicles. One of ordinary skill, considering the teachings of Carrier II, would have recognized the value of including the features of Puck. Specifically, one of ordinary skill looking to adapt the amphibious pumping vehicle of Carrier for use to remotely agitate manure lagoons would have naturally looked to the teachings of other vehicles, such as Puck, that are adapted for pumping liquid manure and disclose remote controls for remotely agitating manure lagoons. One of ordinary skill looking to adapt the manure agitation boat of Puck to permit easier exit from a manure pond, and easier transportation between manure ponds, would have looked to the teachings of amphibious vehicles such as Carrier II, which were already adapted for use in water and on land.

In fact, Applicant has admitted that prior art manure agitation boats (which include Puck) suffered from drawbacks such as an inability to exit a manure pond. In its Complaint in the underlying litigation disclosed above, Applicant pled:

18. While other agitation boat devices were introduced to the market, they had numerous drawbacks that the Patent-in-Suit overcame. For example, the Lagoon Crawler made it easier for the vehicle to enter and exit the lagoon. A typical lagoon has a berm that requires navigation both up and then back down. Prior art designs

required a trailer to launch the boat. Compounding this difficulty was the fact that the terrain around a lagoon is often muddy and wet. Indeed, a typical problem with the prior art boats was that they would get stuck on the bank or enter the lagoon too quickly and nosedive under the liquid.

19. Relatedly, prior art designs were often ineffective in exiting the lagoon, either because they got stuck in the mud at the bottom of the lagoon or got stuck on “islands” of solid buildup in the lagoon. This could lead to safety concerns when a tractor used chains to pull the boat from the lagoon. If the boat was stuck in the mud, the chains were known to break, endangering the drivers of the tractors.

(Exhibit L, at ¶¶ 19-20.)

One of ordinary skill in the art would naturally look to solve this problem by combining prior art manure agitation boats, such as Puck, with amphibious vehicles, such as Carrier II, that would be capable of entering and exiting a manure pond. Prior art may be considered in a variety of ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

During prosecution of the ’557 patent, the Examiner found that other amphibious vehicles in combination with Puck “combine[] known features to achieve predictable results.” (’557 Pat., Non-Final Rejection, September 14, 2020 at pp. 2-3.) The Applicant did not challenge this combination. (See ’557 Pat., Amendment/Response, January 14, 2021, at p. 8.) The same reasoning applies with equal force to the combination of the amphibious vehicle of Carrier II with Puck. The combination of the amphibious pumping vehicle of Carrier II with the fluid pump of Puck for pumping liquid manure according to known methods would yield the predictable result of a remotely controlled amphibious pumping vehicle that is capable of pumping liquid manure.

## **1. *Claim 1***

As discussed in Ground 3 above, Carrier II discloses all limitations of Claim 1. However, to the extent it is determined that Carrier II does not disclose a fluid pump “for pumping liquid manure” or a remote control structure to control “a flow of liquid manure,” and these statements are determined to be required structural limitations, they are disclosed by Puck.

For the same reasons as discussed in Ground 2 above, faced with the problem of remotely agitating liquid manure in a manure lagoon, it would have been obvious to one skilled in the art to use a pump for pumping the liquid manure, and a remote control for controlling that pump, in connection with an amphibious pumping vehicle. (Puck, [0027]; *see also* [0008], [0026].)

To that end, like Carrier II, Puck also discloses the following limitations of Claim 1: a floatable vehicle body (Puck, Abstr., [0001], [0006], [0008], Fig. 1); a fluid pump for pumping liquid manure (Puck, [0006], [0026], [0027], Fig. 6); a power source configured to provide power to the fluid pump (Puck, [0024], [0025]); and a remote control system to control the flow of fluid from the fluid pump and the speed and direction of the vehicle (Puck, [0009], [0011], [0027], [0035], [0037]). As discussed above with respect to Ground 3, Carrier II discloses the remaining limitations of Claim 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the amphibious pumping vehicle of Carrier with the manure agitator of Puck to create the invention of Claim 1.

## **2. *Claims 2-8***

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claims 2-8. The addition of Puck is not necessary to meet all limitations of these claims. However, the combination of Carrier II and Puck is presented in the alternative to the extent it is determined that Carrier II does not disclose all limitations of these claims.

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 2, Puck discloses a conduit fluidly connected to the fluid pump. (Puck, [0011], [0027], [0035], Figs. 4-6.)

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 3, Puck discloses a conduit comprising an opening at an end thereof. (Puck, [0027].)

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 4, Puck discloses a wireless remote control configured to control an orientation of the opening. (Puck, [0027], [0033], [0035], [0037], Fig. 7.)

To the extent it is determined that Carrier II does not disclose the additional limitations of Claims 5 and 6, Puck discloses a nozzle at the end of the conduit. (Puck, [0008], [0027], [0029], [0033], Figs. 4-6.)

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 7, Puck discloses a fluid mover controlling at least one of speed and direction of the vehicle when the vehicle is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].)

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 8, Puck discloses a plurality of fluid nozzles connected to the fluid pump. (Puck, [0008], [0027], [0029], Fig. 4, Fig. 6).

### **3.      *Claim 9***

Puck discloses the additional limitations of Claim 9:

“The vehicle of claim 8, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Fig. 7).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier II and Puck to arrive at the claimed invention of the '425 patent.

**4. Claim 10**

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claim 10. The addition of Puck is not necessary to meet all limitations of this claim. However, the combination of Carrier II and Puck is presented in the alternative to the extent it is determined that Carrier II does not disclose all limitations of this claim.

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 10, Puck discloses a plurality of fluid nozzles connected to the fluid pump. (Puck, [0008], [0027], [0029], Fig. 4, Fig. 6).

**5. Claim 11**

Puck discloses the additional limitations of Claim 11:

“The vehicle of claim 10, wherein 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 (Puck, Abstr., [0009], [0011], [0032], [0033], [0035], [0037]).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier II and Puck to arrive at the claimed invention of the '425 patent.

**6. Claim 12**

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claim 12. The addition of Puck is not necessary to meet all limitations of this claim. However, the combination of Carrier II and Puck is presented in the alternative to the extent it is determined that Carrier II does not disclose all limitations of this claim.

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 12, Puck discloses a power source is connected to the hydraulic pump by a mechanical drive and connected to the fluid pump by the mechanical drive. (Puck, [0011], [0024], [0025], [0027].)

**7.      *Claims 13-18***

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claims 13-18. The addition of Puck is not necessary to meet all limitations of these claims.

**8.      *Claim 19***

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claim 19. The addition of Puck is not necessary to meet all limitations of this claim. However, the combination of Carrier II and Puck is presented in the alternative to the extent it is determined that Carrier I does not disclose all limitations of this claim.

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 19, Puck discloses a fluid mover controlling at least one of speed and direction of the vehicle when the vehicle is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].)

**9.      *Claim 20***

As shown with respect to Ground 3 above, Carrier II discloses all the limitations of Claim 20. The addition of Puck is not necessary to meet all limitations of this claim. However, the combination of Carrier II and Puck is presented in the alternative to the extent it is determined that Carrier II does not disclose all limitations of this claim.

To the extent it is determined that Carrier II does not disclose the additional limitations of Claim 20, Puck discloses a plurality of fluid nozzles connected to the fluid pump. (Puck, [0008], [0011], [0027], [0029], [0035], [0037], Fig. 4, Fig. 6).

**10.     *Claim 21***

Puck discloses the additional limitations of Claim 21:

“The vehicle of claim 20, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Fig. 7).”

As shown above with respect to Claim 1, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Carrier II and Puck to arrive at the claimed invention of the '425 patent.

**E. Ground 5 (Puck in view of Bennett): Detailed Prior Art Application to Claims 1-21**

Claims 1-21 of the '415 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Puck in view of Bennett. A claim chart detailing this ground of invalidity is attached hereto as Exhibit O.

While Puck and Bennett were before the Examiner during prosecution of the '425 patent, it is apparent from the prosecution history that the Examiner did not consider the full scope of these references, which disclose every element of Claims 1-21 of the '425 patent as shown below. *See* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different way that escaped review during earlier examination.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6.

During prosecution of the '425 Patent, the Examiner never issued a claim rejection over Puck or Bennett, or specifically applied these references to the claims at issue. The Examiner made no comment on Puck or Bennett during prosecution. Indeed, the Examiner never issued *any* claim

rejections at all during prosecution of the '425 Patent. As the Federal Circuit and PTAB have determined, the present SNQ presents these references in a new light because Carrier II and Puck never formed the basis of a rejection during prosecution and were never considered in the manner in which they are presented in the SNQ. *See In re Swanson*, 540 F.3d at 1379-80; *Ex parte Allied Mach. & Eng'g Corp.*, 2015 Pat. App. LEXIS 8829, at \*12-13; *Ex parte Invista N. Am., S.A.R.L.*, 2016 Pat. App. LEXIS 12692, \*10; *see also Ex parte Omega Patents, LLC*, 2019 Pat. App. LEXIS 11432, at \*10; *Ex parte Apple Inc.*, 2016 Pat. App. LEXIS 8496, at \*13-14. Additionally, the Examiner issued the second Notice of Allowance for the '425 Patent without comment *before* the USPTO found a substantial new question of patentability and granted the '557 patent Reexamination Request. The SNQ finding for the '557 patent, at least, presents these references in a new light with respect to the patentability of the '425 patent, and Puck and Bennett are properly considered here. *See* 35 U.S.C. § 303(a); MPEP § 2216.

During prosecution of the '557 patent, which shares a common specification with the '425 patent and to which the '425 patent claims priority, the Examiner specifically found that one of ordinary skill in the art would have had a motivation to combine Puck and Bennett, and that such combination “combines known features to achieve predictable results.” ('557 Pat., Final Office Action, February 1, 2021, pp. 2-3.) Applicant did not challenge that combination or challenge the Examiner’s determination that Puck and Bennett were analogous art. Even without relying on the Examiner’s prior determination regarding the '557 patent, a person of ordinary skill in the art at the time of the invention would have looked to the teachings of Puck and Bennett when attempting to solve the problem addressed by the '425 patent, namely, the use of an amphibious pumping vehicle in connection with the agitation of manure ponds. Puck, a floating manure agitator, and Bennett, an amphibious vehicle, and are analogous art to the '425 patent. Here, both Puck and

Bennett are analogous art under either prong of *In re Bigio*. These references are in the same field of endeavor as the invention of the '425 patent and they are reasonably pertinent to the problem addressed by the invention of the '425 patent.

A person of ordinary skill in the art at the time of the invention would have been motivated to combine the floating manure agitator of Puck with the amphibious vehicle of Bennett based on the teachings in the field of amphibious vehicles and manure agitation vehicles. One of ordinary skill, considering the teachings of Puck, would have recognized the value of including the features of Bennett. One of ordinary skill looking to adapt the manure agitation boat of Puck to permit easier exit from a manure pond, and easier transportation between manure ponds, would have looked to the teachings of amphibious vehicles such as Bennett, which were already adapted for use in water and on land.

In fact, Applicant has admitted that prior art manure agitation boats (which include Puck) suffered from drawbacks such as an inability to exit a manure pond. In its Complaint in the underlying litigation disclosed above, Applicant pled:

18. While other agitation boat devices were introduced to the market, they had numerous drawbacks that the Patent-in-Suit overcame. For example, the Lagoon Crawler made it easier for the vehicle to enter and exit the lagoon. A typical lagoon has a berm that requires navigation both up and then back down. Prior art designs required a trailer to launch the boat. Compounding this difficulty was the fact that the terrain around a lagoon is often muddy and wet. Indeed, a typical problem with the prior art boats was that they would get stuck on the bank or enter the lagoon too quickly and nosedive under the liquid.

19. Relatedly, prior art designs were often ineffective in exiting the lagoon, either because they got stuck in the mud at the bottom of the lagoon or got stuck on “islands” of solid buildup in the lagoon. This could lead to safety concerns when a tractor used chains to pull the boat from the lagoon. If the boat was stuck in the mud, the chains were known to break, endangering the drivers of the tractors.

(Exhibit L, at ¶¶ 19-20.)

One of ordinary skill in the art would naturally look to solve this problem by combining prior art manure agitation boats, such as Puck, with amphibious vehicles, such as Bennett, that would be capable of entering and exiting a manure pond. Prior art may be considered in a variety of different ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

As discussed above, during prosecution of the ’557 patent, the Examiner determined that the combination of Puck and Bennett “combines known features to achieve predictable results.” (’557 Pat., Final Office Action, February 1, 2021, pp. 2-3.) The combination of the fluid pump and associated structure of Puck with the amphibious vehicle of Bennett according to known methods would yield the predictable result of an amphibious pumping vehicle that is capable of pumping liquid manure. The Examiner applied the combination of Puck and Bennett during prosecution, and the Applicant did not challenge this combination.

The combination of Puck and Bennett discloses every limitation of Claims 1-21. The claims are reproduced below, with citations to Puck and Bennett indicating where each limitation is taught.

### **1.      *Claim 1***

The combination of Puck and Bennett discloses all the limitations of Claim 1:

“An amphibious vehicle (Bennett, [0043]) comprising:

a floatable vehicle body (Puck, Abstr., [0001], [0011], [0022]; Bennett, [0043], [0051]);

ground engaging propulsion structure comprising a plurality of ground engaging elements powered by a hydraulic motor (Bennett, [0003], [0044], [0062]-[0064], [0083], [0090], Fig. 1);

a fluid pump for pumping liquid manure (Puck, Abstr., [0026], [0027]; Bennett, [0059], [0079]);

a power source connected to a hydraulic pump, the power source configured to provide power to both the ground engaging propulsion structure and the fluid pump; and, (Puck, [0011]; Bennett, [0043], [0083]); and,

a wireless remote control configured to enable an operator who is remote from the vehicle to: (1) control the ground engaging propulsion structure; (2) control a flow of liquid manure from the fluid pump; (3) control at least one of the speed and direction of the vehicle when the vehicle is ground engaging; and, (4) control at least one of the speed and direction of the vehicle when the vehicle is floating (Puck, Abstr., [0011], [0027], [0035]; Bennett, [0043], [0121]).”

## **2. Claim 2**

Puck discloses the additional limitations of Claim 2:

“The vehicle of claim 1, wherein the vehicle further comprises a conduit fluidly connected to the fluid pump (Puck, [0011], [0027], [0035]).”

## **3. Claim 3**

Puck discloses the additional limitations of Claim 3:

“The vehicle of claim 2, wherein the conduit comprises an opening at an end thereof (Puck, [0027]).”

## **4. Claim 4**

Puck discloses the additional limitations of Claim 4:

“The vehicle of claim 3, wherein the wireless remote control is configured to control an orientation of the opening (Puck, [0033], [0035], [0037]).”

## **5. Claim 5**

Puck discloses the additional limitations of Claim 5:

“The vehicle of claim 4, wherein the vehicle further comprises a nozzle at the end of the conduit (Puck, [0008], [0027], [0029], [0033]).”

**6. Claim 6**

Puck discloses the additional limitations of Claim 6:

“The vehicle of claim 2, wherein the vehicle further comprises a nozzle at the end of the conduit (Puck, [0008], [0027], [0029], [0033]).”

**7. Claim 7**

Puck and Bennett disclose the additional limitations of Claim 7:

“The vehicle of claim 1, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Puck, Abstr., [0011], [0027], [0029], [0032], [0035]; Bennett, [0059], [0079]).”

Puck discloses the use of a fluid mover, e.g., fluid pump and nozzles, to control at least one of the speed and direction of the vehicle when it is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].)

Bennett likewise discloses the use of a fluid mover, e.g., a jet pump and/or propeller, to control *at least one of* the speed and direction of the vehicle when it is floating. Bennett explains: “[V]ehicle 10 may be configured to support a jet pump and/or propeller member to assist with amphibious operation . . . .” (Bennett, [0059].) Bennett further discloses “a jet pump and/or propeller member to assist in propelling [the] vehicle in water during amphibious operation.” (Bennett, [0079].)

**8. Claim 8**

Puck discloses the additional limitations of Claim 8:

“The vehicle of claim 1, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0027], [0029], Claim 14, Claim 20).”

**9.      *Claim 9***

Puck discloses the additional limitations of Claim 9:

“The vehicle of claim 8, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Claim 2, Claim 15).”

**10.     *Claim 10***

Puck discloses the additional limitations of Claim 10:

“The vehicle of claim 4, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0027], [0029], Claim 14, Claim 20).”

**11.     *Claim 11***

Puck discloses the additional limitations of Claim 11:

“The vehicle of claim 10, wherein 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 (Puck, Abstr., [0009], [0011], [0032], [0033], [0035], [0037], Claim 2, Claim 15).”

**12.     *Claim 12***

Puck discloses the additional limitations of Claim 12:

“The vehicle of claim 4, wherein the power source is connected to the hydraulic pump by a mechanical drive and connected to the fluid pump by the mechanical drive (Puck, [0011], [0024], [0025], [0027]).”

