

UNITED STATES PATENT AND TRADEMARK
OFFICE

BEFORE THE PATENT TRIAL AND APPEAL
BOARD

DEERE & COMPANY,

Petitioner

v.

DAVID'S DOZER V-LOC SYSTEM, INC.,

Patent Owner

Case No. IPR2024-01442

U.S. Patent No. 10,533,300

PATENT OWNER'S PRELIMINARY RESPONSE

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I. INTRODUCTION

Patent owner David's Dozer V-Loc System, Inc., ("David's Dozer" or "Patent Owner") respectfully requests that the Board decline to initiate inter partes review of claims 1-4 (the "Challenged Claims") of U.S. Patent No. 10,533,300 ("'300 Patent") (Ex. 1001, '300 Patent) as requested by Petitioner Deere & Company ("Deere" or "Petitioner"). In Deere's Petition for Inter Partes Review (Case No. IPR2024-01442) (the "Petition"), Deere fails to meet its burden of showing a reasonable likelihood that it will prevail on at least one challenged claim.

With respect to the Challenged Claims, the identified combination of references relied on by Deere in the Petition does not teach or suggest all of the limitations of independent claim 1. Moreover, the Petition relies improperly on hindsight and conclusory statements as a basis for combining references and therefore fails to provide reasonable bases with rational underpinnings to establish that the claims of the '300 Patent are obvious. Instead, Petitioner attempts to obfuscate or rewrite the actual teachings of the prior art by annotating figures in its Petition, claiming that required limitations are shown by its own inaccurate annotations. But the fact is that the prior art fails to teach several limitations recited in the Challenged Claims. Moreover, presented art is substantially the same as the prior art presented during prosecution of the '300 Patent, and so the Board should decline to institute an IPR under the *Becton Dickinson* factors.

II. BACKGROUND

A. Automatic Grade Control Systems for Skid-Steer Vehicles

The '300 Patent relates to “stabilizing small to mid-sized skid steer vehicles used to grade earth through use of a dozer blade in conjunction with ***GPS automatic grade control equipment***.” Exhibit 1001, Abstract (emphasis added). “The main arm of the skid steer is retained at a specific height and the hydraulic controlling the main arm is limited.” *Id.* “The height of the dozer blade is raised and lowered by affecting the pitch axis of movement of the blade and not by raising and lowering the main arm.” *Id.*

Skid steer vehicles, like skid steers and compact track loaders (“CTLs”), are compact heavy equipment vehicles having lift arms that can accommodate a variety of attachments, such as buckets, blades and other specialized equipment. *Id.*, Abstract, 3:33-43; Declaration of Douglas S. Prairie, P.E., Exhibit 2001 ¶ 36. The terms skid steer and CTL are commonly used interchangeably, along with other similar terms (*i.e.* skid loader, skid steer loader, etc.). *Id.* As used in the '300 patent, the term skid steer vehicle refers to any such vehicle.

As one application of a skid-steer is grading, a skid-steer would benefit from a grade control system. Grade control systems prior to the '300 Patent most commonly used laser guided grading. Exhibit 1001, 3:44-54; Prairie Decl., ¶37. A laser guided grade control system would be guided by a laser receiver attached to

the skid-steer, which works with a laser reference beacon erected on an edge of a job site. *Id.*¹ The laser receiver would be incorporated into a laser mast,² most commonly affixed to the dozer blade or skid steer arms to measure and calibrate the controlled movements of the vertical position of the dozer blade during automatic grading operations. Exhibit 1001, 1:45-48 and 3:61-67; Exhibit 2001, ¶ 37. For this to be effective, the blade must generally be held vertically to ensure that the laser mast is generally vertical. *Id.* Tilting of the laser mast off from a vertical position would impart an error to the system causing the automatic controller to misinterpret the actual height of the bottom of the dozer blade relative to the earth being moved. Exhibit 1001, 1:44-54; Exhibit 2001, ¶ 37. Thus, laser automatic grading solutions prior to the '300 Patent typically prevented pitch axis movement of the blade so as to keep the laser mast vertical. Exhibit 1001, 4:1-6; Exhibit 2001, ¶ 37.

¹ See also Declaration of Dr. James Glancey, Exhibit 1003, ¶ 47 (discussing laser level control systems).

² Funk shows an example “laser mast” with a “laser receiver.” Exhibit 1004, Fig. 1a and ¶ [31] (discussing laser receiver 102 “mounted to one of two lift arms 13 of the skid-steer”); Exhibit 2001, n. 2. Prior art reference Armas (U.S. Patent No. 8,118,111) is another example. See Exhibit 1001, 1:43-45; Exhibit 1010, Fig. 1 and 2:34-45, 4:55-57 (discussing and showing “leveler assembly 80”); *Id.*

Developments in the art led to the incorporation of global positioning systems (GPS),³ which had one benefit of rendering a laser mast unnecessary thereby permitting the pitch axis of the blade to be tilted without the drawback of a laser receiver experiencing interference. Exhibit 1001, 1:55-58 and 4:16-19; Exhibit 2001, ¶ 38.

B. The '300 Patent's GPS Automatic Grade Control System

The inventor, Mr. Armas, recognized that GPS grading control systems presented the benefit of allowing blade tilting, but realized “that a consistent grade could not be consistently achieved” if “the main arm of the vehicle controlled the height of the bottom of the dozer blade while the pitch axis of the blade is simultaneously adjusting the height of the bottom of the blade.” Exhibit 1001, 4:20-25. In order to overcome at least this limitation of GPS grading control systems, Mr. Armas devised a solution that allowed a blade to tilt along its pitch axis and achieve a consistent grade. That solution is described in the '300 Patent.

Referring to FIGS. 1 and 2 of the '300 Patent, reproduced below, when a main arm 48 of the skid-steer vehicle is fully down, the main arm 48 rests against a stop 58 to limit further downward movement of the main arm 48. Exhibit 1001, 5:18-22.