**13.     *Claim 13***

Puck and Bennett disclose the additional limitations of Claim 13:

“The vehicle of claim 12, wherein the wireless remote control is configured to operate the hydraulic motor to operate the ground engaging propulsion structure at variable speed (Puck, [0024], [0035]; Bennett, [0043], [0083], [0090], [0121]).”

**14. Claim 14**

Bennett discloses the additional limitations of Claim 14:

“The vehicle of claim 13, wherein the ground engaging propulsion structure comprises a set of wheels (Bennett, [0003], [0062], [0063], [0064], [0092]).”

**15. Claim 15**

Bennett discloses the additional limitations of Claim 15:

“The vehicle of claim 14, wherein the set of wheels comprises at least two powered wheels (Bennett, [0003], [0062], [0063], [0064], [0092]).”

To the extent that it is determined that Bennett does not disclose at least two powered wheels, such determination is incorrect. While the disclosure of Bennett is primarily directed to a tracked ATV, Bennett also discloses prior art ATVs including ground-engaging members that may be tires. (Bennett, [0003] (“ATVs and UVs include ground-engaging members, which may be tires, tracks, skis, or any other device for moving the vehicle across the ground.”) (emphasis added).) Additionally, Bennett “expressly” incorporates by reference “the complete disclosure” of U.S. Patent Application Publication No. 2013/0033070 to Kinsman et al. (“Kinsman”), attached hereto as Exhibit P. (Bennett, [0057].) Kinsman discloses a utility vehicle with at least two powered wheels. (Kinsman, [0120] (“With reference to FIG. 1, the utility vehicle is shown generally at 2 to include a frame 4 supported by a plurality of ground engaging members, for example front wheels 6 and rear wheels 8.”); Fig. 1.) Through incorporation, therefore, Bennett also discloses at least two powered wheels. Additionally, the use of hydraulically driven, powered wheels is well-known

in the art. (*See, e.g.*, Carrier II, Col. 6:41-46.) The use of at least two powered wheels would have been obvious to one of ordinary skill in the art at the time of the invention.

**16. Claim 16**

Bennett discloses the additional limitations of Claim 16:

“The vehicle of claim 14, wherein the set of wheels comprises four powered wheels, each wheel of the set of wheels is independently powered and is operable at variable speed (Bennett, [0003], [0062], [0063], [0064], [0090], [0092]).”

To the extent it is determined that Bennett does not disclose four independently powered wheels, such disclosure would have been obvious to a person of ordinary skill in the art considering the teachings of Bennett. Bennett discloses the use of two variable speed hydraulic motors, one for each set of tracks. (Bennett, [0083], [0084], [0085].) Bennett also discloses four powered wheels. (Bennett, [0003]; [0057] (incorporating disclosure of Kinsman by reference); Kinsman, [0120].) Accordingly, the use of four independently powered wheels would have been obvious to one of ordinary skill in the art at the time of the invention.

**17. Claim 17**

Bennett discloses the additional limitations of Claim 17:

“The vehicle of claim 16, wherein the wheels are operable at variable speed by the hydraulic motor (Bennett, [0003], [0062], [0064], [0083]-[0085], [0090], [0092]).”

Bennett discloses variable speed hydraulic motors to operate the tracks at variable speed. (Bennett, [0083], [0084], [0085].) Bennett also discloses four ground engaging wheels. (Bennett, [0003]; [0057] (incorporating disclosure of Kinsman by reference); Kinsman, [0120].) The use of variable speed hydraulic motors to power ground engaging wheels would have been obvious to one of ordinary skill in the art at the time of the invention.

**18. Claim 18**

Puck discloses the additional limitations of Claim 18:

“The vehicle of claim 17, wherein the vehicle further comprises a nozzle at the end of the conduit (Puck, [0008], [0011], [0027], [0035], [0037]).”

**19. Claim 19**

Puck and Bennett disclose the additional limitations of Claim 19:

“The vehicle of claim 17, wherein the at least one of speed and direction of the vehicle when the vehicle is floating is controlled by a fluid mover (Puck, Abstr., [0011], [0027], [0029], [0032], [0035]; Bennett, [0059], [0079]).”

As explained with respect to Claim 7 above, Puck discloses the use of a fluid mover, e.g., fluid pump and nozzles, to control at least one of the speed and direction of the vehicle when it is floating. (Puck, Abstr., [0011], [0027], [0029], [0032], [0035].) Bennett likewise discloses the use of a fluid mover, e.g., a jet pump and/or propeller, to control at least one of the speed and direction of the vehicle when it is floating, (Bennett, [0059], [0079].)

**20. Claim 20**

Puck discloses the additional limitations of Claim 20:

“The vehicle of claim 17, further comprising a plurality of fluid nozzles fluidly connected to the fluid pump (Puck, [0008], [0011], [0027], [0035], [0037]).”

**21. Claim 21**

Puck discloses the additional limitations of Claim 21:

“The vehicle of claim 20, wherein 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 (Puck, Abstr., [0011], [0032], [0033], [0035], [0037], Claim 2, Claim 15).”

## IX. Conclusion

The prior art relied upon in this Request raises substantial new questions of patentability as to claims 1-21 of the '425 patent. The prior art relied upon in this Request supports the various anticipation and obviousness rejections of claims 1-21 as set forth above. All the requirements for *ex parte* reexamination and a rejection of the specified claims have been met. It is respectfully requested that the PTO order such reexamination and find that claims 1-21 of the '425 patent are unpatentable.

Respectfully submitted,

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Dated: August 30, 2022

/Robert A. Kalinsky/  
Robert A. Kalinsky  
Reg. No. 50,471

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent of:

Ian Nuhn

Patent No. 10,974,557

Issued April 13, 2021

For AMPHIBIOUS PUMPING VEHICLE

## **DETAILED REQUEST FOR *EX PARTE* PATENT REEXAMINATION**

Mail Stop *Ex Parte* Reexam  
ATTN: Central Reexamination unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 CFR §1.510, Bazooka-Farmstar, LLC (“Requester”), the real party in interest and third-party requester herein, respectfully requests *ex parte* reexamination of claims 1-13 of U.S. Patent No. 10,974,557 (“the ’557 patent”). A Request for *Ex Parte* Reexamination Transmittal Form (PTO/SB/57) is attached hereto.

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### **List of Exhibits**

|                  |                                                                             |
|------------------|-----------------------------------------------------------------------------|
| <u>Exhibit A</u> | U.S. Patent No. 10,974,557 to Nuhn (“the ’557 patent”)                      |
| <u>Exhibit B</u> | U.S. Patent No. 7,478,817 to Carrier (“Carrier”)                            |
| <u>Exhibit C</u> | U.S. Patent Application Publication No. 2014/0112093 to Puck (“Puck”)       |
| <u>Exhibit D</u> | U.S. Patent No. 7,833,071 to Gaither (“Gaither”)                            |
| <u>Exhibit E</u> | U.S. Patent Application Publication No. 2014/0288763 to Bennett (“Bennett”) |
| <u>Exhibit F</u> | File History for U.S. Patent No. 10,974,557                                 |
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| <u>Exhibit J</u> | Claim Chart for Ground 4 (Puck in View of Bennett)                          |
| <u>Exhibit K</u> | U.S. Patent Application Publication No. 2013/0033070 to Kinsman (“Kinsman”) |

## **I. Introduction**

Bazooka-Farmstar, LLC (“Requester” or “Bazooka”) respectfully requests *ex parte* reexamination under 35 U.S.C. §§ 301-307 and 37 C.F.R. § 1.510 *et seq.* of claims 1-13 of U.S. Patent No. 10,974,557 (“the ’557 patent”), a copy of which is attached as Exhibit A (“Request”). These claims may be referred to herein individually, or collectively as the claims subject to reexamination. The ’557 patent issued on April 13, 2021, listing Ian Nuhn as the sole inventor. The ’557 patent is believed to be currently assigned to Nuhn Industries Ltd. (“Applicant”). This is a new request for *ex parte* reexamination.

The ’557 patent relates to an amphibious pumping vehicle with a floatable vehicle body, a ground engaging propulsion structure, a fluid pump, a fluid conduit, a fluid nozzle connected to the fluid conduit, and a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump. (’557 Pat., Abstr.) The present Request provides ample evidence that such limitations were well-known in the art and provides additional evidence that all claims of the ’557 patent were anticipated or obvious over known art at the time of the invention.

For the reasons detailed herein, there is significant new prior art that raises substantial new questions of patentability with respect to the claims of the ’557 patent.

## **II. Notice of Co-Pending Litigation**

Pursuant to MPEP § 2282, Applicant has asserted the ’557 patent in patent litigation entitled *Nuhn Industries Ltd. v. Bazooka Farmstar LLC and Tasch’s Custom LLC* in the United States District Court for the Eastern District of Wisconsin, Civil Action No. 2:21-cv-01322, and *Nuhn Industries Ltd. v. Bazooka Farmstar, LLC* in the United States District Court for the Southern District of Iowa, Civil Action No. 3:22-cv-00015-SMA-HCA.

### **III. Citation of Prior Patents and Printed Publications Presented to Show Substantial New Questions of Patentability**

Reexamination of the '557 patent is requested in view of prior art references described herein, as they would have been understood by one of ordinary skill in the art at the time of the invention of the '557 patent. The following references raise substantial new questions of patentability with respect to claims 1-13:

- 1) U.S. Patent No. 7,478,817 to **Carrier**, attached as Exhibit B ("Carrier");
- 2) U.S. Patent Application Publication No. 2014/0112093 to **Puck**, attached as Exhibit C ("Puck");
- 3) U.S. Patent No. 7,833,071 to **Gaither**, attached as Exhibit D ("Gaither"); and
- 4) U.S. Patent Application Publication No. 2014/0288763 to **Bennett**, attached as Exhibit E ("Bennett").

### **IV. Overview of Applicable Patent Law**

The prior art presented as raising substantial new questions of patentability, alone or in combination, teach the limitations of the claims subject to reexamination. Therefore, the cited prior art establishes a prima facie case of unpatentability for every claim of the '557 patent, as described in detail with respect to Grounds 1 through 4 below.

#### **A. Claim Construction**

Claims in a reexamination are to be given their broadest reasonable interpretation consistent with the specification, and limitations in the specification are not to be read into the claims. *See In re Am. Academy of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004); *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984). Although the specification may aid the understanding of claim language, limitations in the specification that are not part of the claim cannot be imported. *Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

For example, when the claim language is broader than a disclosed embodiment, the features of the disclosed embodiment may not be read into a claim. *Id.* Furthermore, during reexamination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Academy of Sci. Tech. Ctr.*, 367 F.3d at 1369.

“The [Patent Office] broadly interprets claims during examination of a patent application because the applicant may ‘amend his claims to obtain protection commensurate with his actual contribution to the art.’” *In re Yamamoto*, 740 F.2d at 1571 (citing *In re Prater*, 415 F.2d at 1405 n.31). According to the Federal Circuit, “[t]his approach serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified. Applicants’ interests are not impaired since they are not foreclosed from obtaining appropriate coverage for their invention with express claim language.” *In re Yamamoto*, 740 F.2d at 1571.

The broadest reasonable interpretation must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). The inquiry regarding the meaning of a claim should focus on what would be reasonable from the perspective of one of ordinary skill in the art. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010); *In re Buszard*, 504 F.3d 1364, 1369-70 (Fed. Cir. 2007).

#### **B. Legal Basis for Substantial New Question of Patentability**

This Request relies on prior art not previously considered by the PTO. The fact that a patent or printed publication was previously cited by or to the Office or considered by the Office does not preclude the existence of a substantial new question of patentability. *In re Swanson*, 540 F.3d 1368, 1379-80 (Fed. Cir. 2008). Instead, the focus is whether the Patent Office previously fully and completely evaluated the particular question of patentability presented by the reference cited during reexamination. *Id.* at 1380 (“[T]o decide whether a reference that was previously considered by the PTO creates a substantial new question of patentability, the PTO should evaluate the context

in which the reference was previously considered and the scope of the prior consideration and determine whether the reference is now being considered for a substantially different purpose.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6 (PTAB August 19, 2021).

Consistent with the *Swanson* decision, MPEP § 2258 provides that “[f]or a reexamination that was ordered on or after November 2, 2002 . . . reliance solely on old art (as the basis for a rejection) does not necessarily preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art.” Thus, “a SNQ may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier concluded examination(s).” *Id.* *See also* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different way that escaped review during earlier examination.”).

Each of the cited references not previously considered by the examiner present substantial new questions of patentability both alone and in combination with the prior art references previously before the Examiner.

### **C. Obviousness**

The Patent Office has issued “Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*” *See* 72 Fed. Reg. 57,526 (Oct. 10, 2007) (hereinafter “Examination Guidelines”). According to the Examination Guidelines, “the Supreme Court particularly emphasized ‘the need for caution in granting a patent based on the combination of elements found in the prior art’” 72 Fed. Reg. at 57,526 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007)). After detailing the role of

the Office, the guidelines state that “the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge.” *Id.* at 57,527. As articulated by the Supreme Court in *KSR*, the “person of ordinary skill” should be viewed as “a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421.

Art that is analogous to the subject matter of the patent may properly be used as an obviousness reference. MPEP § 2141.01. Prior art is analogous if one of two conditions are met: (1) the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). A reference is reasonably pertinent if, regardless of its field, it logically would have commended itself to an inventor’s attention in considering his problem. MPEP § 2141.01(a).

*KSR* applies “an expansive and flexible approach” to the obviousness inquiry, rather than requiring the “rigid approach” of the prior “teaching, suggestion, or motivation” (TSM) test. *KSR*, 550 U.S. at 415. *KSR* reiterated the well-established principle that a “patent for a combination which only unites old elements with no change in their respective functions . . . obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men.” *Id.* at 415-16. Indeed, “a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416 (quotation omitted). In other words, “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in

the field, the combination must do more than yield a predictable result.” *Id.* Moreover, “when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.” *Id.* at 417 (quotation omitted).

In order to determine whether it would have been obvious to combine prior art references, *KSR* recognizes:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 417. “[A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* *KSR* authorizes the courts “to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 418. “[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* “When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.” *Id.* at 421.

Although *KSR* held that the Federal Circuit’s prior “teaching, suggestion, motivation” (TSM) was overly narrow, prior art explicitly or implicitly providing a suggestion or motivation

to combine is useful when determining obviousness. *KSR*, 550 U.S. at 419; *Intex Rec. Corp. v. Team Worldwide Corp.*, 860 F. App'x 717, 723 (Fed. Cir. 2021) (explaining that “the teaching, suggestion, or motivation test . . . [is] a helpful insight”) (quotation omitted). “A suggestion or motivation to modify prior art teachings may appear in the content of the public prior art, in the nature of the problem addressed by the invention, or even in the knowledge of one of ordinary skill in the art.” *Princeton Biochems., Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1338 (Fed. Cir. 2005) The absence of some explicit instruction to modify or combine does not preclude a conclusion of obviousness. *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992).

When determining whether an invention is obvious, the Examination Guidelines instruct Examiners to “first obtain a thorough understanding of the invention disclosed and claimed in the application under examination by reading the specification, including the claims, to understand what the applicant has invented. The scope of the claimed invention must be clearly determined by giving the claims the ‘broadest reasonable interpretation consistent with the specification.’” 72 Fed. Reg. at 57,527; *see also* MPEP § 2141. Of the rationales relevant to an obviousness determination discussed in the Examination Guidelines, at least the following are pertinent to this reexamination request:

- (A) Combining prior art elements according to known methods to yield predictable results;
- (B) Simple substitution of one known element for another to obtain predictable results;
- (C) Use of a known technique to improve similar devices (methods, or products) in the same way;
- (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

*See* 72 Fed. Reg. at 57,529; *see also* MPEP § 2141.

## **V. Review of the '557 Patent**

### **A. Disclosure of the '557 Patent**

The '557 patent relates to amphibious vehicles equipped for pumping a liquid from a farm lagoon or holding pond, such as liquid animal manure. ('557 Pat., Col. 1:23-27.) The technical field states: "The invention relates to pumps and vehicles equipped for pumping." ('557 Pat., Col. 1:23-24.)

Amphibious vehicles configured for operation on land and in water were known in the art when the '557 patent was filed, including in U.S. Patent No. 7,833,071 to Gaither.<sup>1</sup>

Pumps for manure lagoons were likewise known in the art at the time the '557 patent was filed. The '557 patent explains:

Manure produced during animal husbandry, particularly hog and cattle manure, is transferred by washing to a pit or lagoon for storage prior to land application or further processing. During storage, a crust can develop on the surface of the pit or lagoon that must be disrupted prior to or during the removal of the manure. Pumps are employed for this purpose with jets that return a percentage of the manure back to the pit or lagoon in the form of a high volume spray to disrupt the crust and recirculate the manure.

('557 Pat., Col. 1:31-39.)

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<sup>1</sup> Gaither itself discloses an amphibious, all-terrain vehicle and identifies many amphibious vehicles when surveying the related art, including those disclosed in U.S. Patent No. 3,664,451; U.S. Patent No. 4,744,324; U.S. Patent No. 6,672,916; U.S. Patent No. 3,444,837; U.S. Patent No. 3,199,486; U.S. Patent No. 5,993,273; U.S. Patent No. 6,666,735; U.S. Patent No. 4,664,051; and U.S. Patent No. 3,385,255. (*See* Gaither, Col. 1:28 – Col. 2:56.)

These pumps for manure lagoons identified by the '557 Patent were only accessible from the side of the lagoon and required the use of a tractor or other vehicle to operate. They were thus limited in the ability to recirculate manure in the middle of large lagoons:

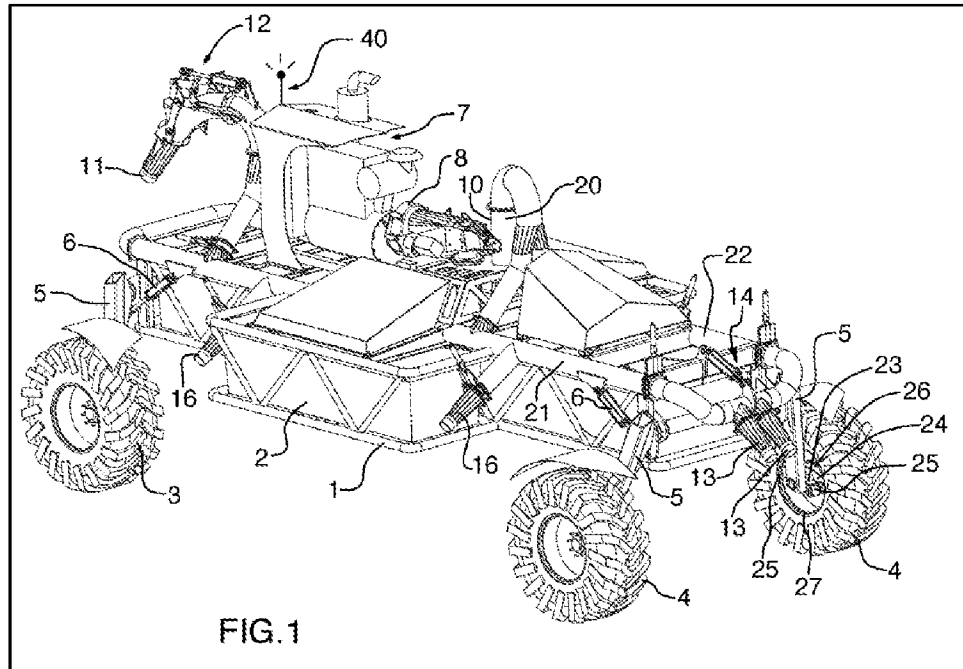
Pumps for use in recirculating manure from smaller pits are known; however, these pumps are typically suitable for accessing the pit or lagoon from its edge are connected to a tractor or similar land vehicle for operational power. They are therefore limited in their ability to recirculate manure to the middle of large lagoons, which are becoming increasing [*sic*] common as the size of animal husbandry operations increases.

('557 Pat., Col. 1:39-48.) Therefore, the '557 patent identifies the problem of reaching, and thus agitating, the entire lagoon from shore as the lagoons increase in size.

The solution to this problem identified by the '557 patent was to include a pump on an amphibious vehicle suitable for use with large manure lagoons. ('557 Pat., Col. 1:49-51.) The '557 patent is directed to an amphibious pumping vehicle. The Summary of the Invention explains that the amphibious pumping vehicle includes the following elements: a floatable vehicle body; a ground engaging propulsion structure; a fluid pump; a fluid nozzle connected by a fluid conduit to a fluid pump; and a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump. ('557 Pat., Col. 1:55-62.) The Summary of the Invention also explains that the vehicle may be remotely controlled. ('557 Pat., Col. 4:32-58.)

Each of these structures will be addressed in turn:

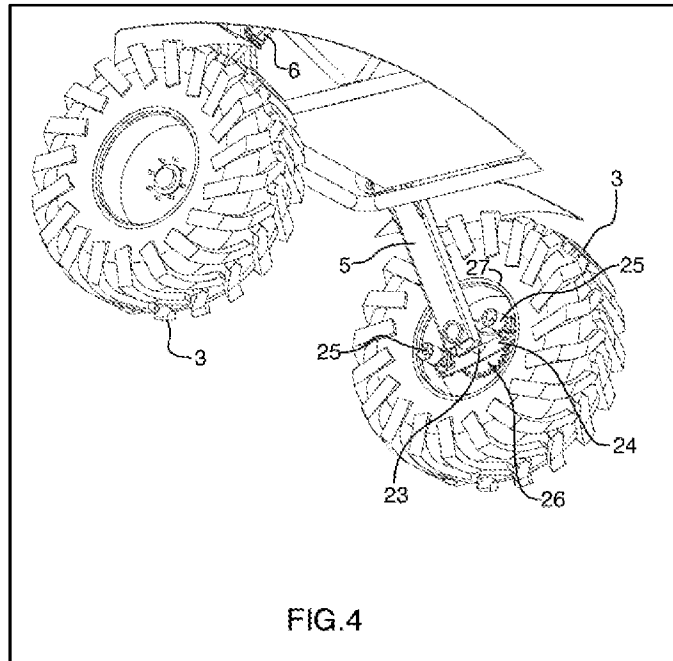
Vehicle Body: The '557 patent discloses a floatable vehicle body and explains that “[f]lotation of the vehicle body may be provided by a displacement hull, pontoon elements, or buoyant elements.” ('557 Pat., Col. 1:64-66.) The floatable vehicle body 1 is depicted in Figure 1.



('557 Pat., Fig. 1.)

Ground Engaging Propulsion Structure: The '557 patent explains that the ground engaging propulsion structure “may comprise an endless track or a set of wheels.” ('557 Pat., Col. 2:6-8.) “The set of wheels may comprise two or more wheels, for example four wheels, six wheels, or eight wheels.” ('557 Pat., Col. 2:8-10.) It further explains that when the vehicle comprises a set of wheels, “any number of the wheels may be driven to provide propulsion to the vehicle.” ('557 Pat., Col. 2:12-14.)

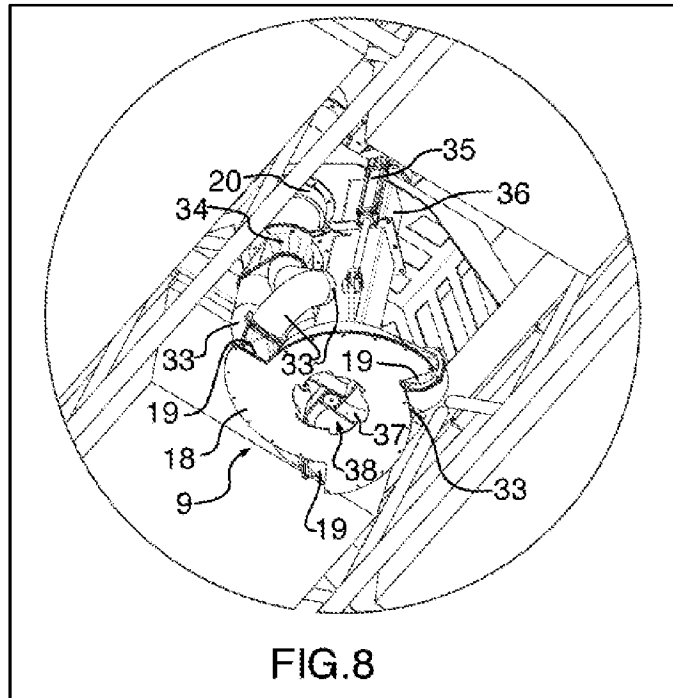
The '557 patent discloses propulsion using hydraulic motors. It explains that “it is preferred that the wheels are independently driven at variable speeds, allowing them to be fixed in direction relative to the vehicle body” and that “at least one motor may be connected to each wheel that is hydraulically . . . operable at variable speed.” ('557 Pat., Col. 2:17-20, 25-27.) This arrangement “provides directional control of the vehicle, even in wet or muddy conditions where conventional steering is likely to be ineffective due to sliding of the steerable set of wheels.” ('557 Pat., Col. 2:20-23.) The hydraulic motors 25 are shown in Figure 4.



(’557 Pat., Fig. 4.)

The ’557 patent further explains that the amphibious vehicle is steered by varying the speed between the hydraulic motors on the right side and the left side of the vehicle: “By increasing the rotational speed of the hydraulic motors 25 on the right side relative to the motors 25 on the left side, the vehicle is caused to turn to the left. . . . Thus, directional and motive control of the vehicle (forward/reverse) while on land is controlled by varying the relative speed and rotational direction of the hydraulic motors 25.” (’557 Pat., Col. 6:32-40.)

Fluid Pump: The ’557 patent discloses a fluid pump that is mounted on the amphibious vehicle. (’557 Pat., Col. 2:65 – Col. 3:13.) The fluid pump includes a pump housing 18 with multiple fluid outlets 19 that are combined into a single fluid conduit 20, as shown in Figure 8.



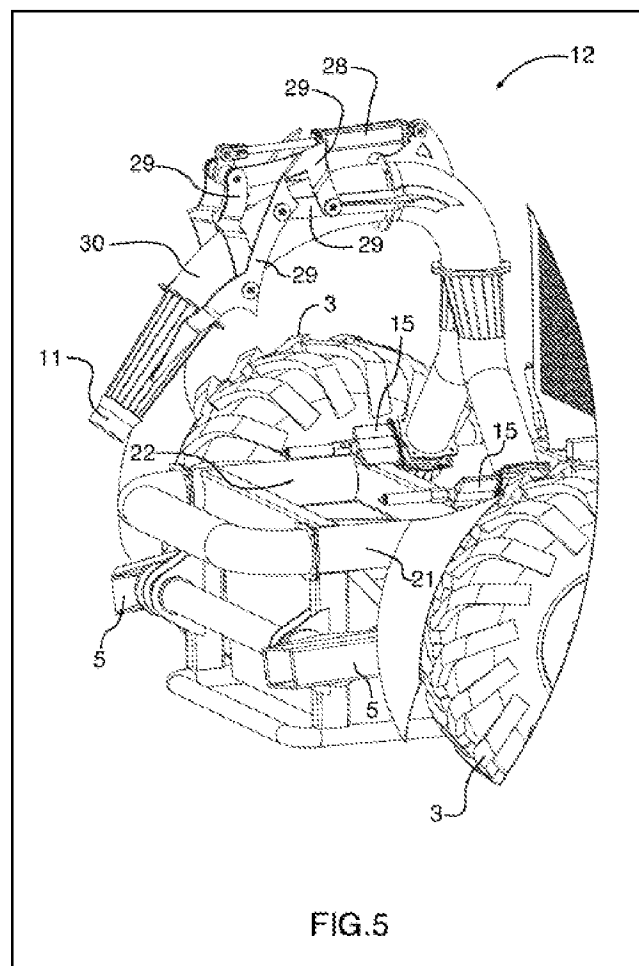
(’557 Pat., Fig. 8.)

Referring to Figure 8, the ’557 patent further explains: “[T]he fluid pump 9 comprises a pump housing 18 comprising three tangential fluid outlets 19 that are connected via flexible pump outlet conduits 33 to a combiner 34 that is used to combine the fluid output of the tangential fluid outlets 19 into the single conduit 20.” (’557 Pat., Col. 7:20-24.)

While the ’557 patent notes that the fluid pump may be used “for pumping liquid manure,” *e.g.*, Claim 1, it does not teach any specific associated structure necessary for pumping liquid manure. The ’557 patent simply explains that the housing of the fluid pump “may comprise a bottom fluid inlet and at least two tangential fluid outlets” and that “[t]he tangential fluid outlets may be combined into a single fluid conduit for directing the combined output of the fluid pump to a desired location.” (’557 Pat., Col. 2:66 – Col. 3:5.) This is consistent with the broad Technical Field description which is not limited to pumping manure: “The invention relates to pumps and vehicles equipped for pumping.” (’557 Pat., Col. 1:23-24.)

Fluid Nozzle: The '557 patent discloses a nozzle that is connected by a fluid conduit to the fluid pump. ('557 Pat., Col. 3:21-43.) The '557 patent explains that the amphibious pumping vehicle “comprises a first fluid nozzle configured to direct fluid through the air” and that “[t]he fluid nozzle is connected by fluid conduit to the fluid pump.” ('557 Pat., Col. 3:21-23.) The vehicle may include “a plurality of fluid nozzles comprising the first fluid nozzle and at least one second fluid nozzle connected to the fluid conduit.” ('557 Pat., Col. 3:26-28.) Every disclosed embodiment includes a nozzle, which is used for propulsion and directional control.

Fluid Conduit: The '557 patent teaches that the nozzle is a separate structure than the fluid conduit. The fluid pump 9 is connected to all the fluid nozzles 11 of the vehicle via the fluid conduits 20-22, as shown in Figure 5.



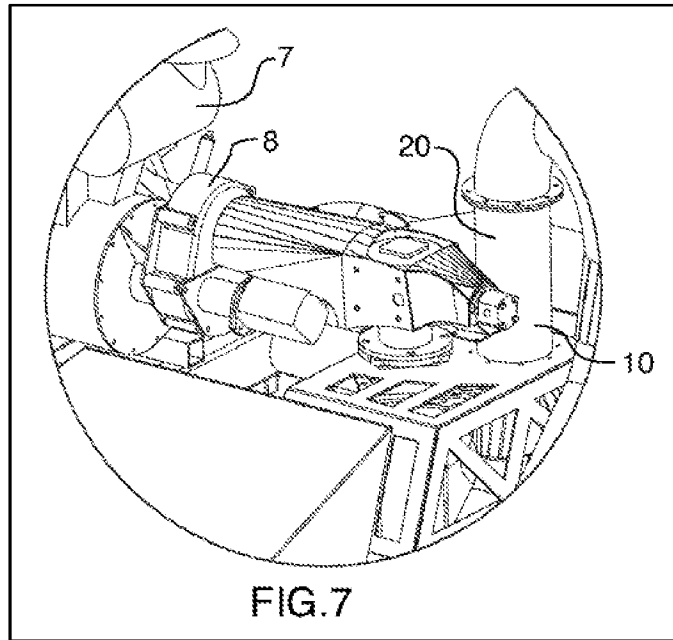
(’557 Pat., Fig. 5.)

The specification of the ’557 Patent is also clear that the nozzle and the fluid conduit are separate and distinct structures:

- . . . the fluid nozzle connected by a fluid conduit to the fluid pump (’557 Pat., Col. 1:59-60);
- The fluid nozzle is connected by fluid conduit to the fluid pump. The fluid conduit connecting the fluid nozzle to the fluid pump may comprise the single fluid conduit that is connected to the tangential fluid outlets of the pump. The vehicle may further comprise a plurality of fluid nozzles comprising the first fluid nozzle and at least one second fluid nozzle connected to the fluid conduit. (’557 Pat., Col. 3:22-28); and
- The at least two side fluid nozzles may comprise a pair of fluid nozzles on opposite sides of the vehicle connected to the fluid conduit (’557 Pat., Col. 3:33-35).

Referring to Figure 5 above, the ’557 patent explains: “The first fluid nozzle 11 is connected to the fluid conduits 21, 22 via a flexible conduit 30 that permits articulation of the nozzle.” (’557 Pat., Col. 6:50-52.)

Power Source: The ’557 patent explains that the power source may include an internal combustion engine, for example a diesel engine, mounted to the vehicle body. (’557 Patent, Col. 5:36-38.) “A mechanical drive 8 connects the power source 7 to the hydraulic pump 10 that is used to provide hydraulic system fluid pressure for the vehicle” (’557 Patent, Col. 5:38-41), as shown in Figure 7:



(’557 Pat., Fig. 7.)

The ’557 patent explains that the power structure “may be self-contained on the vehicle” and that the power source “may comprise an internal combustion engine, a fuel-cell, [or] electric batteries.” (’557 Pat., Col. 2:43-46.) It also explains that the “power source may be connected to a hydraulic pump for supplying hydraulic fluid pressure to hydraulic systems on board the vehicle.” (’557 Pat., Col. 2:50-53.)

Remote Control: The ’557 patent also discloses that the amphibious vehicle may be operated using a remote control system: “The vehicle may comprise remote control structure configured to cause the vehicle to be remotely controllable by an operator remote from the vehicle.” (’557 Pat., Col. 4:32-34.) The ’557 patent explains that “[t]he vehicle may be remotely controllable by an operator remote from the vehicle . . . .” (’557 Pat., Col. 4:34-37.) The remote control structure allows the operator to control vehicle speed and direction on land or when floating. (’557 Pat., Col. 4:34-37.)