³ See also Declaration of Dr. James Glancey, Exhibit 1003, ¶ 48 (discussing GPS technology emergence in grading)

To further inhibit movement of the main arm 48, the hydraulics 32 affecting the main arm 32 may be disabled to prevent the raising of the arm off the stop. Exhibit 1001, 5:67-6:6, 6:11-16. In some embodiments of the invention, the main arm 48 could be locked against the stop using lock 62. Exhibit 1001, 5:36-38. In further embodiments, a valve 50 providing hydraulic pressure to the arm hydraulic 32 could be closed. Exhibit 1001, 5:41-45. However, with the main arm disabled and resting against the stop, the lock and valve become optional. Exhibit 1001, 5:67-6:6, 6:11-16.

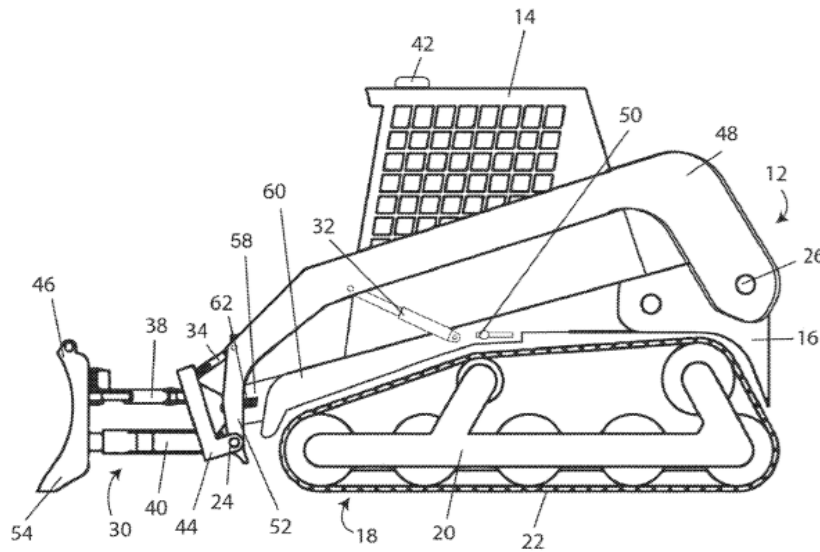


Fig. 1 of the '300 Patent

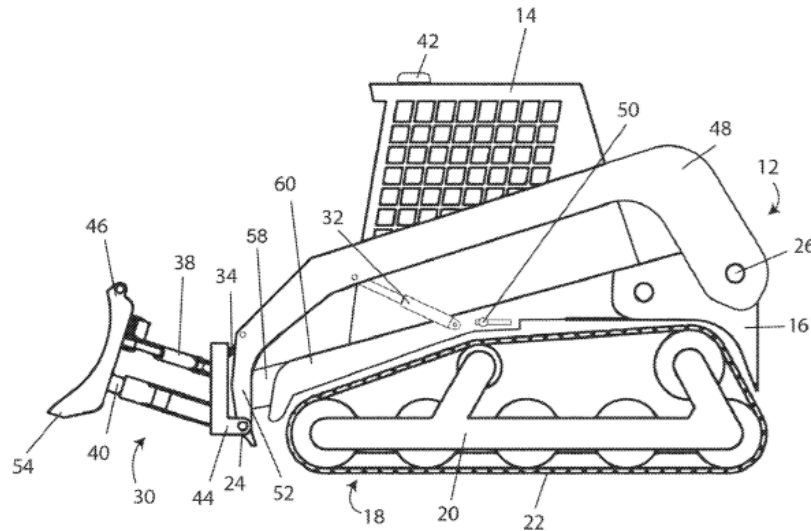


Fig. 2 of the '300 Patent

With the hydraulics of the arm disabled, an “automatic GPS grading computer” can control the movement of the bottom 54 of blade 46 to move up and down thereby controlling how deep the blade 46 cuts the soil. Exhibit 1001, 6:25-36. The blade 46 movement occurs by hydraulic 34 articulating blade 46 about a hinge 24. Exhibit 1001, 6:37-39.

C. Prosecution History of the '300 Patent

All claims in the application that matured in the '300 Patent were allowed by the Primary Examiner in a first Office Action. Exhibit 1002, pp. 18-24. In the Notice of Allowance, the Primary Examiner stated in the reasons for allowance that “*while controlling hydraulic lifts and blades are known*, the prior art lacks teaching for having *provided the stop with the steps of positioning and preventing* in the manner claimed.” *Id.*, 23 (emphasis added). The fact that the Patent Owner did not respond

to the reasons for allowance does not mean that the Patent Owner acquiesced to those reasons. *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347-48 (Fed. Cir. 2005)

That is, those reasons do not limit the scope of the Challenged Claims.

D. Overview of Petition Challenges

The Petition alleges eight grounds against the Challenged Claims:

GROUND	CLAIMS	BASIS
1A	1–4	Allegedly obvious under 35 U.S.C. § 103(a) over Funk in view of Lewis
1B	1-4	Allegedly obvious under 35 U.S.C. § 103(a) over Funk in view of Lewis and further in view of Stratienko
1C	2 and 4	Allegedly obvious under 35 U.S.C. § 103(a) over Funk in view of Lewis and further in view of Orser
1D	2 and 4	Allegedly obvious under 35 U.S.C. § 103(a) over Funk in view of Lewis and further in view of Stratienko and Orser
2A	1-4	Allegedly obvious under 35 U.S.C. § 103(a) over Eckrote in view of Lumpkins
2B	1-4	Allegedly obvious under 35 U.S.C. § 103(a) over Eckrote in view of Lumpkins and further in view of Stratienko
2C	2 and 4	Allegedly obvious under 35 U.S.C. § 103(a) over Eckrote in view of Lumpkins and further in view of Orser

2D	2 and 4	Allegedly obvious under 35 U.S.C. § 103(a) over Eckrote in view of Lumpkins and further in view of Stratienko and Orser
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In the table above and throughout this Preliminary Response, the “Funk” reference refers to U.S. 2016/0273196, Exhibit 1004; the “Lewis” reference refers to U.S. 11,111,646, Exhibit 1005; the “Stratienko” reference refers to U.S. 4,185,539, Exhibit 1008; the “Orser” reference refers to U.S. 5,169,277, Exhibit 1009; the “Eckrote” reference refers to U.S. 10,662,614, Exhibit 1006; and the “Lumpkins” reference refers to U.S. 2006/0070746, Exhibit 1007.

III. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) would have either: (1) 2-3 years working with skid steers, custom track loaders, or similar machinery and their hydraulic systems; or (2) a bachelor’s degree in mechanical engineering degree or a closely related field, and six months of professional experience with skid steers, custom track loaders, or similar machinery and their hydraulic systems. Exhibit 2001, ¶¶31. With sufficient experience with skid steers or similar machinery, a formal education in mechanical engineering or a similar discipline is not required for a POSITA. *Id.*

Patent Owner’s qualifications of a POSITA differ from Petitioner’s in that Petitioner would not require a POSITA to have *any* industry experience or familiarity with skid-steers or other earth moving equipment. Petitioner proposes

that a POSITA would have: (1) a bachelor's degree in mechanical engineering or a closely-related field; and (2) at least two years of professional experience working with hydraulic systems *and/or* earthmoving equipment and vehicles. Petition, at 4-5. Thus, according to Petitioner, a POSITA could have a bachelor's degree and two years of experience in *any* industry area involving hydraulic systems, which would include a POSITA lacking any familiarity with skid steers and/or compact track loaders, or indeed any earthmoving equipment and vehicles, or with automatic grade control systems.

Petitioner's misplaced qualifications for a POSITA is problematic with respect to Petitioner's motivation to combine analysis, discussed in detail below. In general, the Petition poses two sets of Grounds for unpatentability: the first set of grounds (1A-1D) relies on combining the Funk and Lewis references; and the second set of grounds (2A-2D) relies on combining the Eckrote and Lumpkins references. Petitioner, at 1. A POSITA having Petitioner's qualifications with hydraulic experience *outside* the field of earthmoving equipment would not appreciate the differences between these prior art disclosures, whereas a POSITA with Patent Owner's qualifications requiring industry experience would appreciate such differences. Exhibit 2001, ¶34. For example, Funk and Lumpkins are generally directed to automatic control systems while Lewis and Eckrote are generally directed to manual control systems. As another example, none of the references appear to be

directed to GPS automatic grade control systems. As a further example, Eckrote is directed to a skid-steer while Lumpkins is directed to a bulldozer. As argued more fully below, a POSITA with appropriate industry experience consistent with Patent Owner's qualifications would not be motivated to combine these references because they would be familiar with the differences between types of automatic grade control systems, the different types of earthmoving equipment, and the unique problems each poses. A POSITA with Petitioner's qualifications would not.

IV. CLAIM CONSTRUCTION

A. Claim Construction Standards

In “an inter partes review proceeding, a claim of a patent, or a claim proposed in a motion to amend under § 42.121, shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 CFR § 42.100(b). A claim term's plain and ordinary meaning will not apply “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Further, while the words of a claim are generally given their ordinary and customary meaning,

courts will adopt an alternative meaning if the intrinsic record “shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention.” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366–67 (Fed. Cir. 2002)). “Statements [in the specification] that describe the invention as a whole”, such as those found in abstract or the summary of the invention “are more likely to support a limiting definition of a claim term” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 864 (Fed. Cir. 2004) (*citing Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1347 (Fed.Cir.1998)); *see also Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1348 (Fed. Cir. 2004).

In *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337, 58 USPQ2d 1059 (Fed.Cir.2001), the Federal Circuit affirmed the district court’s narrow claim construction because the ***abstract*** limited the patents to particular lumen catheters, the patents distinguished the prior art on the basis of such catheters, and the “***Summary of the Invention***” portion of the written description characterized the invention as having that type of catheter.

In *Wang Laboratories, Inc. v. America Online, Inc.*, 197 F.3d 1377, 53 USPQ2d 1161 (Fed. Cir. 1999), the Federal Circuit determined that the claim term “frame” was necessarily limited to a character-based protocol because that was the

only embodiment that was described and enabled in the specification. *Id.* at 1382, 53 USPQ2d at 1165. The Federal Circuit sought in that case to interpret the claims to preserve, rather than defeat, their validity. *Id.* at 1383, 53 USPQ2d at 1165.

B. Proposed Claim Construction

Petitioner contends that “no claim terms need to be construed.” Petition, at 5.

Patent Owner respectfully submits the following proposed constructions:

Claim Term	Proposed Construction
Skid steer vehicle	A skid steer or similar vehicle, including both wheeled and tracked vehicles
automatic grade control system	GPS automatic grade control system
a hydraulic that lifts the main arm	A first hydraulic that lifts the main arm
a hydraulic that controls a pitch axis of movement of the dozer blade	A second hydraulic that controls a pitch axis of movement of the dozer blade

1. “skid steer vehicle”

Patent owner respectfully submits that the term “a skid steer vehicle” as recited in claim 1 is properly construed as “a skid steer or similar vehicle, including both wheeled and tracked vehicles.” The specification refers to the vehicle in the drawings as both a skid steer vehicle and a track steer vehicle, and makes clear that both wheeled and tracked vehicles are included. *See, e.g.*, Ex. 1001, 2:62-65 (“FIG.

1 is a side elevation view of a track steer vehicle...”), 5:17-18 (“FIG. 1 is an elevation view of a skid steer vehicle...”), 6:55-62 (“Now referring to FIGS. 3 and 4 where a front elevation view of a skid steer vehicle...” and (FIGS. 5 and 6 are a top plan view of a skid steer vehicle. *Id.*, 7:50-55 (a “skid steer vehicle may have either ground contacting tracks or wheels.”) and 4:66-5:3 (“The present system will work equally well on a wheeled vehicle and is not dependent on the form that the small earth moving vehicle embodies.”). Further, the ’300 Patent’s usage of the term “skid steer vehicle” is consistent with its use in the field, where persons of ordinary skill in the art commonly use the terms skid steer, CTL, and other similar terms interchangeably. Exhibit 2001, ¶ 45 Accordingly, the Board should adopt Patent Owner’s proposed construction of “skid steer vehicle” as “a skid steer, compact track loader, or other similar vehicle, including vehicles with both wheels and tracks.” Exhibit 2001, ¶ 43-45.

2. “automatic grade control system”

Patent Owner respectfully submits that the term “automatic grade control system” should be construed as “GPS automatic grade control system.” This construction is well supported intrinsically and is consistent with how a POSITA would understand the term. Exhibit 2001, ¶ 46-51.