As the Request shows, the solution disclosed in the '557 patent to the problem the '557 patent seeks to address, namely the use of an amphibious vehicle including a fluid pump for agitation of manure lagoons, was known, disclosed, and solved in the prior art in well before the effective filing date of the '557 patent.

## **B. Prosecution History**

The U.S. Patent Application No. 16/891,627 that led to the grant of the '557 patent was filed on June 3, 2020. The application No. 16/891,627 is a continuation of application No. 16/157,950, filed on October 11, 2018, which is a continuation of application No. 15/586,493, filed on May 4, 2017, which is a continuation of application No. 15/044,905, filed on February 16, 2016, which is a continuation of application No. PCT/CA2014/050789, filed on August 18, 2014.<sup>2</sup> The prosecution history for the '557 patent is attached hereto as Exhibit F.

The Examiner issued a non-final office action on September 14, 2021 ("Non-Final Office Action"). In the Non-Final Office Action, the Examiner rejected application Claims 1-3, 7-8, 10, 12-13, and 16-20 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,176,098 to Royle ("Royle") in view of U.S. Patent No. 3,384,047 to Remley ("Remley") and U.S. Patent Application Publication No. 2014/0112093 to Puck ("Puck"). (See Non-Final Office Action, September 14, 2020, at p. 2.) Specifically, the Examiner determined:

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<sup>2</sup> The priority claim for the '557 patent is inconsistent. The patent application that matured into the '557 patent identified the application with reference to No. PCT/CA2014/050789, filed on Aug. 18, 2014, which claims the benefit of Provisional application No. 61/867,598, filed on Aug. 19, 2013. Applicant later amended its Application Disclosure Sheet to state that the application was a continuation of No. PCT/CA2014/050789, filed on Aug. 18, 2014, which claims the benefit of Provisional application No. 61/867,598, filed on Aug. 19, 2013. Applicant further requested a corrected filing receipt, which was entered, but the corrected filing receipt still does not reference No. PCT/CA2014/050789, filed on Aug. 18, 2014, which claims the benefit of Provisional application No. 61/867,598, filed on Aug. 19, 2013.

It would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to form the device of Royle with a fluid pump, conduit and fluid nozzle as taught by Remley to allow fluid to be directed through the air and to provide multiple nozzles, remote control and a valve for improved steering and propulsion as taught by Puck.

(Non-Final Office Action, September 14, 2020, at p. 2 (emphasis added).)

In response to the rejection, Applicant argued that none of the asserted prior art describes a remote control structure through which the amphibious vehicle can be controlled remotely when the vehicle is on land and when it is in water:

None of the cited prior art describe a remote control structure configured such that the speed and/or direction of an amphibious vehicle is remotely controllable by an operator remote from the vehicle when the vehicle is ground engaging and when the vehicle is floating. Neither Royle nor Remley disclose remote control by an operator remote from the vehicle. Puck discloses remote control over steering a floating vehicle, but does not disclose or even suggest that the vehicle can be operated on the ground and does not disclose or even suggest remotely operating such a vehicle on the ground.

(Amendment/Response, January 14, 2021, at p. 8 (emphasis in original).) Applicant also amended the application to add application claims 21-34. (Amendment/Response, January 14, 2021, at pp. 4-6.)

In an Examiner interview discussing “[r]emote control of Amphibious [*sic*],” the Examiner agreed that “all the claims except 21-28 are allowable.” (Interview Summary, January 19, 2021.) The Examiner also referred to the newly discovered reference, U.S. Patent Application Publication No. 2014/0288763 to Bennett (“Bennett”):

**Issues Discussed:**

**35 U.S.C. 103**

Remote control of Amphibious discussed. The examiner agreed that all the claims except 21-28 are allowable. New Bennett reference, found and cited.

(Interview Summary, January 19, 2021.)

On February 1, 2021, the Examiner issued a final office action rejecting application claims 21-28 under 35 U.S.C. 103 as being unpatentable over Royle in view of Remley, Puck, and Bennett (“Final Office Action”). The Examiner specifically found that “Bennett teaches a remote control for land and water (paragraphs 0043, 0121).” (Final Office Action, February 1, 2021, p. 2.) Following an Examiner interview, the Examiner canceled application claims 21-28 through an Examiner’s Amendment, and application claims 1-2, 4, 6, 12, 18, 20, and 29-34 received a notice of allowance. (Examiner Interview Summary, January 28, 2021; Notice of Allowance, February 10, 2021.) The ’557 patent issued April 13, 2021.

As shown below with respect to Ground 4, because Bennett teaches the remote control of an amphibious vehicle while in operation both on land and in water, the Examiner’s allowance of application claims 1-2, 4, 6, 12, 18, 20, and 29-34 was in error. These claims were unpatentable over Puck in view of Bennett by the Examiner’s own determination.

Furthermore, as shown below with respect to Grounds 1-3, the substance of Applicant’s allowed claims was disclosed in the prior art long before Applicant filed the application that led to the ’557 patent. U.S. Patent No. 7,478,817 to Carrier (“Carrier”), both alone and in combination with Puck and U.S. Patent No. 7,833,071 to Gaither (“Gaither”), discloses and teaches all the limitations of claims 1-13 of the ’557 patent. Carrier and Gaither were not before the Examiner during prosecution of the ’557 patent. All the claims of the ’557 patent are therefore unpatentable under AIA 35 U.S.C. §§ 102 & 103.

## **VI. Statement Pointing Out Each Substantial New Question of Patentability**

The prior art patents and printed publications relied upon by Bazooka in this Request raise the following substantial new questions of patentability and proposed grounds of rejection:

**Ground 1:** Claims 1-13 of the ’557 patent are unpatentable under AIA 35 U.S.C. § 102 over U.S. Patent No. 7,478,817 to Carrier.

**Ground 2:** Claims 1-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent No. 7,478,817 to Carrier in view of U.S. Patent Application Publication No. 2014/0112093 to Puck.

**Ground 3:** Claims 8-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent No. 7,478,817 to Carrier in view of U.S. Patent Application Publication No. 2014/0112093 to Puck and in further view of U.S. Patent No. 7,833,071 to Gaither.

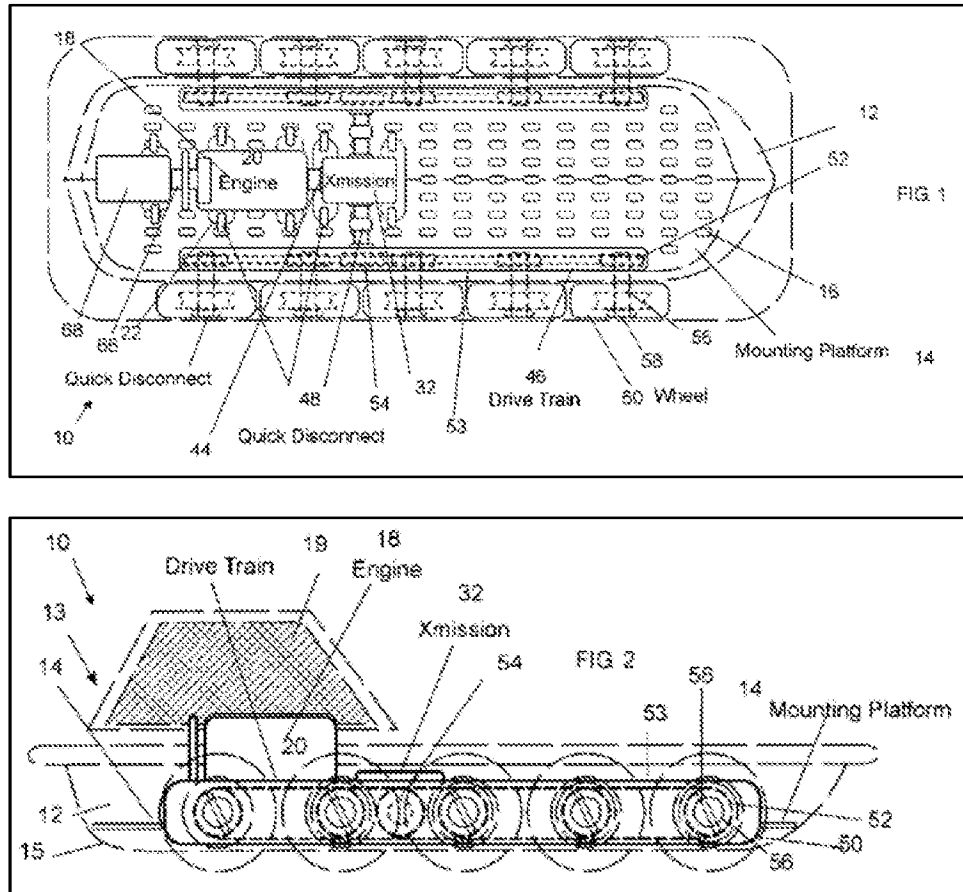
**Ground 4:** Claims 1-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 103 over U.S. Patent Application Publication No. 2014/0112093 to Puck in view of U.S. Patent Application Publication No. 2014/0288763 to Bennett.

**VII. Detailed Explanation of the Relevance and Manner of Applying the Patents to Every Claim for Which Reexamination Is Requested**

**A. Review of U.S. Patent No. 7,478,817 to Carrier**

U.S. Patent No. 7,478,817 to Carrier is directed to a “multi-purpose all-terrain vehicle.” (Carrier, Col. 1:10-11.) Carrier was filed August 15, 2005 and issued January 20, 2009. The earliest effective priority date asserted for the '557 patent is August 19, 2013. Carrier is prior art under AIA 35 U.S.C. § 102(a). Carrier was not before the Examiner during prosecution of the '557 patent.

Carrier teaches a “manned or unmanned robotic amphibious ground vehicle.” (Carrier, Col. 1:66-67.) The amphibious vehicle of Carrier is shown in Figures 1 and 2.



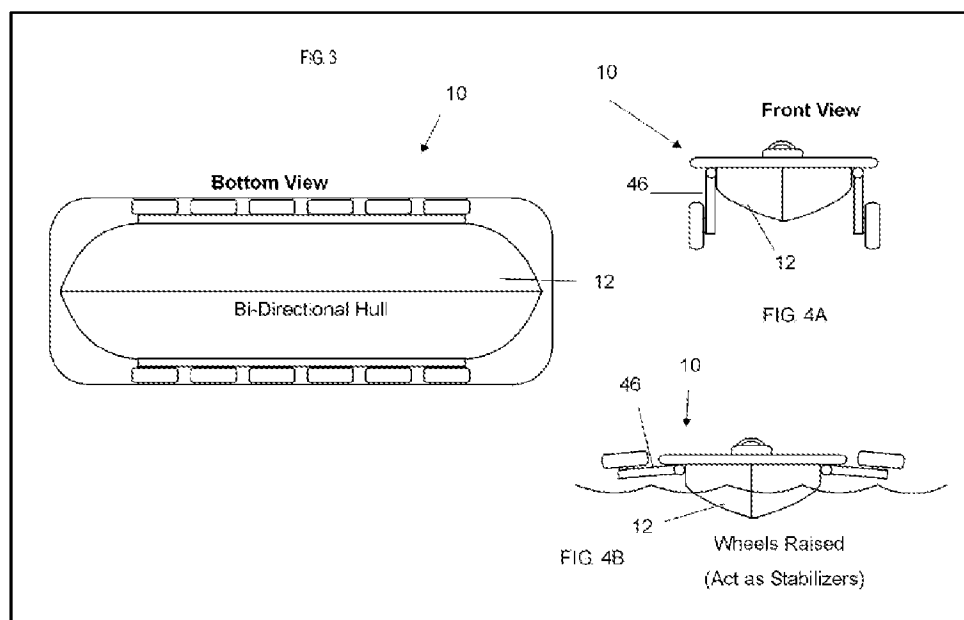
(Carrier, Figs. 1-2.)

Carrier is specifically “equipped for quick exchange of all its functional components . . . .” (Carrier, Col. 2:6-8.) Like the amphibious vehicle disclosed in the ’557 patent, the amphibious vehicle of Carrier provides a vehicle that is configured to operate on land and in water, and which is equipped with a fluid pump for pumping fluid directly out of a body of water. (Carrier, Col. 9:18-20 (“If there is a convenient nearby source of water, such as a lake or stream, the water from the available source can be pumped directly by pump”); Col. 10:51-52 (“The use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream”).) The vehicle disclosed in Carrier is adapted to operate on both land and water. (Carrier, Col. 5:61-65 (“[T]he drive train housing 53 can be pivotally mounted to the platform 14, for example so that the same can be actuated between two modes, i.e., a land and a water use, as seen in FIGS. 4A and

4.B”).) While Carrier discloses pumping water in connection with fighting fires, it is not limited to this use. Carrier also explains that the amphibious vehicle may pump, for example, water, foam, and decontamination solutions. (Carrier, Col. 5:22-23.)

Like the '557 patent, Carrier explains that the amphibious vehicle includes: a floatable vehicle body; a ground engaging propulsion structure; a fluid pump; a fluid nozzle; a fluid conduit connected to a fluid pump; and a power source configured to provide power to both the ground engaging propulsion structure and the fluid pump. Carrier also discloses the use of remote control to control the amphibious vehicle while it is in operation on land and in water. These structures will be addressed in turn:

Vehicle Body: Like the '557 patent, Carrier teaches that “[t]he all terrain vehicle 10 includes a sealed hull 12 having a platform 14 operably disposed within the hull 12” and that “[t]he hull 12 can be substantially sealably molded for providing buoyancy for water crossings and provide way for necessary functional attachment of units.” (Carrier, Col. 3:8-10, 26-28.) Carrier’s floatable vehicle body is depicted, for example, in Figures 3, 4A, and 4B.

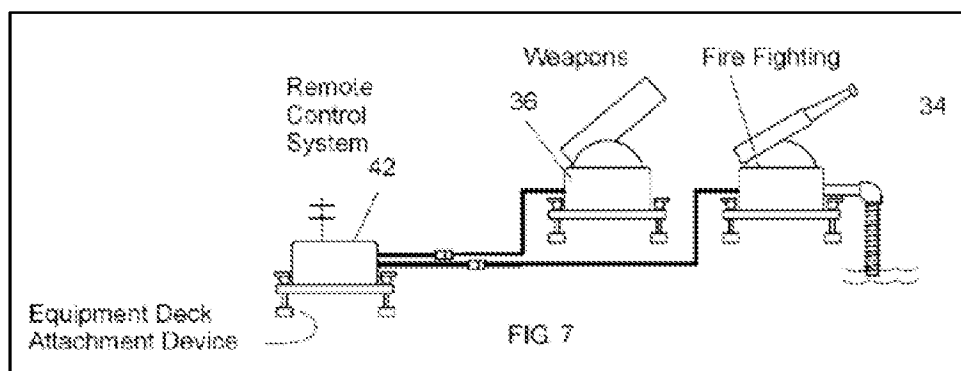


(Carrier, Figs. 3; 4A; 4B.)

Ground Engaging Propulsion Structure: Like the '557 patent, Carrier also teaches a ground engaging propulsion structure. Carrier explains that the ground engaging members may be wheels or tracks. (Carrier, Col. 3:32-38 (wheels); Col. 6:3-6 (tracks).) It also explains that “[t]he vehicle 10 can be direct all wheeled [*sic*] drive (8, 10, or 12 wheeled drive).” (Carrier, Col. 3:32-33.)

Carrier further teaches that the propulsion structure may be driven by hydraulic motors. It explains that “a direct drive system can be employed wherein one or more wheels is driven by . . . a hydrostatic drive transmission or via a hydraulic system as is known in the art.” (Carrier, Col. 6:41-44.) Carrier’s hydraulic propulsion system allows each wheel to be independently driven at variable speeds: “The drive train can also be configured in such a manner where as one or more wheels can be driven by one or more drive component systems.” (Carrier, Col. 7:5-8; *see also* Col. 7:51-54 (disclosing variable speed transmission).)

Fluid Pump: Carrier teaches a fluid pump. (*See* Carrier, Col. 4:14-32 (referencing “fire fighting equipment and pumps” and “pump engines”).) The fluid pump of Carrier is depicted, for example, in Figure 7.



(Carrier, Fig. 7.)

Carrier explains that it is “equipped with a pump for providing various pressure and volume outputs to shoot sufficient volumes of water.” (Carrier, Col. 8:45-47.) It explains: “The use of a pump mounted to the all terrain vehicle which is capable of pumping water from a lake or stream

onto a fire is another feature of the present invention.” (Carrier, Col. 10:51-53.) Carrier explains that the fluid pump is capable of pumping numerous liquids: “The water cannon is capable of flowing water, and or foamed water and or dry chemicals at the same time or independently.” (Carrier, Col. 9:26-27; *see also* Col. 10:31-33 (“The water cannon is as well capable to shoot streams of water . . . foam, dry chemical, or decon [decontamination] solutions in any combination.”).) Carrier also discloses a filter for filtering out debris that would otherwise clog the pump. (Carrier, Col. 10:64-67 (“a screen to filter out debris that would otherwise clog hoses”).)

Fluid Nozzle: Carrier also teaches a fluid nozzle, explaining that when the pump is in operation “water is discharged through a standard e[j]ector jet nozzle attached to the end of hoses.” (Carrier, Col. 9:3-4.)

Fluid Conduit: Carrier also explains that the fluid nozzle is connected to the fluid pump by a fluid conduit, *e.g.*, hose: “The hose can be fluidly attached to the pump.” (Carrier, Col. 9: 61-62.) Carrier also explains that the nozzle is a separate structure from the fluid conduit:

If there is a convenient nearby source of water, such as a lake or stream, the water from the available source can be pumped directly by pump into the fire hoses, or the tank at the same time refilling the tank[']s water supply and continuing to supply water to the hoses, water tank and cannon thereby providing a continuous uninterrupted supply or flow of water by removing an end cap from pump and simple valve manipulations feeding water therethrough. The water cannon is capable of flowing water, and or foamed water and or dry chemicals at the same time or independently through a dual chambered water cannon with the appropriate corresponding nozzle affixed to each independent chamber[']s output end.

(Carrier, Col. 9:18-30 (emphasis added).)

Power Source: Carrier also discloses a power source that can power the amphibious vehicle and the fluid pump. It explains: “The vehicle 10 includes a self contained (main vehicle drive power plant), engine unit 18, (that can be P-8 compatible, gasoline, diesel, hybrid-electric, propane, natural gas or a combination thereof).” (Carrier, Col. 4:33-36.) The pump can be powered

by the vehicle's power source: "The unit 34 can be powered by the vehicle engine unit 18."  
(Carrier, Col. 5:40-42.)

Remote Control: Carrier also discloses a remote control that can control both the vehicle and the pump when the vehicle is in operation on land and in water. Carrier explains: "The operations of *each unit described herein* can be performed by remote control unit 42 which is operably quick connectable to each unit on the vehicle 10 having suitable connections therewith."  
(Carrier, Col. 11:5-8 (emphasis added).) Carrier teaches that the remote control unit "enable[es] the vehicle 10 to be remotely controlled . . . ." (Carrier, Col. 11:11-12.) Carrier further explains that "[t]he water cannon . . . can be remotely controlled either wirelessly or wired in manned, unmanned and autonomous modes." (Carrier, Col. 10:31-35.)

#### **B. Review of U.S. Patent Application Publication No. 2014/0112093 to Puck**

U.S. Patent Application Publication No. 2014/0112093 to Puck is directed to "[a] floating manure agitator that floats on the surface of a manure lagoon and that may be remotely controlled."  
(Puck, Abstr.) Puck was filed on December 12, 2011 and published on April 24, 2014. The earliest effective priority date asserted for the '557 patent is August 19, 2013. Puck is prior art under AIA 35 U.S.C. § 102(a). While Puck was before the Examiner during prosecution of the '557 patent, it is proper to re-consider Puck here in light of the substantial new questions of patentability it presents when considered differently than how it was considered by the Examiner during prosecution, as discussed more fully with respect to Grounds 2, 3, and 4 below. *See* 35 U.S.C. § 303(a); MPEP § 2216.

Puck discloses "[a] floating manure agitator that floats on the surface of a manure lagoon and that may be remotely controlled to agitate manure supernatant into a slurry with sludge settling on the bottom of the lagoon." (Puck, Abstr.) Puck explains: "The present invention relates in general to a manure agitator and, more particularly, to a floating manure agitator for use in

association with a manure lagoon.” (Puck, [0001].) It further explains: “In the preferred embodiment of this invention, a floating manure agitator is provided with a floating vessel and a power source.” (Puck, [0011].)

The problem identified in Puck is identical to the problem the ’557 patent sought to solve, namely, the agitation of manure in manure ponds. Puck identifies the drawbacks of prior art manure agitation methods:

Prior art methods of agitating the manure include attaching a shaft with a propeller or auger to the power takeoff of a tractor or other farm vehicle resting on the shore. The rotating propeller or auger forces the supernatant down into the sludge, causing the solids within the sludge to move upward into suspension within the supernatant. While this method does place some solids into suspension, the method has several drawbacks. One drawback is that the propeller or auger forces sludge up from the bottom of the lagoon in only a narrow area. While the propeller or auger may be moved to provide a more even distribution of solids within the supernatant, moving the propeller or auger is time consuming.

(Puck, [0004].)

One solution to this problem is to use a vehicle that is lowered into the lagoon, but as Puck explains, existing manure agitation vehicles were not easily mobile or controllable because they were moved with cables by operators on the shore. (Puck, [0006].) Puck explains:

One drawback associated with such devices is that these devices are not easily maneuverable. Another drawback associated with such prior art devices is the difficulty associated with controlling such devices. Often elaborate systems of wires and securement posts must be erected near the shores of the manure lagoon to provide a guide for the vehicle to move during the agitation process. As the vehicle typically makes several passes across the lagoon, several guide wires and posts must be set up to accommodate multiple passes. The devices can be difficult to steer during passes across the lagoon.

(Puck, [0007].)

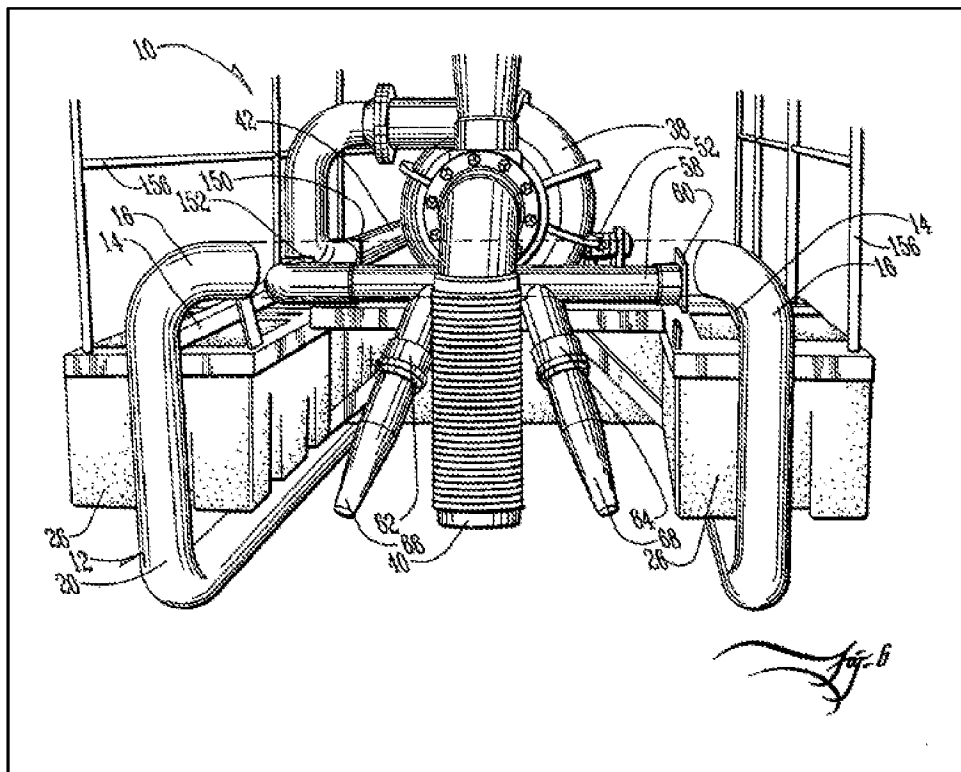
Puck’s solution is to provide a floating manure agitation boat that is mobile on the surface of a manure pond and that may be controlled via remote control.



Fluid Pump: Like the '557 patent, Puck further discloses a fluid pump for pumping liquid manure. Puck explains:

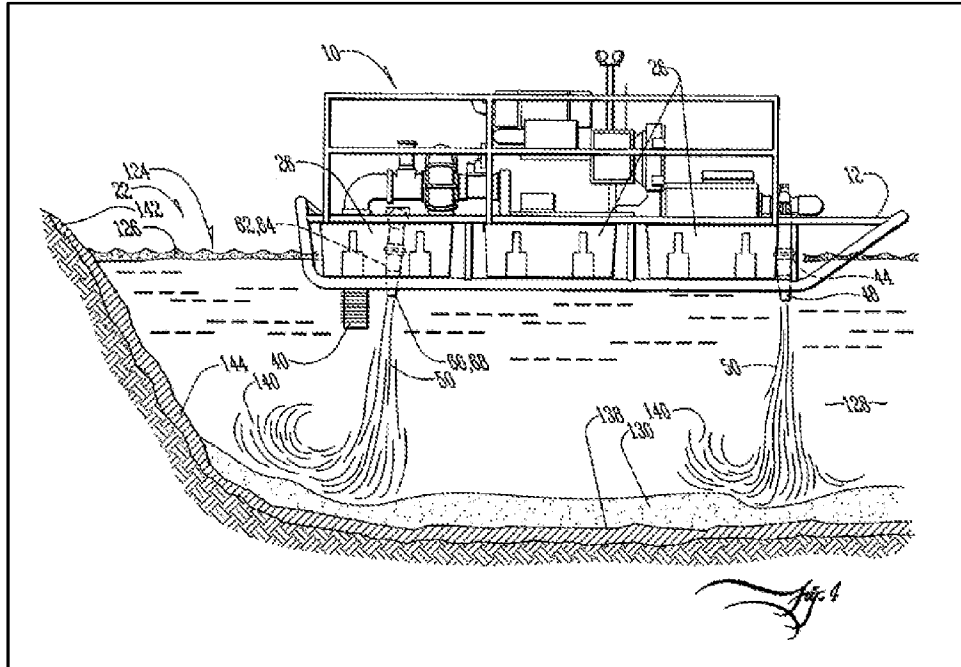
The slurry pump (38) is coupled to a liquid manure intake, such as a slurry intake, which is a downwardly directed intake pipe (40) in the preferred embodiment and is capable of handling manure crust, supernatant, sludge and the combined slurry. (FIGS. 1 and 4). If desired, the intake pipe (40) may be extensible to adjust the depth of the intake pipe (40). The intake pipe (40) is constructed to extend about twenty-four inches below the surface of the lagoon (22), but may be extended or retracted to any desired depth, including the entire depth of the lagoon (22).

(Puck, [0026]; *see also* [0027].) The fluid pump 38 is depicted in Figure 6.



(Puck, Fig. 6.)

Fluid Nozzle: Puck also discloses a fluid nozzle. As Puck explains, “[r]eleasably coupled to the second slurry output (62) and third slurry output (64) are a pair of nozzles (66) and (68) pivotably coupled to the vessel (12).” (Puck, [0029].) The operation of the fluid nozzles is shown in Figure 4.



(Puck, Fig. 4.)

Fluid Conduit: Puck explains that the fluid nozzle is connected by a fluid conduit (transport pipe) to the fluid pump. Puck explains:

Coupled to the slurry pump (38) by a transport pipe (42) is a first slurry output (44). (FIG. 5). The first slurry output (44) is an angled pipe (46) pivotably coupled to the transport pipe (42). Releasably coupled to the angled pipe (46) is a tapered liquid manure nozzle (48) to increase the velocity of slurry (50) passing through the nozzle (48). (FIGS. 4-5). If desired, different sizes and configurations of nozzles (48) may be coupled to the angled pipe (46) to adjust the direction and velocity of slurry (50) exiting through the first slurry output (44).

(Puck, [0027].)

Power Source: Puck also discloses a power source (internal combustion engine) to provide power to the fluid pump. Puck explains: “The vessel (12) is provided with a deck (34) and a power source (36). (FIG.1). While the power source (36) may be any suitable power source, in the preferred embodiment the power source (36) is a John Deere Tier 3 diesel engine.” (Puck, [0024].) The power source provides power to the fluid pump: “Coupled to the power source (36) is a liquid manure pump such as a slurry pump (38).” (Puck, [0025].)

Remote Control: Puck also discloses a remote control that allows the agitation vehicle to be controlled from shore: “A remote control device may be coupled to the slurry control to allow the floating vehicle to be steered from the shore.” (Puck, [0011]; *see also* Puck [0032], [0035], [0037].) Puck specifically included use of a remote control to solve the problems associated with prior art agitation vehicles—the inability to control the vehicle. (*See* Puck, [0009].)

As the Examiner found during prosecution of the ’557 patent, the floating manure agitator of Puck was readily combinable with amphibious vehicles. For example, in the Non-Final Office Action, the Examiner rejected various claims under 35 U.S.C. 103 as being unpatentable over Royle in view of Remley and Puck. (*See* Non-Final Office Action, September 14, 2020, at p. 2.) Royle is an amphibious vehicle. (*E.g.*, Royle, Abstr. (disclosing a steerable wheel mechanism “applicable for use in amphibious craft”).) In response to this rejection, the Applicant did not challenge the combination of Puck with amphibious vehicles. (*See* Amendment/Response, January 14, 2021, at p. 8.)

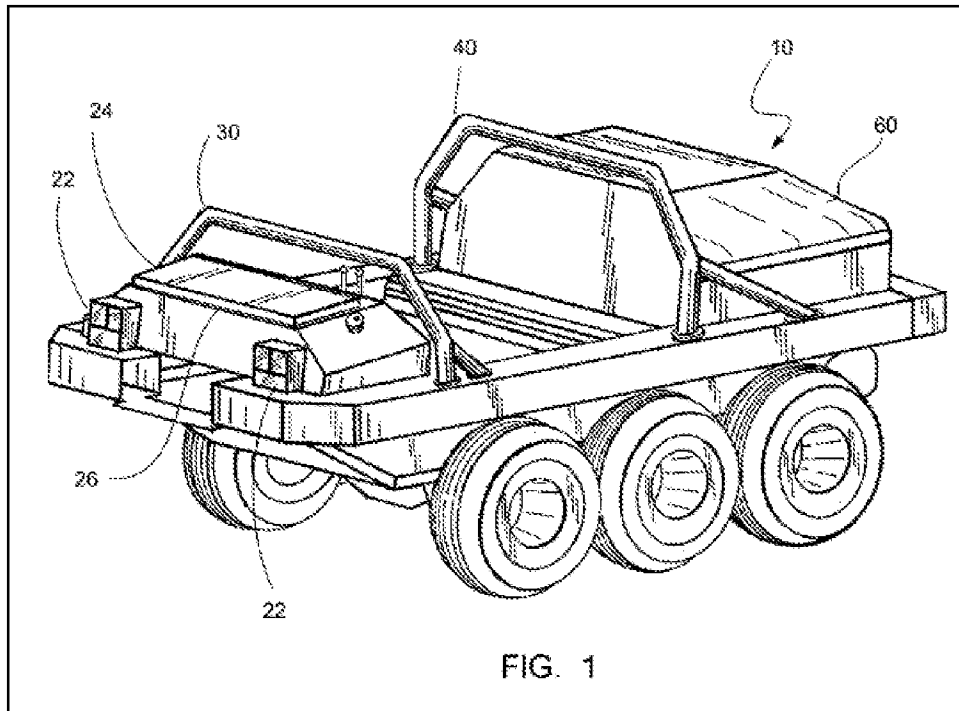
While Puck discloses the solution of using a floating manure agitator to agitate manure ponds, Puck does not address the additional problems of exiting a floating vehicle from a manure pond and transporting the floating vehicle between manure ponds. These problems are addressed through the combination of Puck with amphibious pumping vehicles. As detailed more fully with respect to Grounds 2, 3, and 4 below, a person of ordinary skill in the art would have known to combine Puck with various amphibious vehicles, such as the amphibious vehicles disclosed in Carrier, Gaither, and Bennett, to arrive at the invention of the ’557 patent.

### **C. Review of U.S. Patent No. 7,833,071 to Gaither**

U.S. Patent No. 7,833,071 to Gaither is directed to “[a]n amphibious, all-terrain vehicle.” (Gaither, Abstr.) Gaither was filed June 8, 2007 and issued November 16, 2010. Gaither claims the benefit of Provisional Application No. 60/812,530, which was filed on June 9, 2006. The

earliest effective priority date asserted for the '557 patent is August 19, 2013. Gaither is prior art under AIA 35 U.S.C. § 102(a). Gaither was not before the Examiner during prosecution of the '557 patent.

Gaither is an amphibious vehicle that is adapted for use on land and in water. (Gaither, Abstr.) The structure of Gaither is shown in Figure 1.



(Gaither, Fig. 1.)

Like the '557 patent, Gaither discloses a ground-engaging propulsion structure including ground-engaging wheels and a hydraulic drive system. “[T]he invention is an amphibious vehicle that utilizes four, six, or eight independent, hydraulically driven wheels when the wheels are in contact with the ground.” (Gaither, Col. 1:22-24.)