“Statements [in the specification] that describe the invention as a whole” such as those found in abstract or the summary of the invention “are more likely to support

a limiting definition of a claim term” *C.R. Bard, Inc.*, 388 F.3d at 864. “[I]n determining the scope of a claim, the abstract of a patent is a potentially useful source of intrinsic evidence as to the meaning of a disputed claim term.” *Tate Access Floors, Inc. v. Maxcess Technologies, Inc.*, 222 F.3d 958, 965 n.2 (Fed. Cir. 2000). Here, the ’300 Patent abstract specifically limits the scope of the invention to “GPS automatic grade control equipment.” Exhibit 1001, Abstract.

Second, the Summary of the Invention of the ’300 Patent also limits the scope of the patent to “GPS automatic grade control.” Exhibit 1001, 2:25-29 (“Another object of the present invention is to provide a stable platform on a medium to small skid steer vehicle that does not need the use of a laser mast affixed to the dozer blade but instead adapts the vehicle to be suitable for *GPS automatic laser grading systems*”).

Third, the Detailed Description of the ’300 Patent expressly states “the invention” is a similar term as “the GPS grader.” Exhibit 1001, 3:23-25. The Detailed Description further discloses a solution provided by the invention in which a “laser mast is no longer needed because GPS has been employed to control the automatic grade computer location and the required grade relative to that location.” Exhibit 1001, 3:23-25; 4:13-16.

Fourth, *every* single embodiment of the invention disclosed in the ’300 Patent is directed to a GPS automatic grade control system. Exhibit 1001, 3:23-25; 4:13-

16; 4:33-38; 6:7-10; 6:27-34; 7:23-25. Indeed, the drawings make clear that this is a “GPS grader” or a “GPS automatic grade control system” as no “laser mast” is shown or described in connection with any invention of the '300 Patent. Compare this to prior art reference Funk, for example, which is a laser-guided system including a laser receiver, *i.e.* laser mast. Exhibit 1004, ¶ [31] (“Laser receiver 102 is mounted to one of the two lift arms 14” and “[t]he laser receiver 102 is configured to receive a laser signal 30 from a laser plane generator such as, for example, a rotating construction laser (not shown)”).

Finally, while Patent Owner maintains that the Challenged Claims are valid, construing the term as “GPS automatic grade control” would overcome the cited grounds of invalidity because no argument advanced in the Petition refers to use of GPS automatic grade control. In fact, none of the six (6) references cited in the grounds for invalidity address the use of GPS as part of an automatic grading control. Claims are to be construed to preserve their validity. *Wang Laboratories, Inc. v. America Online, Inc.*, 197 F.3d 1377, 53 USPQ2d 1161 (Fed. Cir. 1999). Therefore, in light of the foregoing, the term “automatic grade control” should be construed as “GPS automatic grade control.” Consequently, if the Board adopts this construction, the Petition should be denied.

Petitioner's Expert, Dr. Glancey, presumes that “[n]o particular type of automatic grade control system is required by the claim.” Exhibit 1003, ¶ 50. The

basis for this presumption is because “[a]lthough the ’300 patent discusses laser grading systems and GPS-augmented laser grading systems, the claims of the ’300 patent do not recite any details of such a system.” *Id.* As explained above, the claimed method of the ’300 Patent is an improvement over the prior art, which involves a GPS automatic grade control system, and every claimed embodiment is directed to a GPS automatic grade control system.

3. first “hydraulic” and second “hydraulic”

The terms “a hydraulic that lifts the main arm” and a “hydraulic that controls a pitch axis of movement of the dozer blade” should be construed to mean “a *first* hydraulic that lifts the main arm” and a “*second* hydraulic that controls a pitch axis of movement of the dozer blade.” This can be readily ascertained based on the language of Claim 1 alone, which makes it clear that it required a hydraulic that lifts the arm and another hydraulic that controls a pitch axis of movement, each providing a different functionality. Both terms are introduced with the indefinite article “a” making clear that the introduction of “a hydraulic that controls a pitch axis of movement of the dozer blade” is a new, second hydraulic separated from the first hydraulic (“a hydraulic that lifts the main arm”).

Further, the Specification of the ’300 Patent makes it abundantly clear that the two hydraulics are not one and the same. The ’300 Patent discloses a pitch hydraulic 34 and an arm hydraulic 32. *See e.g.* Exhibit 1001, Fig. 2; 6:11-12 (“The hydraulics

32 affecting the main arm 32 may be disabled or removed entirely”); and 6:45-47 (“In some, the entire blade assembly 30 may not lift and lower with the pitch hydraulic 34”).

V. STANDARD FOR GRANTING *INTER PARTES* REVIEW

Under 35 U.S.C. § 314(a), the Board can institute an inter partes review only in those circumstances where “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” *See also* 37 C.F.R. § 42.108(c). Petitioner has the burden of showing that this statutory threshold has been met. *See, e.g.*, Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756 (Aug. 14, 2012). And to meet this burden, the “petition must specify ***where each element of the claim is found in the prior art*** patents or printed publications relied upon;” and it “must include . . . a detailed explanation of the significance of the evidence including material facts[.]” 37 C.F.R. § 42.104(b)(4) (emphasis supplied); 37 C.F.R. § 42.22(a)). The petition must also identify “***specific portions of the evidence*** that support the challenge.” 37 C.F.R. § 42.104(b)(5) (emphasis supplied).

VI. THE BOARD SHOULD REJECT THE PETITION IN ITS ENTIRETY BECAUSE PETITIONER HAS NOT MET ITS BURDEN OF PROVING A REASONABLE LIKELIHOOD THAT THE CLAIMS ARE INVALID

The Petition does not present a basis to institute inter partes review. As shown

below, the Petition fails to show a “reasonable likelihood” that the Challenged Claims are obvious under any of the eight grounds that Petitioner presents. 35 U.S.C. § 314(a). For example, and as shown below, the specific portions of the evidence cited by the Petitioner fail to teach or suggest all elements of the Challenged Claims, and therefore, fail to support the challenge. Additionally, the Board should also decline to institute an IPR under the *Becton Dickinson* factors because the prior art of the Petition is the same or substantially similar to the prior art reviewed by the examiner during prosecution.