The hydraulic propulsion system disclosed by Gaither is strikingly similar to that disclosed in the '557 patent. The amphibious vehicle of Gaither utilizes “a pair of hydrostatic pumps to independently provide power to hydraulic drive mechanisms of the left and right side of the

vehicle.” (Gaither, Abstr.) “The hydraulic drive mechanisms on a side of the vehicle comprise a plurality of hydraulic wheel motors.” (Gaither, Abstr.) Gaither explains that “The present invention utilizes four, six, or eight hydraulic wheel motors . . . mounted in pairs on opposite sides of the vehicle.” (Gaither, Col. 3:44-46.)

Gaither teaches that each wheel is connected to a hydraulic motor. (Gaither, Col. 7:1-3 (“Undercarriage assembly 200r is comprised of channel assembly 210, access cover 202, wheel motors 504, and tires 203.”) (emphasis added).) Each wheel is connected to a separate hydraulic motor: “Channel 220 further defines a plurality of wheel motor apertures 232 through which the shaft of each wheel motor 504 passes. One tire 503 is mounted to the shaft of each wheel motor 504.” (Gaither, Col. 7:15-18.)

The hydraulic wheel motors are variable speed motors which permit the ground engaging wheels to operate at variable speeds: “The speed of vehicle 10 is controlled by a combination of vehicle control levers 602l and 602r and throttle 630. The further away from their central positions levers 602l and 602r are moved, the greater the output from hydrostatic pump 502 and the faster the propulsion motors will rotate. Throttle 603 . . . preferably provides four different throttle settings: idle, low, medium, and high.” (Gaither, Col. 10:19-26.)

The individual hydraulic motors may also move at variable speeds relative to each other, such as when the vehicle is executing a turn. Gaither explains:

To execute a gradual turn to the right, lever 602l is moved farther forward from its central position than lever 602r, as shown in FIG. 6C, resulting in the engaged propulsion motors on the left side of vehicle 10 rotating at a higher rate than the engaged propulsion motors on the right side of vehicle 10 causing vehicle 10 to turn. The larger the differential between the positions of levers 602d and 602r, the smaller the radius of the turn.

(Gaither, Col. 10:34-41.)

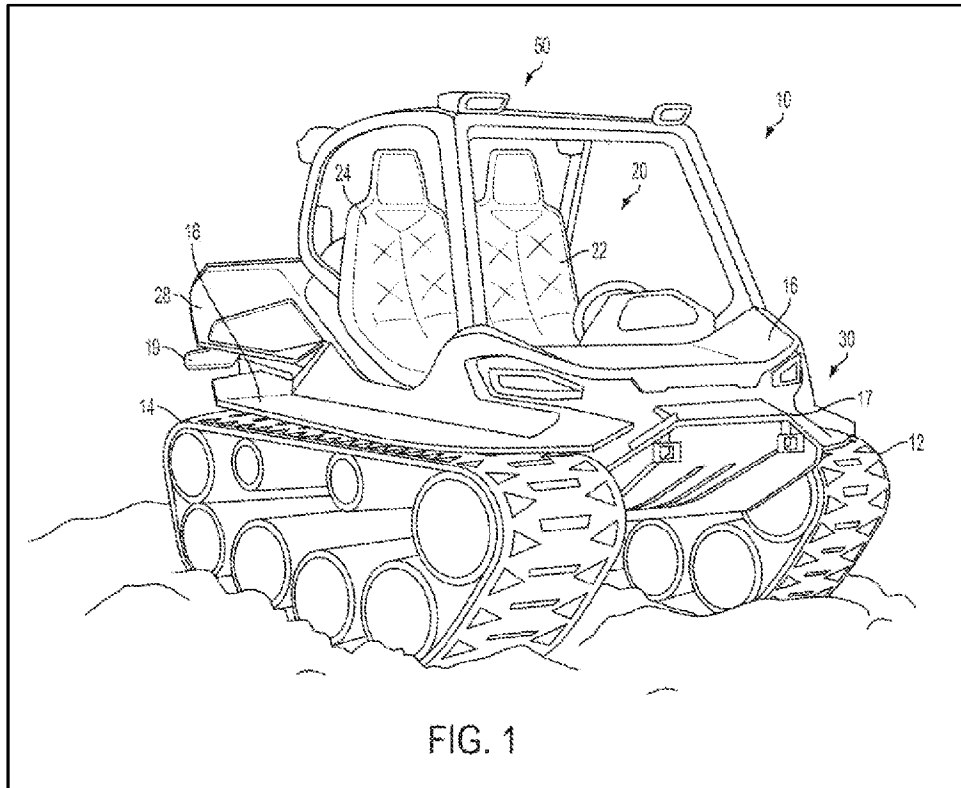
Like the '557 patent, Gaither also discloses a floatable vehicle body (Gaither, Col. 4:57-66; Fig. 2) and a power source that is preferably an internal combustion engine (Gaither, Col. 7:31-38).

As detailed more fully with respect to Ground 3 below, when faced with the problem of the '557 patent, namely providing an amphibious pumping vehicle that is capable of operation in a manure pond, a person of ordinary skill in the art would have looked to the teachings of other amphibious vehicles such as Gaither for the specifics of propulsion methods, such as the use of individual hydraulic motors for each wheel to allow for operation at variable speeds.

**D. Review of U.S. Patent Application Publication No. 2014/0288763 to Bennett**

U.S. Patent Application Publication No. 2014/0288763 to Bennett is directed to “a tracked ATV [all-terrain vehicle].” (Bennett, Abstr.) Bennett was filed on March 25, 2014 and published on September 25, 2014. Bennett claims the benefit of Provisional Application No. 61/805,113, which was filed on March 25, 2013. The earliest effective priority date asserted for the '557 patent is August 19, 2013. Bennett is prior art under AIA 35 U.S.C. § 102(a). While Bennett was before the Examiner during prosecution of the '557 Patent, it is proper to re-consider Bennett here in light of the substantial new questions of patentability it presents when considered differently than how it was considered by the Examiner during prosecution, as discussed more fully with respect to Ground 4 below. *See* 35 U.S.C. § 303(a); MPEP § 2216.

Bennett is an amphibious vehicle that is adapted for use on land and in water. (Bennett, [0043].) The structure of Bennett is seen in Figure 1.



(Bennett, Fig. 1.)

Relevant here, Bennett discloses a remote control system in which the amphibious vehicle can be remotely controlled while it is on water and while it is on land. Bennett teaches: “[V]ehicle 10 is configured for both land and amphibious operation. Additionally, vehicle 10 may be operated by remote control.” (Bennett, [0043].) Bennett is clear that the vehicle may be operated by remote control when in operation in water and on land: “In one embodiment, vehicle 10 is adapted to be remotely controlled. For example, a remote control electronic device may be used to control vehicle 10 wirelessly without an operator being positioned in the vehicle 10.” (Bennett, [0121].) As the Examiner found when rejecting application claims 21-28, “Bennett teaches a remote control for land and water (paragraphs 0043, 0121).” (Final Office Action, February 1, 2021, at p. 2.)

Like the '557 patent, Bennett also discloses a floatable vehicle body (Bennett, [0043], [0051]); a ground engaging propulsion structure including a hydraulic assembly (Bennett, [0044], [0083], Fig. 1); a fluid pump (Bennett, [0059], [0079]); and a power source (Bennett, [0083]).

A person of ordinary skill in the art would have combined the amphibious vehicle of Bennett with the manure agitation boat of Puck. In fact, the Examiner already applied the combination of Puck and Bennett during prosecution. In the Final Office Action, the Examiner rejected application claims 21-28 under 35 U.S.C. 103 as being unpatentable over Royle in view of Remley, Puck, and Bennett. (*See* Final Office Action, February 1, 2021, p. 2.) Applicant did not challenge this combination of references. (*See* Amendment/Response, January 14, 2021, at p. 8.)

#### **E. Ground 1 (Carrier): Detailed Prior Art Application to Claims 1-13**

Claims 1-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 102 because every limitation of such claims is disclosed in Carrier. The claims are reproduced below, with bolded citations to Carrier indicating where each limitation is taught. A claim chart detailing this ground of invalidity is attached hereto as Exhibit G.

##### **1. Claim 1**

Carrier discloses all the limitations of Claim 1:

“An amphibious vehicle (**Carrier, Col. 1:10-16, 37-41, Col. 8:16-18**) comprising:  
a floatable vehicle body (**Carrier, Col. 2:8-10, Col. 3:26-28; Col. 5:61-65; Figs. 4A, 4B**);  
ground engaging propulsion structure (**Carrier, Col. 3:25-38; Col. 4:33-40**);  
a fluid pump (**Carrier, Col. 4:14-32; Col. 10:51-56**) for pumping liquid manure;  
at least one fluid nozzle (**Carrier, Col. 9:13-30**) connected by a fluid conduit (*id.*) to the fluid pump (**Carrier, Col. 5:19-40**);  
a power source (**Carrier, Col. 8:54-63**) connected to a hydraulic pump and configured to provide power to both the ground engaging propulsion structure (**Carrier, Col. 4:33-40; Col.**

**5:40-43; Col. 6:41-54; Col. 6:60 – Col. 7:5)** and the fluid pump (**Carrier, Col. 5:19-40, Col. 8:54-59; Col. 9:54-56**); and,

remote control structure (**Carrier, Col. 11:5-16**) configured to control the ground engaging propulsion structure and a flow of fluid from the fluid nozzle (**Carrier, Col. 10: 31-35; 11:47-53**), wherein the speed and/or direction of the vehicle is remotely controllable by an operator remote from the vehicle when the vehicle is ground engaging and when the vehicle is floating (**Carrier, Col. 11:5-16**).”

To the extent it is determined that that Carrier does not disclose a pumping system “for pumping liquid manure,” this is a statement of intended use in Claim 1 and not a structural limitation. *See* MPEP § 2114 (manner of operating a device does not differentiate an apparatus claim from the prior art). The functional language “for pumping liquid manure” is simply a statement of intended use under its broadest reasonable interpretation. The title of the ’557 patent is “Amphibious Pumping Vehicle,” and the “Technical Field” explains that “[t]he invention relates to pumps and vehicles equipped for pumping.” (’557 Pat., Col. 1:23-24.) There is nothing in the specification of the ’557 patent that suggests that the claimed fluid pump has a special or distinct structure that is required for pumping liquid manure. The ’557 patent does not teach that the fluid pump must have a specific structure for pumping liquid manure.

For example, the specification of the ’557 patent explains:

The fluid pump may comprise a pump housing configured for immersion within the fluid. The pump housing may comprise a bottom fluid inlet and at least two tangential fluid outlets. A greater number of tangential fluid outlets may be provided, for example three fluid outlets. The tangential fluid outlets may be combined into a single fluid conduit for directing the combined output of the fluid pump to a desired location.

(’557 Pat., Col. 2:65 – Col. 3:5.)

The specification of the ’557 patent also provides:

The fluid pump 9 comprises a pump housing 18 with three tangential fluid outlets 19 that are combined into a single fluid conduit 20. The single fluid conduit 20 is then split into left side 21 and right side 22 fluid conduits which connect at the front and rear of the vehicle to form a complete circuit. The fluid pump 9 is thus fluidically connected to all fluid nozzles of the vehicle via the fluid conduits 20-22.

(’557 Pat., Col. 5:42-48.)

Nothing in the specification of the ’557 patent provides that any additional structure would be required for the fluid pump to operate “for pumping liquid manure,” which is simply a statement of intended use under the broadest reasonable interpretation of this claim.

When faced with similar functional language, the Federal Circuit has determined that unless the specification provides a specific additional required structure, such statements are simply statements of intended use, not claim limitations. *See In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997) (“Although Schreiber is correct that Harz does not address the use of the disclosed structure to dispense popcorn, the absence of a disclosure relating to function does not defeat the Board’s finding of anticipation. It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable. . . . A reference may be from an entirely different field of endeavor than that of the claimed invention or may be directed to an entirely different problem from the one addressed by the inventor, yet the reference will still anticipate if it explicitly or inherently discloses every limitation recited in the claims.”); *see also Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1379 (Fed. Cir. 2017) (reversing a finding of no anticipation and holding that all claims were anticipated; “That Figure 25 contains all the structural limitations of claim 1, according to the correct construction, completes the anticipation analysis, regardless of intended use.”); *Textron Innovations Inc. v. Am. Eurocopter Corp.*, 498 F. App’x 23, 28 (Fed. Cir. 2012) (“In cases in which functional language adds a structural limitation to an apparatus claim, however, it does so because the language describes

something about the structure of the apparatus rather than merely listing its intended or preferred uses.”).

The same holds true for the ’557 Patent. The language “for pumping liquid manure” does not describe any specific structure of the fluid pump. It simply provides an intended use. Carrier’s disclosure of a fluid pump and associated structure thus meets this limitation.

## **2. Claim 2**

Carrier discloses the additional limitations of Claim 2:

“The vehicle according to claim 1, wherein the ground engaging propulsion structure comprises a set of wheels (**Carrier, Col. 3:28-33; Fig. 2**) or an endless track (**Carrier, Col. 6:3-6, 13-16; Fig. 2A**).”

## **3. Claim 3**

Carrier discloses the additional limitations of Claim 3:

“The vehicle according to claim 1, wherein the power source is configured to provide hydraulic fluid power to both the ground engaging propulsion structure (**Carrier, Col. 5:40-43; Col. 6:41-54; Col. 6:60 – Col. 7:5**) and the fluid pump (**Carrier, Col. 5:19-40, 40-46, Col. 8:54-58**).”

## **4. Claim 4**

Carrier discloses the additional limitations of Claim 4:

“The vehicle according to claim 3, wherein the ground engaging propulsion structure is operable at variable speed by a hydraulic motor (**Carrier, Col. 6:41 – Col. 7:11; Col. 7:46-54**).”

## **5. Claim 5**

Carrier discloses the additional limitations of Claim 5:

“The vehicle according to claim 1, wherein the at least one fluid nozzle comprises a plurality of fluid nozzles connected to the fluid conduit (**Carrier, Col. 9:26-30**).”

**6. Claim 6**

Carrier discloses the additional limitations of Claim 6:

“The vehicle according to claim 1, wherein the location of the ground engaging propulsion structure, power source and fluid pump are selected to provide a desired location for a center of gravity of the vehicle (**Carrier, Col. 4:14-32; Col. 9:43-53**).”

To the extent it is determined that Carrier does not disclose selecting the ground engaging propulsion structure, power source, and fluid pump to maintain a center of gravity, such disclosure is inherent. Carrier specifically teaches that a center of gravity must be maintained and that the location of physical features affect the center of gravity: “Again, it is important for the fluid not to shift, since the center of gravity of vehicle 10’ would shift with the fluid, which would in turn increase the chance of vehicle 10’ overturning.” (Carrier, Col. 9:43-53.) Figure 4B of Carrier shows the amphibious vehicle of Carrier floating in an orientation that is substantially parallel to the water. (Carrier, Fig. 4B.) Such symmetrical floatation shows that the elements of Carrier have been selected to maintain a center of gravity. This center of gravity is also shown, for example, in Figure 1 of Carrier, in which the ground engaging propulsion structure (wheels) are arranged symmetrically around the edges of the amphibious vehicle, and the power source (engine) is positioned directly on the center line. (Carrier, Figure 1.)

Furthermore, during prosecution, the Examiner rejected application claim 18, which became issued Claim 6, because the center of gravity was inherent. (Non-final Office Action, September 14, 2020, at pp. 2-3 (“With respect to claim 18 [which became issued claim 6], the center of gravity is inherent in the combination.”). Applicant did not challenge the Examiner’s inherency finding. (See Amendment/Response, January 14, 2021, at p. 8.)

Based on the teaching of Carrier, a person of ordinary skill in the art at the time of the invention would necessarily select the location of the ground engaging propulsion structure, power source, and fluid pump to maintain a desired location for a center of gravity.

**7. Claim 7**

Carrier discloses the additional limitations of Claim 7:

“The vehicle according to claim 1, wherein the amount of fluid flow from the at least one fluid nozzle and/or the direction of the at least one fluid nozzle are remotely controllable by the operator remote from the vehicle when the vehicle is floating (**Carrier, Col. 10:2-5; Col. 11:47-53**).”

**8. Claim 8**

Carrier discloses all the limitations of Claim 8:

“An amphibious vehicle (**Carrier, Col. 1:10-16, 37-41, Col. 8:16-18**) comprising:  
a floatable vehicle body (**Carrier, Col. 2:8-10, Col. 3:26-28; Col. 5:61-65; Figs. 4A, 4B**);  
four hydraulically powered ground engaging wheels (**Carrier, Col. 3:25-38; Col. 6:41-46; Fig. 2**);

four hydraulic motors, one hydraulic motor per wheel, for powering the four hydraulically powered ground engaging wheels (**Carrier, Col. 6:41 – Col. 7:11**);

a fluid pump (**Carrier, Col. 4:14-32; Col. 10:51-56**) for pumping liquid manure;

at least one directionally adjustable nozzle (**Carrier, Col. 5:19-40; Col. 9:13-30**) through which the liquid manure is pumped;

an internal combustion engine (**Carrier, Col. 5:47-65; Col. 8:4-8**) configured to provide power to both the four variable speed hydraulic motors (**Carrier, Col. 5:40-43; Col. 6:41 – Col. 7:11**) and the fluid pump (**Carrier, Col. 5:19-40, 40-46; Col. 8:54-58**);

the location of the four hydraulically powered ground engaging wheels, the internal combustion engine and the fluid pump selected to provide a desired location for a center of gravity of the vehicle (**Carrier, Col. 4:14-32; Col. 9:43-53**); and,

remote control structure (**Carrier, Col. 11:5-16**) configured to control the four variable speed hydraulic motors and the fluid pump (**Carrier, Col. 11:47-53**), wherein the speed and/or direction of the vehicle is remotely controllable by an operator remote from the vehicle when the vehicle is ground engaging and when the vehicle is floating (**Carrier, Col. 11:5-16**)."

As discussed with respect to Claim 1 above, to the extent it is determined that that Carrier does not disclose a pumping system "for pumping liquid manure," or a directionally adjustable nozzle "through which the liquid manure is pumped," these are statements of intended use and not structural limitations. *See In re Schreiber*, 128 F.3d at 1477; *see also Homeland Housewares*, 865 F.3d at 1379; *Textron Innovations*, 498 F. App'x at 28. Carrier's disclosure of a fluid pump is therefore sufficient.

Likewise, for the same reasons shown with respect to Claim 6 above, to the extent it is determined that Carrier does not specifically disclose selecting the location of the ground engaging propulsion structure, power source, and fluid pump to maintain a center of gravity, such disclosure is inherent because Carrier specifically teaches that a center of gravity must be maintained, and that the location of physical features affect that center of gravity. (**Carrier, Col. 9:43-53.**)

#### **9. Claim 9**

Carrier discloses the additional limitations of Claim 9:

"The vehicle according to claim 8, wherein the power source is configured to provide hydraulic fluid power to the four hydraulic motors and the fluid pump (**Carrier, Col. 6:41 – Col. 7:11; Col. 9:61 – Col. 10:13**)."

**10. Claim 10**

Carrier discloses the additional limitations of Claim 10:

“The vehicle according to claim 9, wherein the four hydraulic motors are variable speed hydraulic motors and wherein the four hydraulically powered ground engaging wheels are each operable at variable speed (**Carrier, Col. 7:12-27; 46-54**).”

**11. Claim 11**

Carrier discloses the additional limitations of Claim 11:

“The vehicle according to claim 8, wherein the at least one directionally adjustable nozzle is connected to a fluid conduit connected to the fluid pump (**Carrier, Col. 9:13-30**).”

**12. Claim 12**

Carrier discloses the additional limitations of Claim 12:

“The vehicle according to claim 11, wherein a plurality of nozzles comprising the at least one directionally adjustable nozzle is connected to the fluid conduit (**Carrier, Col. 5:19-40; Col. 9:13-30; Col. 10:2-5**).”

**13. Claim 13**

Carrier discloses the additional limitations of Claim 13:

“The vehicle according to claim 8, wherein the amount of fluid flow from the directionally adjustable nozzle and/or the direction of the directionally adjustable nozzle are remotely controllable by the operator remote from the vehicle when the vehicle is floating (**Carrier, Col. 10:2-5; Col. 11:5-16, 47-53**).”

**F. Ground 2 (Carrier in view of Puck): Detailed Prior Art Application to Claims 1-13**

Claims 1-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over

Carrier in view of Puck. A claim chart detailing this ground of invalidity is attached hereto as Exhibit H.

As discussed with respect to Ground 1 above, Carrier discloses all limitations of Claims 1-13 of the '557 patent. The combination of Carrier and Puck is presented in the alternative. To the extent it is determined that Carrier does not disclose a fluid pump for pumping liquid manure, and this statement of intended use is determined to be a required structural limitation, it is disclosed by Puck, which is especially adapted for pumping liquid manure. The “technical field” for the '557 patent is “pumps and vehicles equipped for pumping.” ('557 Pat., Col. 1:23-24.) It further specifies that “[i]n particular, the invention relates to manure pumps and amphibious vehicles equipped for pumping liquid manure.” ('557 Pat., Col. 1:24-26.) A person of ordinary skill in the art at the time of the invention would have looked to the teachings of Carrier and Puck when attempting to solve the problem addressed by the '557 patent, namely, the use of a pumping vehicle in connection with the agitation of manure ponds.

Carrier, a multi-purpose amphibious pumping vehicle, and Puck, a floating manure agitator, are analogous art to the '557 patent. Here, both Carrier and Puck are analogous art under either prong of *In re Bigio*. These references are in the same field of endeavor as the invention of the '557 patent and they are reasonably pertinent to the problem addressed by the invention of the '557 patent. The Examiner cited Puck during prosecution, which also demonstrates that it is analogous art. (*See* Non-Final Office Action, September 14, 2020, at p. 2.) The Examiner also cited other amphibious vehicles such as Royle during prosecution. Applicant did not challenge Puck or amphibious vehicles as analogous art, nor did Applicant challenge the motivation of a person of ordinary skill in the art to combine Puck with amphibious vehicles. (*See* Amendment/Response, January 14, 2021, at p. 8.)

A person of ordinary skill in the art at the time of the invention would have been motivated to combine the amphibious vehicle of Carrier with the floating manure agitator of Puck based on the teachings in the field of amphibious vehicles and manure agitation vehicles. One of ordinary skill, considering the teachings of Carrier, would have recognized the value of including the features of Puck. Specifically, one of ordinary skill looking to adapt the amphibious pumping vehicle of Carrier for use to agitate manure lagoons would have naturally looked to the teachings of other vehicles, such as Puck, that are adapted for pumping liquid manure. One of ordinary skill looking to adapt the manure agitation boat of Puck to permit easier exit from a manure pond, and easier transportation between manure ponds, would have looked to the teachings of amphibious vehicles such as Carrier, which were already adapted for use in water and on land. Prior art may be considered in a variety of ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

During prosecution, the Examiner found that other amphibious vehicles in combination with Puck “combine[] known features to achieve predictable results.” (Non-Final Rejection, September 14, 2020 at pp. 2-3.) The Applicant did not challenge this combination. (*See* Amendment/Response, January 14, 2021, at p. 8.) The same reasoning applies with equal force to the combination of the amphibious vehicle of Carrier with Puck. The combination of the amphibious pumping vehicle of Carrier with the fluid pump of Puck for pumping liquid manure according to known methods would yield the predictable result of an amphibious pumping vehicle that is capable of pumping liquid manure.

## 1. *Claim 1*

As discussed in Ground 1 above, Carrier discloses all limitations of Claim 1. However, to the extent it is determined that Carrier does not disclose a fluid pump “for pumping liquid manure,” and this statement is determined to be a required structural limitation, it is disclosed by Puck. Faced with the problem of agitating liquid manure in a manure lagoon, it would have been obvious to one skilled in the art to use a pump for pumping the liquid manure in connection with an amphibious pumping vehicle.

Puck disclosed the use of a fluid pump for pumping liquid manure before the effective filing date of the '557 patent. Puck is a “manure agitator for use in association with a manure lagoon.” (Puck, [0001].) Puck teaches a fluid pump for pumping liquid manure: “Coupled to the slurry pump (38) by a transport pipe (42) is a first slurry output (44). (FIG. 5). The first slurry output (44) is an angled pipe (46) pivotably coupled to the transport pipe (42). Releasably coupled to the angled pipe (46) is a tapered liquid manure nozzle (48) to increase the velocity of slurry (50) passing through the nozzle (48).” (Puck, [0027]; *see also* [0026].)

Puck’s description of the advantages of using a pumping system for pumping liquid manure is strikingly similar to the advantages described in the '557 patent. Puck provides:

It would, therefore, be desirable to provide a vehicle which floats on the manure pond and which is maneuverable. It would also be desirable to provide the vehicle with multiple outlet nozzles to direct the fluid downward into the lagoon a sufficient distance to agitate the solids in the bottom of the lagoon into suspension and create vortices within the lagoon to assist in carrying solids within the sludge into suspension in the supernatant. It would additionally be desirable to direct the nozzles to create vortices that mix the solids of the sludge into suspension with the supernatant, while minimizing the amount of unpleasant smelling hydrogen sulfide rising to the surface and escaping into the air.

(Puck, [0008].)

To that end, like Carrier, Puck also discloses the following limitations of Claim 1: a floatable vehicle body (Puck, Abstr., [0001], [0011], [0022], Fig. 1); a fluid pump for pumping

liquid manure (Puck, [0026], [0027]); at least one fluid nozzle connected by a fluid conduit to the fluid pump (Puck, [0027], [0028], [0029], Figs. 4-6); and a power source configured to provide power to the fluid pump (Puck, [0024], [0025]). As discussed above with respect to Ground 1, Carrier discloses the remaining limitations of Claim 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the amphibious pumping vehicle of Carrier with the manure agitator of Puck to create the invention of Claim 1.

## **2.      *Claims 2-4***

As shown with respect to Ground 1 above, Carrier discloses all the limitations of Claims 2-4. The addition of Puck is not necessary to meet all limitations of these claims.

## **3.      *Claims 5-7***

As shown with respect to Ground 1 above, Carrier discloses all the limitations of Claims 5-7. However, the combination of Carrier and Puck is presented in the alternative to the extent it is determined that Carrier does not disclose all limitations of these claims.

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 5, Puck discloses at least one fluid nozzle comprising a plurality of fluid nozzles connected to the fluid conduit. (Puck, [0008], [0027], [0029], Figs. 4-6.)

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 6, Puck discloses positioning the fluid pump to provide a desired location for a center of gravity of the vehicle. (Puck, [0041].) Figure 4 of Puck shows the boat of Puck floating in an orientation that is substantially parallel to the water. (Puck, Fig. 4.) Such symmetrical floatation shows that the elements of Puck have been selected to maintain a center of gravity. Furthermore, during prosecution, the Examiner rejected application claim 18, which became issued Claim 6, because the center of gravity was inherent. (Non-final Office Action, September 14, 2020, at pp. 2-3 (“With respect to claim 18 [which became issued claim 6], the center of gravity is inherent in

the combination.”). Applicant did not challenge the Examiner’s inherency finding. (*See* Amendment/Response, January 14, 2021, at p. 8.) Based on the teaching of Puck, a person of ordinary skill in the art at the time of the invention would necessarily select the location of the ground engaging propulsion structure, power source, and fluid pump to maintain a desired location for a center of gravity.

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 7, Puck discloses remotely controlling the amount of fluid flow from the at least one fluid nozzle and/or the direction of the at least one fluid nozzle by the operator remote from the vehicle when the vehicle is floating. (Puck, [0032], [0033], [0035], [0037], Fig. 7.)

#### **4. *Claim 8***

Carrier discloses every limitation of Claim 8 as discussed with respect to Ground 1 above. To the extent it is determined that Carrier does not disclose a fluid pump “for pumping liquid manure,” or a directionally adjustable nozzle “through which the liquid manure is pumped,” and these statements are determined to be required structural limitations, they are disclosed by Puck. (Puck, [0008], [0026], [0027].) Faced with the problem of agitating liquid manure in a manure lagoon, it would have been obvious to one skilled in the art to use a pump for pumping the liquid manure in connection with an amphibious pumping vehicle, and a directionally adjustable nozzle “through which the liquid manure is pumped.” (*See* Puck, [0026], [0027].) Additionally, to the extent it is determined that Carrier does not disclose positioning the fluid pump to provide a desired location for a center of gravity of the vehicle, Puck discloses this limitation. (Puck, [0041].) To the extent it is determined that Puck does not disclose the limitations of Claim 8, the disclosure of a desired center of gravity is inherent in the combination. (*See* Non-final Rejection, September 14, 2020, at pp. 2-3 (“With respect to claim 18 [which became issued claim 6], the center of gravity is inherent in the combination.”).

Like Carrier, Puck also discloses the following limitations of Claim 8: a floatable vehicle body (Puck, Abstr., [0001], [0011], [0022], Fig. 1); a fluid pump for pumping liquid manure (Puck, [0026], [0027]); at least one directionally adjustable nozzle through which the liquid manure is pumped (Puck, [0011], [0027], [0032], [0035], [0037], Figs. 4-6); an internal combustion engine configured to provide power to the fluid pump (Puck, [0024], [0025], Claim 13); and the location of the fluid pump selected to provide a desired location for a center of gravity of the vehicle (Puck, [0041]). For the same reasons as discussed above, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the amphibious pumping vehicle of Carrier with the manure agitator of Puck to create the invention of Claim 8.

#### **5.      *Claims 9-10***

As shown with respect to Ground 1 above, Carrier discloses all the limitations of Claims 9-10. The addition of Puck is not necessary to meet all limitations of these claims.

#### **6.      *Claims 11-13.***

As shown with respect to Ground 1 above, Carrier discloses all the limitations of Claims 11-13. However, the combination of Carrier and Puck is presented in the alternative to the extent it is determined that Carrier does not disclose all limitations of these claims.

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 11, Puck discloses at least one directionally adjustable nozzle connected to a fluid conduit that is connected to the fluid pump. (Puck, [0008], [0026], [0027], Figs. 4-6.)

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 12, Puck discloses a plurality of nozzles comprising the at least one directionally adjustable nozzle that is connected to the fluid conduit. (Puck, [0008], [0026], [0027], Figs. 4-6.)

To the extent it is determined that Carrier does not disclose the additional limitations of Claim 13, Puck discloses remotely controlling the amount of fluid flow from the directionally

adjustable nozzle and/or the direction of the directionally adjustable nozzle by the operator remote from the vehicle when the vehicle is floating. (Puck, [0033], [0037], Fig. 7.)

**G. Ground 3 (Carrier in view of Puck and in further view of Gaither): Detailed Prior Art Application to Claims 8-13**

Claims 8-13 of the '557 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Carrier in view of Puck and in further view of Gaither. A claim chart detailing this ground of invalidity is attached hereto as Exhibit I.

As shown above in Ground 2, Carrier and Puck disclose every limitation of claims 8-13. However, to the extent it is determined that Carrier does not disclose four variable speed hydraulic motors, one hydraulic motor per wheel, for powering the four hydraulically powered ground engaging wheels at variable speed, Gaither is presented in the alternative. Gaither discloses four variable speed hydraulic motors, one hydraulic motor per wheel, for powering the four hydraulically powered ground engaging wheels at variable speed.

Like Carrier, Gaither is an all-terrain amphibious vehicle configured for use on land and in water. Gaither discloses the use of four ground-engaging wheels, each powered by a separate hydraulic motor. (Gaither, Col. 1:22-25 (“the invention is an amphibious vehicle that utilizes four, six, or eight independent, hydraulically driven wheels when the wheels are in contact with the ground”); *see also* Col. 3:21-24.) Gaither teaches that each wheel is connected to a separate hydraulic motor. (Gaither, Col. 7:1-3 (“Undercarriage assembly 200r is comprised of channel assembly 210, access cover 202, wheel motors 504, and tires 203.”) (emphasis added); Col. 7:15-18 (“Channel 220 further defines a plurality of wheel motor apertures 232 through which the shaft of each wheel motor 504 passes. One tire 503 is mounted to the shaft of each wheel motor 504.”).)

The hydraulic wheel motors are variable speed motors which permit the ground engaging wheels to operate at variable speeds. (Gaither, Col. 10:19-26 (“The further away from their central positions levers 602l and 602r are moved, the greater the output from hydrostatic pump 502 and the faster the propulsion motors will rotate. Throttle 603 . . . preferably provides four different throttle settings: idle, low, medium, and high.”).) The individual hydraulic motors may also move at variable speeds relative to each other, such as when the vehicle is executing a turn. (Gaither, Col. 10:34-39.)

One of ordinary skill in the art would have combined the amphibious vehicles of Carrier and Gaither with the Puck’s teaching of a pumping vehicle for agitating liquid manure to arrive at the invention of the ’557 patent. Like Carrier, Gaither is an amphibious vehicle. It is analogous art under either prong of *In re Bigio* because it is in the same field of endeavor as the invention of the ’557 patent and is reasonably pertinent to the problem addressed by the invention of the ’557 patent. The Examiner cited other amphibious vehicles such as Royle during prosecution. (See Non-Final Office Action, September 14, 2020, at p. 2.) Applicant did not challenge amphibious vehicles as analogous art. (See Amendment/Response, January 14, 2021, at p. 8.)