A. Claims 1-4 of the '300 Patent Are Not Obvious Over Funk in view of Lewis (Ground 1A)

The Petition is deficient with respect to Ground 1A, that Claims 1-4 of the '300 Patent are obvious over Funk in view of Lewis for several, independent reasons.

First, once properly construed, Funk in view of Lewis fails to disclose a “[GPS] automatic grade control” as recited in the Challenged Claims. Funk is directed to a laser-guided automatic control system, which as explained in the '300 Patent poses inefficiencies with the blade control, the heart of prior art shortcomings being addressed by the '300 Patent. Lewis, which discloses a manual control system lacking a laser receiver, fails to cure this deficiency.

Second, the Petition effectively concedes that Funk fails to disclose a “stop” and “preventing the ability of the main arm from providing any lifting force” as recited in independent claim 1. The Petition relies on Lewis to disclose these claim

limitations. Lewis is lacking with respect to these limitations, but more fatally for the Petition is that the Petition fails to establish how the *entire method* is practiced. Put another way, even if the Petition shows a “stop” or certain hydraulic controls for an arm, Funk and Lewis fail to show the steps of the claimed method where the arm is resting on the stop *and* restricted from movement *and* the automatic grade control system is still operable to control a pitch axis of the dozer blade. Indeed, the Primary Examiner stated in his reasons for allowance that “while controlling hydraulic lifts and blades are known, the prior art lacks teaching for having provided the stop with the steps of positioning and preventing in the manner claimed.” Ex. 1002, 23. Even if the Primary Examiner had considered Funk and Lewis,⁴ his determination would have been the same.

Third, even if Funk in view of Lewis discloses the recited limitations of independent claim 1, a POSITA would not have been motivated to combine Funk and Lewis at the time of the invention described in the '300 Patent. Funk discloses a laser-guided automatic leveling control system that includes a laser receiver mounted on the lift arm to *inter alia* provide a height signal. Immobilizing the lift arm, as allegedly taught by the “stop” and hydraulic controls of Lewis, teaches away

⁴ As argued below, the Examiner actually considered *closer* prior art than Funk and Lewis, and the Petition should be denied under the *Becton Dickinson* factors.

from Funk because: a) it renders the height signal superfluous; and b) it would interfere with the intended operation of the Funk control system to move the lift arms up and down in response to *inter alia* changes in the height signal. Indeed, Lewis does not even contemplate **grading** solutions. The Petition glossing over the differences between automatic and manual control for grading, and the distinct problems posed by each, illuminates how the Petition is fraught with improper hindsight bias.

1. Funk and Lewis Fail to Disclose an “automatic grade control” system.

Funk does not disclose the limitation “[GPS] automatic grade control system” as recited in claim 1, as the term is properly construed. Specifically, Funk does not disclose GPS grade control, but rather relates to laser-guided grade control, and Lewis does not discuss any grade control system. The Petition alleges that “Funk discloses an automatic leveling control system 100 implemented using a skid-steer.” Petition, at 11 (*citing* Exhibit 1004, ¶¶ [28], [31]). However, when properly construed, claim 1 is directed to a “[GPS] automatic grade control.” Funk discloses a laser-guided system using a laser receiver 102, on a laser mast.⁵ Exhibit 1004, ¶

⁵ Laser mast, here refers to the structure on which a laser receiver is mounted in laser grade control systems. Exhibit 2001, ¶ 37

[31] (“Laser receiver 102 is mounted to one of the two lift arms 14” and “[t]he laser receiver 102 is configured to receive a laser signal 30 from a laser plane generator”). The ’300 Patent explains that where a “GPS automatic grade control system” is employed “the laser mast is no longer needed” and “[w]ithout the laser mast the dozer blade, previously restricted in pitch movement, can now be freed to adjust as necessary to control the bottom of the dozer blade defining the surface grade.” Exhibit 1001, 4:13-19; Exhibit 2001, ¶61. Not a single embodiment disclosed in Funk employs or relies on a GPS system. Exhibit 2001, ¶ 62. Tellingly, the term global positioning system or GPS is nowhere to be found in Funk’s specification.

Lewis does not cure this deficiency. Petitioner does not allege that this limitation is disclosed by Lewis. Nor could it. Lewis does not disclose a control system designed, or even suitable, for “grading” nor does it teach a control system that is “automatic.” Exhibit 1005, 8:4-14. (“The controller 402 is configured to instruct the arm actuator assembly 312 to move the arm of the work vehicle (e.g., in response to operator input); *see also* Exhibit 2001, ¶ 63. For example, in the illustrated embodiment, the arm control system 400 includes a user interface 408 communicatively coupled to the controller 402.”); *see also*, Exhibit 1005, 8:15-37.

2. Funk and Lewis Fail to Disclose the “stop” and Arm Movement Restriction Claim Elements.

a. Funk and Lewis Fail to Disclose Arm Movement Restriction While Positioned Against the Stop

Funk and Lewis fail to disclose “positioning the point of the main arm against the stop” *and* “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm.” Notably, the Primary Examiner of the '300 Patent stated, in the reasons for allowance, that “while controlling hydraulic lifts and blades are known, the prior art lacks teaching for having provided the stop with the steps of positioning and preventing in the manner claimed.” Exhibit 1002, 23. The Petition is deficient in proving the Examiner incorrect.

Funk does not disclose the claim 1 limitation “providing a stop connected to the skid steer vehicle upon which a point of the main arm rests thereby defining a lower limit of movement of the main arm.” Exhibit 2001, ¶ 98. In fact, Funk's specification does not disclose any “stop.” The Petition instead relies on Lewis to allege that the “stop” limitations are present in the combination of Funk and Lewis. Petition, at 15-18. According to the Petition, Fig. 2A of Lewis “illustrates that when the arm is in the lowered position, it rests against a stop.” Petition, at 16. There is no annotation of a “stop” in Fig. 2A, and the structure being pointed to in annotated Fig. 2A of the Petition is entirely speculative. Exhibit 2001, ¶¶ 88 and 99. Lewis'

mentioning of a “stop” contacting an arm to prevent downward movement is:

Accordingly, in the illustrated embodiment, the lowered position of the arm 302 corresponds to the minimum height of the dozer blade 202 relative to the ground 24 along the vertical axis 16. However, *in further embodiments*, the lowered position of the arm may correspond to the position of the arm while the lift cylinder(s) are fully retracted, or the position of the arm while movement (e.g., rotation) of the arm *in a downward direction 26 is otherwise blocked (e.g., via contact with the chassis, via contact with a stop, etc.)*. +

Exhibit 1005, 5:24-33 (emphasis added). Any suggestions that the “stop” disclosed in Lewis can be inferred to be “connected to” the vehicle can be dismissed by Fig. 2B of Lewis, which shows arm 302 in a raised position:

In the illustrated embodiment, the raised position of the arm 302 corresponds to the position of the arm while the lift cylinder(s) 310 are fully extended. However, *in further embodiments*, the raised position of the arm may correspond to the position of the arm while movement (e.g., rotation) of the arm *in the upward direction 28 is blocked (e.g., via contact with the chassis, via contact with a stop, etc.)*.