A person of ordinary skill in the art at the time of the invention would have been motivated to combine the amphibious vehicles of Carrier and Gaither with the manure agitator of Puck based on the teachings in the field of amphibious vehicles and manure agitation vehicles. Carrier specifically explains that hydraulic propulsion systems for amphibious vehicles are known in the art. (Carrier, Col. 6:41-44 (“[A] direct drive system can be employed wherein one or more wheels is driven by . . . a hydrostatic drive transmission *or via a hydraulic system as is known in the art.*”) (emphasis added).) In view of Carrier’s express instruction, one of ordinary skill looking to adapt the hydraulic propulsion system of the amphibious pumping vehicle of Carrier for use with

the manure agitator of Puck would have naturally looked to the teachings of other amphibious vehicles, such as Gaither, that disclose similar hydraulic propulsion systems. Prior art may be considered in a variety of ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

During prosecution, the Examiner found that other amphibious vehicles in combination with Puck “combine[] known features to achieve predictable results.” (September 14, 2020 non-final rejection at pp. 2-3.) The Applicant did not challenge this combination. (*See* Amendment/Response, January 14, 2021, at p. 8.) The same reasoning applies with equal force to the combination of the amphibious vehicle of Carrier and Gaither with Puck. The combination the amphibious pumping vehicle of Carrier and the hydraulic propulsion system of Gaither with the fluid pump of Puck with according to known methods would yield the predictable result of an amphibious pumping vehicle that is capable of pumping liquid manure.

#### **1. Claim 8**

To the extent it is found that the combination of Carrier and Puck does not disclose “four hydraulic motors, one hydraulic motor per wheel, for powering the four hydraulically powered ground engaging wheels” as required by Claim 8, this limitation is disclosed by Gaither. Gaither discloses four hydraulic motors, one hydraulic motor per wheel, for powering four hydraulically powered ground engaging wheels. (Gaither, Col. 1:22-25; Col. 3:21-24; Col. 7:1-3, 15-18; *see also* Col. 7:30 – Col. 9:31.)

#### **2. Claim 10**

To the extent it is found that the combination of Carrier and Puck does not disclose the following limitation, “wherein the four hydraulic motors are variable speed hydraulic motors and

wherein the four hydraulically powered ground engaging wheels are each operable at variable speed” as required by Claim 10, this limitation is disclosed by Gaither. Gaither discloses that the four hydraulic motors are variable speed hydraulic motors such that the four hydraulically powered wheels are each operable at variable speed. (Gaither, Col. 10:19-26, 34-39; *see also* Col. 10:18-50.)

### **3. Claims 9, 11-13**

As shown with respect to Ground 2 above, the combination of Carrier and Puck discloses all the limitations of Claims 9 and 11-13. The addition of Gaither is not necessary to meet all limitations of these claims.

#### **H. Ground 4 (Puck in view of Bennett): Detailed Prior Art Application to Claims 1-13**

Claims 1-13 of the ’557 patent are unpatentable under AIA 35 U.S.C. § 103 because such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Puck in view of Bennett. A claim chart detailing this ground of invalidity is attached hereto as Exhibit J.

While both Puck and Bennett were before the Examiner during prosecution of the ’557 patent, the Examiner did not consider the full scope of these references. *See* 35 U.S.C. § 303(a) (“[T]he existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.”); MPEP § 2216 (“The substantial new question of patentability may be based on art previously considered by the Office if the reference is presented in a new light or a different way that escaped review during earlier examination.”); *see also Ex parte Rozman*, 2021 Pat. App. LEXIS 4649, at \*5-6. Specifically, the Examiner did not consider the application of Bennett’s remote control system and associated elements to the disclosure of Puck.

The Examiner's Non-Final Office Action rejected various application claims under 35 U.S.C. 103 as being unpatentable over Royle in view of Remley and Puck. (*See* Non-Final Office Action, September 14, 2020, at p. 2.) In response, Applicant argued that Puck does not disclose a remote-control structure through which the vehicle can be controlled when the vehicle is on land and when it is in water: "Puck discloses remote control over steering a floating vehicle, but does not disclose or even suggest that the vehicle can be operated on the ground and does not disclose or even suggest remotely operating such a vehicle on the ground." (Amendment/Response, January 14, 2021, at p. 8.)

In an Examiner interview discussing "[r]emote control of Amphibious [*sic*]," the Examiner agreed that "all the claims except 21-28 are allowable." (Interview Summary, January 19, 2021.) However, the Examiner issued a final office action rejecting application claims 21-28 under 35 U.S.C. § 103 as being unpatentable over Royle in view of Remley, Puck and Bennett. The Examiner specifically found that "Bennett teaches a remote control for land and water (paragraphs 0043, 0121)." (Final Office Action, February 1, 2021, p. 2.) Following an Examiner interview, the Examiner canceled application claims 21-28 through an Examiner's Amendment, and application claims 1-2, 4, 6, 12, 18, 20, and 29-34 received a notice of allowance. (Examiner Interview Summary, January 28, 2021; Notice of Allowance, February 10, 2021.) The allowed claims became issued Claims 1-13.

It is apparent from the statements made during prosecution that Claims 1-13 were allowed due to the alleged lack of a remote control limitation in the prior art through which the amphibious vehicle can be remotely controlled while in water and on land. However, this same limitation is found in Bennett, as the Examiner specifically acknowledged in rejecting application claims 21-

28. When properly applied, the combination of Puck and Bennett discloses all limitations of Claims 1-13. The further consideration of Royle and Remley is, therefore, not necessary.

The Examiner specifically found that one of ordinary skill in the art would have had a motivation to combine Puck and Bennett, and that such combination “combines known features to achieve predictable results.” (Final Office Action, February 1, 2021, pp. 2-3.) Applicant did not challenge that combination or challenge Puck or Bennett as analogous art. Even without relying on the Examiner’s prior determination, a person of ordinary skill in the art at the time of the invention would have looked to the teachings of Puck and Bennett when attempting to solve the problem addressed by the ’557 patent, namely, the use of an amphibious pumping vehicle in connection with the agitation of manure ponds. Puck, a floating manure agitator, and Bennett, an amphibious vehicle, and are analogous art to the ’557 patent. Here, both Puck and Bennett are analogous art under either prong of *In re Bigio*. These references are in the same field of endeavor as the invention of the ’557 patent and they are reasonably pertinent to the problem addressed by the invention of the ’557 patent.

A person of ordinary skill in the art at the time of the invention would have been motivated to combine the floating manure agitator of Puck with the amphibious vehicle of Bennett based on the teachings in the field of amphibious vehicles and manure agitation vehicles. One of ordinary skill, considering the teachings of Puck, would have recognized the value of including the features of Bennett. One of ordinary skill looking to adapt the manure agitation boat of Puck to permit easier exit from a manure pond, and easier transportation between manure ponds, would have looked to the teachings of amphibious vehicles such as Bennett, which were already adapted for use in water and on land. Prior art may be considered in a variety of different ways under *KSR*. Most notably, given the similarity of the references, Examination Guideline rationales (C), “Use

of known techniques to improve similar devices (methods, or products) in the same way” and (D) “Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results,” appear most relevant.

As discussed above, the Examiner determined that the combination of Puck and Bennett “combines known features to achieve predictable results.” (Final Office Action, February 1, 2021, pp. 2-3.) The combination of the fluid pump and associated structure of Puck with the amphibious vehicle of Bennett according to known methods would yield the predictable result of an amphibious pumping vehicle that is capable of pumping liquid manure. The Examiner applied the combination of Puck and Bennett during prosecution, and the Applicant did not challenge this combination.

The combination of Puck and Bennett discloses every limitation of Claims 1-13. The claims are reproduced below, with bolded citations to Puck and Bennett indicating where each limitation is taught.

**1.      *Claim 1***

The combination of Puck and Bennett discloses all the limitations of Claim 1:

“An amphibious vehicle (**Bennett, [0043]**) comprising:

a floatable vehicle body (**Puck, Abstr., [0001], [0011], [0022]; Bennett, [0043], [0051]**);

ground engaging propulsion structure (**Bennett, [0044], [0083]; Fig. 1**);

a fluid pump for pumping liquid manure (**Puck, [0026], [0027]; Bennett, [0059], [0079]**);

at least one fluid nozzle connected by a fluid conduit to the fluid pump (**Puck, [0027], [0028], [0029], Fig. 4-6**);

a power source connected to a hydraulic pump and configured to provide power to both the ground engaging propulsion structure and the fluid pump (**Bennett, [0083]**); and,

remote control structure configured to control the ground engaging propulsion structure and a flow of fluid from the fluid nozzle, wherein the speed and/or direction of the vehicle is remotely controllable by an operator remote from the vehicle when the vehicle is ground engaging and when the vehicle is floating (**Bennett, [0043], [0121]**).”

**2.      *Claim 2***

Bennett discloses the additional limitations of Claim 2:

“The vehicle according to claim 1, wherein the ground engaging propulsion structure comprises a set of wheels or an endless track (**Bennett, [0043]**).”

**3.      *Claim 3***

Bennett discloses the additional limitations of Claim 3:

“The vehicle according to claim 1, wherein the power source is configured to provide hydraulic fluid power to both the ground engaging propulsion structure and the fluid pump (**Bennett, [0083]**).”

**4.      *Claim 4***

Bennett discloses the additional limitations of Claim 4:

“The vehicle according to claim 3, wherein the ground engaging propulsion structure is operable at variable speed by a hydraulic motor (**Bennett, [0083], [0084]**).”

**5.      *Claim 5***

Puck discloses the additional limitations of Claim 5:

“The vehicle according to claim 1, wherein the at least one fluid nozzle comprises a plurality of fluid nozzles connected to the fluid conduit (**Puck, [0008], [0027], [0029]**).”

**6.      *Claim 6***

Puck discloses the additional limitations of Claim 6:

“The vehicle according to claim 1, wherein the location of the ground engaging propulsion structure, power source and fluid pump are selected to provide a desired location for a center of gravity of the vehicle (**Puck**, [0041]).”

To the extent it is determined that Puck does not disclose the limitations of Claim 6, the disclosure of a desired center of gravity is inherent in the combination. Figure 4 of Puck shows the boat of Puck floating in an orientation that is substantially parallel to the water. (Puck, Fig. 4.) Such symmetrical floatation shows that the elements of Puck have been selected to maintain a center of gravity. Furthermore, during prosecution, the Examiner rejected application claim 18, which became issued Claim 6, because the center of gravity was inherent. (Non-final Office Action, September 14, 2020, at pp. 2-3 (“With respect to claim 18 [which became issued claim 6], the center of gravity is inherent in the combination.”). Applicant did not challenge the Examiner’s inherency finding. (See Amendment/Response, January 14, 2021, at p. 8.) Based on the teaching of Puck, a person of ordinary skill in the art at the time of the invention would necessarily select the location of the ground engaging propulsion structure, power source, and fluid pump to maintain a desired location for a center of gravity.

#### **7. Claim 7**

Puck discloses the additional limitations of Claim 7:

“The vehicle according to claim 1, wherein the amount of fluid flow from the at least one fluid nozzle and/or the direction of the at least one fluid nozzle are remotely controllable by the operator remote from the vehicle when the vehicle is floating. (**Puck**, [0032], [0033], [0035], [0037]).”

#### **8. Claim 8**

The combination of Puck and Bennett discloses all the limitations of Claim 8:

“An amphibious vehicle (**Bennett**, [0043]) comprising:

a floatable vehicle body (**Puck, Abstr.**, [0001], [0011]; **Bennett**, [0043], [0051]);

four hydraulically powered ground engaging wheels (**Bennett**, [0003], [0062], [0063], [0064], [0083], **Fig. 8, 9A, 9B**);

four hydraulic motors, one hydraulic motor per wheel, for powering the four hydraulically powered ground engaging wheels (**Bennett**, [0083], [0107]);

a fluid pump for pumping liquid manure (**Puck**, [0026], [0027]; **Bennett**, [0059], [0079]);

at least one directionally adjustable nozzle through which the liquid manure is pumped (**Puck**, [0011], [0027], [0032], [0035], **Figs. 4-6**);

an internal combustion engine configured to provide power to both the four variable speed hydraulic motors and the fluid pump (**Puck**, [0024], [0025], **Claim 13**; **Bennett**, [0083], [0084], [0085]);

the location of the four hydraulically powered ground engaging wheels, the internal combustion engine and the fluid pump selected to provide a desired location for a center of gravity of the vehicle (**Puck**, [0041]); and,

remote control structure configured to control the four variable speed hydraulic motors and the fluid pump, wherein the speed and/or direction of the vehicle is remotely controllable by an operator remote from the vehicle when the vehicle is ground engaging and when the vehicle is floating (**Bennett**, [0043], [0121]).”

To the extent that it is determined that Bennett does not disclose four ground-engaging wheels, such determination is incorrect. While the disclosure of Bennett is primarily directed to a tracked ATV, Bennett also discloses prior art ATVs including ground-engaging members that may be tires. (Bennett, [0003] (“ATVs and UVs include ground-engaging members, which may be tires, tracks skis, or any other device for moving the vehicle across the ground.”) (emphasis added).)

Additionally, Bennett “expressly” incorporates by reference “the complete disclosure” of U.S. Patent Application Publication No. 2013/0033070 to Kinsman et al. (“Kinsman”), attached hereto as Exhibit K. (Bennett, [0057].) Kinsman discloses a utility vehicle with four ground-engaging wheels. (Kinsman, [0120] (“With reference to FIG. 1, the utility vehicle is shown generally at 2 to include a frame 4 supported by a plurality of ground engaging members, for example front wheels 6 and rear wheels 8.”); Fig. 1.) Through incorporation, therefore, Bennett also discloses four ground engaging wheels. Additionally, the use of hydraulically driven, ground-engaging wheels is well-known in the art. (*See, e.g.*, Carrier, Col. 6:41-46; Gaither, Col. 1:21-25.) The use of four ground-engaging wheels would have been obvious to one of ordinary skill in the art at the time of the invention.

To the extent it is determined that Bennett does not disclose four variable speed hydraulic motors, one per wheel, such disclosure is inherent. Bennett discloses the use of two variable speed hydraulic motors, one for each set of tracks. (Bennett, [0083], [0084], [0085].) Accordingly, the use of four motors, one per wheel, would have been obvious to one of ordinary skill in the art at the time of the invention.

To the extent it is determined that Puck does not disclose a desired center of gravity, such disclosure is inherent, as discussed with respect to Claim 6 above.

## **9. Claim 9**

Puck and Bennett disclose the additional limitations of Claim 9:

“The vehicle according to claim 8, wherein the power source is configured to provide hydraulic fluid power to the four hydraulic motors and the fluid pump (**Puck, [0027], [0031]; Bennett, [0083]**).”

Puck discloses a hydraulic fluid pump. (Puck, [0027], [0031].) Bennett discloses a power source configured to provide hydraulic fluid power to hydraulic motors. (Bennett, [0083].) The

use of a power source to provide hydraulic fluid power to hydraulic motors and fluid pump would have been obvious to one of ordinary skill in the art at the time of the invention.

**10. Claim 10**

Bennett discloses the additional limitations of Claim 10:

“The vehicle according to claim 9, wherein the four hydraulic motors are variable speed hydraulic motors (**Bennett, [0083], [0084], [0085]**) and wherein the four hydraulically powered ground engaging wheels are each operable at variable speed (**Bennett, [0003]; [0057], [0059], [107]**).”

Bennett discloses variable speed hydraulic motors to operate the tracks at variable speed. (Bennett, [0083], [0084], [0085].) Bennett also discloses four ground engaging wheels. (Bennett, [0003]; [0057] (incorporating disclosure of Kinsman by reference); Kinsman, [0120].) The use of variable speed hydraulic motors to power ground engaging wheels would have been obvious to one of ordinary skill in the art at the time of the invention.

**11. Claim 11**

Puck discloses the additional limitations of Claim 11:

“The vehicle according to claim 8, wherein the at least one directionally adjustable nozzle is connected to a fluid conduit connected to the fluid pump (**Puck, [008], [0026], [0027], [0029], Figs. 4-6**).”

**12. Claim 12**

Puck discloses the additional limitations of Claim 12:

“The vehicle according to claim 11, wherein a plurality of nozzles comprising the at least one directionally adjustable nozzle is connected to the fluid conduit (**Puck, [008], [0026], [0027], [0029], [0035]**).”

### 13. *Claim 13*

Puck discloses the additional limitations of Claim 13:

“The vehicle according to claim 8, wherein the amount of fluid flow from the directionally adjustable nozzle and/or the direction of the directionally adjustable nozzle are remotely controllable by the operator remote from the vehicle when the vehicle is floating (**Puck, [0035]**).”

### **VIII. Conclusion**

The prior art relied upon in this Request raises substantial new questions of patentability as to claims 1-13 of the '557 patent. The prior art relied upon in this Request supports the various anticipation and obviousness rejections of claims 1-13 as set forth above. All the requirements for *ex parte* reexamination and a rejection of the specified claims have been met. It is respectfully requested that the PTO order such reexamination and find that claims 1-13 of the '557 patent are unpatentable.

Respectfully submitted,

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