Exhibit 1005, 5:45-51 (emphasis added). This paragraph is a nearly identical,

copy and paste of the preceding paragraph, with a non-enabling⁶ contemplation “in further embodiments” of “contact with a stop” to restrict upward or downward movement. Exhibit 2001, ¶ 100.

Thus, Lewis at *best* describes “contact with a stop.” *Id.*, ¶ 101. There is *no* mention of *where* the stop might be located or *how* it might block downward movement of the arm 302 aside from “contact.” *Id.* The significance is that the “stops” in Lewis are not illustrated – they are merely, vaguely contemplated as “further embodiments” that in some unknown fashion can “contact” the arm to restrict upward or downward movement of the arm. *Id.* As such, Funk and Lewis fail to disclose “providing a stop connected to the skid steer vehicle upon which a point of the main arm rests” as recited in independent claim 1. *Id.*

With the “stop” shortcomings of Lewis in mind, the Petition also relies on

⁶ “In the absence of such other supporting evidence to enable a skilled artisan to make the claimed invention, a standalone § 103 reference must enable the portions of its disclosure being relied upon.” *Raytheon Technologies Corporation v. General Electric Co.*, 993 F.3d 1374, 1381 (Fed. Cir. 2021). Additionally, it is a petitioner’s burden to specifically identify in its petition the portions of the prior art or other evidence relied upon. 37 C.F.R. § 42.104(b)(4)-(5).

Lewis as allegedly disclosing “hydraulic lift cylinder(s) 310, which are configured to move the arm of the work vehicle” and Lewis further, allegedly discloses “to block movement of the arm, the controller 402 may instruct the valve assembly 314 to block fluid flow to and from the hydraulic lift cylinder(s) 310.” Petition, at 18-20.

The Petition has a *glaring* omission. There is no explanation how Funk and Lewis disclose “positioning the point of the main arm against the stop” *and* “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm” as recited in independent claim 1. Exhibit 2001, ¶ 103.

Nothing in Lewis, or the Petition, suggests that the arm is positioned against the stop when the arm is allegedly restricted. *Id.*, 104. Lewis simply references possible mechanics to restrict movement of the arm. *Id.* Performing the entirety of the method of claim 1 is a matter of timing – after the arm is positioned against a stop, and while the arm is positioned against the stop, as explained in the '300 Patent specification:

As seen in FIGS. 1 and 2, *when the main arm 48 is fully down the main arm 48 is against the stop 28* and locked against the stop with the lock 62. The lock 62 connects the main arm 48 (or an appendage thereto) against the body 60 (or appendage thereto) so that the main arm 48 is unable to move up or down. *To further inhibit movement of the main arm 48*, when the lock 62 is secure *the valve 50 providing hydraulic pressure to the hydraulic 32 to move the arm is closed*

effectively stopping any movement of the main arm 48 by an additional means.

Exhibit 1001, 5:36-45 (emphasis added); *see also* Exhibit 2001, ¶ 104.

Thus, the Petition is deficient because Lewis, the relied-upon reference for this limitation, fails to disclose this sequence.

b. Funk and Lewis Do Not Disclose Pitch Axis Movement While the Arm is Restricted

The claimed method of independent claim 1 is not complete without “operably connecting the automatic grade control system to a hydraulic that controls a pitch axis of movement of the dozer blade” as recited. Again, the Petition is fatally deficient because it separately considers the control mechanics of each prior art reference without explaining or detailing how the claimed method is practiced *in its entirety*. *See* Exhibit 2001, ¶ 105. For this final element of claim 1, the Petition narrowly focuses on the control system of Funk and its alleged teachings to actuate hydraulic cylinder 28 to adjust a “pitch” of the dozer blade about point 24. Petition, at 20-24. What is missing is any discussion or explanation of how each step of the claimed method can be practiced *together*, namely that the arm is positioned against a stop *while* restricting the ability of a hydraulic that lifts the arm *and* still being able to control a pitch axis of movement of the dozer blade. Exhibit 2001, ¶ 105. Put another way, demonstrating that two prior art references, in some combination, individually disclose a stop, the capability of restricting an arm hydraulic, and the

capability of controlling a pitch axis *is not* equivalent to showing that the prior art references collectively teach or suggest each step of this method being performed.

Id.

The Primary Examiner allowed the '300 Patent to issue acknowledging that “controlling hydraulic lifts and blades are known” such as the individual components allegedly disclosed by Funk and Lewis, but the combination of each step to the claimed method was patentable. Exhibit 1002, 23. Ground 1A fails to challenge the Primary Examiner's conclusion, and Ground 1A of the Petition should be rejected by the Board with respect to independent claim 1.

3. There is No Motivation to Combine Funk and Lewis

“The motivation-to-combine inquiry asks whether a skilled artisan not only could have made but would have been motivated to make the combinations of prior art to arrive at the claimed invention.” *Auris Health, Inc. v. Intuitive Surgical Operations, Inc.*, 32 F.4th 1154, 1158 (Fed. Cir. 2022). A petitioner must demonstrate “that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012). “It does not suffice to meet the motivation to combine requirement to recognize that two alternative arrangements...were both known in the art.” *Virtek*

Vision International ULC v. Assembly Guidance Systems, Inc., 97 F.4th 882, 886 (Fed. Cir. 2024); *see also Dome Patent L.P. v. Lee*, 799 F.3d 1372, 1380 (Fed. Cir. 2015) (“If all elements of a claim are found in the prior art, as is the case here, the factfinder must further consider the factual questions of whether a person of ordinary skill in the art would be motivated to combine those references, and whether in making that combination, a person of ordinary skill would have had a reasonable expectation of success.”)

a. Lewis' Manual Control System for a Non-Grading Machine is Outside the Invention's Field of Automatic Grade Control Systems

The Petition alleges that “[t]he Funk-Lewis combination represents the predictable result of applying Lewis’s supplemental teachings about blocking upward movement of the skid-steer’s main arm in the context of Funk’s teachings about skid-steer vehicles with an automatic grade control system for adjusting the height and tilt angle of a mounting structure to maintain the work attachment at a particular elevation.” Petition, at 7. The Petition argues that integrating Lewis with Funk “would have involved nothing more than applying known solutions to known problems *in the field of* hydraulic systems for *earthmoving equipment and vehicles* to achieve a predictable outcome.” Petitioner, at 8 (emphasis added). The Petition then lists four reasons allegedly explaining why “[a] POSITA would have been motivated to pursue the Funk-Lewis combination and possessed a reasonable

expectation of its success.” Petition, at 9-11.

A motivation to combine references can stem from “any need or problem known *in the field of endeavor* at the time of invention.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (emphasis added). The Petition’s motivation to combine analysis is flawed for failing to accurately identify the field of the endeavor of the claimed invention of the ’300 Patent. The claimed method is directed to *automatic grade* control systems for skid steer vehicles, not “hydraulic systems for earthmoving equipment and vehicles.” Petition, at 8; Exhibit 2001, ¶ 110.

The Petition misses the mark because it conflates *automatic grade* control systems with *manual* control systems for *non-grading* equipment. Exhibit 2001, ¶ 111. Funk is directed to an *automatic* control system whereas Lewis discloses a *manual* control system. *Id.* Also, Lewis is directed to a work machine not suitable for grading. *Id.* Thus, Lewis is not directed to an “*automatic grade* control system” as recited in claim 1, and a POSITA⁷ would not be motivated to consider Lewis’ teachings in considering improvements or modifications to an *automatic grade*

⁷ As discussed above, another flaw of the Petition is that Petitioner suggests a POSITA need not have specific industry experience. Under Patent Owner’s qualifications, a POSITA would readily appreciate the differences in the technologies and fields of the prior art.

control system. This error is akin to combining golf cart control systems with a cruise control feature on a sedan. Perhaps golf carts and sedans are both considered “motor vehicles” in the same way that the Petition lumps Funk and Lewis together as “earthmoving equipment,” but a POSITA would not reasonably consider control systems of a golf cart to modify how a vehicle operates under cruise control on a highway.

b. Funk's Automatic Control System Teaches Away from Restricting and Locking Arm Movement

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). One example of references teaching away from the combination is if the combined references produce a “seemingly inoperable device.” *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001). A reference may also teach away “when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of the applicant’s invention.” *Syntex (U.S.A.) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005).

The automatic control system of Funk teaches away from “preventing the ability of the main arm from providing *any lifting force*” as recited in independent claim 1, and as Petitioner argues is disclosed by Lewis. Exhibit 2001, ¶ 113. Funk’s

automatic control system includes two sensors: a laser sensor 102 and a tilt sensor 104. Exhibit 1004, ¶¶ [31]-[32]. Laser sensor 102 generates a height signal. *Id.*, ¶¶ [11], [31]. The height signal is calculated from the height of the lift arms. *Id.*, ¶ [33]. Tilt sensor 104 generates a lateral tilt signal. *Id.*, ¶¶ [12], [32]. Lateral tilt occurs from a different elevation of the lift arms 14, for example if the right hand side lift arm 14_R is elevated higher than the left hand side lift arm 14_L, as illustrated in Fig. 1d. *Id.*, ¶ [34]. The Funk controller receives the height signal and the lateral tilt signal and operates to adjust one or both arm heights to correct either the height or the lateral tilt as part of its automatic grading. *Id.*, ¶¶ [33], [44]. Adjusting the arm heights necessarily requires providing “a lifting force” in contravention of the recited claim language. Exhibit 2001, ¶ 113. Thus, a POSITA would not be motivated to combine the teachings of Funk and Lewis as it would render Funk’s automatic control system inoperable for correcting the lateral tilt and height. *Id.*

Moreover, this directly negates the reasons offered in the Petition for an expectation of reasonable success. *See* Petition, at 9-11. Petitioner is simply incorrect arguing that “Funk encourages the POSITA to seek out and explore the predictable result of integrating the supplemental teaching from Lewis to immobilize the main arm, leaving just “one” of Funk’s two adjustment mechanisms – blade tilt – available for grade control.” Petition, at 9-10. Funk contemplates adjusting “at least one of a height of the lift arms and the tilt angle of the work attachment” to maintain

elevation. Exhibit 1004, Abstract, ¶ [13]. For the automatic system of Funk, adjusting the arm height is *necessary* to correct the lateral tilt signal (since it occurs when one arm height is different than another), and adjusting the arm height is a possible solution to correcting the height signal. Exhibit 2001, ¶ 114. Conversely, adjusting the blade tilt can *only* correct the tilt angle signal and possibly the height signal. *Id.* Thus, preventing “any lifting force” as recited in claim 1 would deactivate, and render inoperable, half of the control corrections contemplated by Funk. *Id.* Funk teaches away from any such modification allegedly for “preventing the ability of the main arm from providing any lifting force” as recited in claim 1.

c. Funk and Lewis solve inapposite problems and would not be combined by a POSITA

Additionally, Funk's automatic leveling control system was designed to work on retro-fit skid steer vehicles without the need for an expensive automatic laser grading attachment or other expensive and bulky attachments. Exhibit 1004, ¶¶ [2-5]; *see also* [31], [32], [38], and [42] instructing the use of off-the-shelf receivers, sensors, and other components. Indeed, Funk's stated goal is to provide “an automatic leveling control system that is implementable as a retro-fit to a pre-existing skid steer unit, which ideally does not rely upon custom bucket attachments.” *Id.*, [6]. In contrast Lewis is a system specifically designed to accommodate lots of attachments for skid steers, and specifically denotes that some such attachments are height-restricted, while other attachments are height-

unrestricted. The focus of Lewis is in detecting whether an attachment is height-restricted, and if so, restricting movement of the arms to ensure safe use of those attachments. Ex. 1005, Abstract, 1:43-60. Accordingly, Funk teaches away from using expensive specialized attachments, and a POSITA would not be motivated to combine Funk and Lewis for this reason as well.

For the foregoing reasons, the combination of Funk in view of Lewis is deficient as lacking motivation to combine and cannot render the claims of the '300 Patent invalid. Exhibit 2001, ¶ 116. This is another reason the Petition should be denied as to Grounds 1A-1D, which rely on this combination.

4. Claims 2-4 are Not Unpatentable over Funk in view of Lewis

Because Claims 2-4 depend from Claim 1, the combination of Funk and Lewis does not render obvious Claims 2-4 for the same reasons provided above in support of the validity of Claim 1.

Moreover, Funk continues to teach away from “locking the main arm against the stop” as recited in claims 2 and 4. As discussed above, Funk teaches away from rendering the arms inoperable and incapable of being elevated. For at least the same reasons, Funk would teach away from “locking the main arm” in any position. Exhibit 2001, ¶ 118.

B. Claims 1-4 of the '300 Patent Are Not Obvious Over Funk in view of Lewis and further in view of Stratienko (Ground 1B)

As shown above, the combination of Funk and Lewis does not render claims

1-4 unpatentable. In this Ground, Petitioner further argues that “a mechanical locking device for locking a rod in a conventional hydraulic actuator” as disclosed by Stratienko allegedly satisfies certain claim limitations. Specifically, Petitioner argues that the lock disclosed in Stratienko discloses “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm” as recited in claim 1, as well as “locking the main arm” as recited in claims 2 and 4. Petition, at 31-35. Stratienko fails to cure the deficiencies of Funk and Lewis, and the Board should deny institution on Ground 1B.

Stratienko does not disclose a “[GPS] automatic grade control” as recited in claim 1. Stratienko, which was published in 1980, is strictly directed to a “mechanical locking device for locking a rod in a conventional hydraulic actuator.” Exhibit 1008, Abstract. Stratienko is not directed to any “control system,” yet alone a GPS automatic grade control system for use with a skid-steer vehicle. Thus, Stratienko fails to cure this deficiency of Funk and Lewis.

Stratienko also fails to disclose “a stop connected to the skid steer vehicle” as recited in claim 1. Stratienko merely discloses a “locking mechanism for locking a rod in a conventional hydraulic actuator” without connection to any particular field of endeavor. Exhibit 2001, ¶ 121 Thus, Stratienko does not cure the deficiency of Funk and Lewis, failing to disclose the *entire* claimed method, namely “positioning the point of the main arm against the stop” and “preventing the ability of the main

arm from providing any lifting force” while also operably “control[ing] a pitch axis movement of the dozer blade” as recited in claim 1. *Id.* Moreover, Stratienko is strictly directed to its locking mechanism and does not disclose “providing a stop connected to the skid steer vehicle” as recited in claim 1.

Finally, there is no motivation to combine the locking mechanism of Stratienko with the automatic control system of Funk for the same reasons articulated above with respect to Lewis. *Id.*, ¶ 122. Funk teaches away from “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm” as recited in claim 1. *Id.* Moreover, nothing taught or disclosed in Stratienko changes that the automatic control system of Funk and the manual control system of Lewis are in two different fields.

Taken together, Stratienko fails to cure the deficiencies of Funk and Lewis, and the Petition should also be denied institution under Ground 1B.

C. Claims 2 and 4 of the ‘300 Patent Are Not Obvious Over Funk in view of Lewis and further in view of Orser (Ground 1C)

As shown above, the combination of Funk and Lewis does not teach or suggest all the limitations of Claim 1. In this Ground, prior art reference Orser is cited for allegedly disclosing “locking the main arm against the stop” as recited in dependent claims 2 and 4. Petition, pp. 35-36. Without acquiescing to any alleged teachings or disclosure of Orser, the Petition should also be denied institution under Ground 1C because claims 2 and 4 depend from independent claim 1, which as explained above

is not unpatentable over Funk and Lewis. Orser suffers the same deficiencies as Lewis – Orser does not identify or otherwise discuss the alleged stops, or teach that the main arms should be positioned to rest on such stops. Exhibit 2001, ¶ 125. Like Lewis, Orser does not disclose or otherwise teach “positioning the point of the main arm against the stop” and “preventing the ability of the main arm from providing any lifting force” *while* also operably “control[ling] a pitch axis movement of the dozer blade”. Accordingly, Orser does not cure the deficiencies in Funk and Lewis, and the Petition should be denied as to Ground 1C. *Id.*

D. Claims 2 and 4 of the ‘300 Patent Are Not Obvious Over Funk in view of Lewis and further in view of Stratienko and Orser (Ground 1D)

As shown above, the combination of Funk and Lewis does not teach or suggest all the limitations of Claim 1, and neither Stratienko nor Orser cure the deficiencies in Funk and Lewis. In this Ground, prior art reference Orser is cited for allegedly disclosing “locking the main arm against the stop” as recited in dependent claims 2 and 4. Without acquiescing to any alleged teachings or disclosure of Orser, the Petition should also be denied institution under Ground 1D because claims 2 and 4 depend from independent claim 1, which as explained above is not unpatentable over Funk in view of Lewis, and in further view of Stratienko and Orser.

E. Claims 1-4 of the ‘300 Patent Are Not Obvious Over Eckrote in view of Lumpkins (Ground 2A)

Petitioner's allegation that Claims 1-4 of the ‘300 Patent are obvious over

Eckrote in view of Lumpkins is incorrect for at least three independent reasons.

First, as properly construed, Eckrote in view of Lumpkins fails to disclose a “[GPS] automatic grade control” as recited in the Challenged Claims. Eckrote is directed to an adapter for a work vehicle whose only “automation” is executing instructions stored in a memory device. Eckrote also fails to disclose “grading” as a contemplated application. Lumpkins is directed to “a bulldozer autograding system,” but the Petition is silent how a Eckrote-Lumpkins combination could achieve autograding. The Petition argues that the auto-grading system of Lumpkins could be utilized with the Eckrote machine, but the Petition is silent as to how it would be obvious to incorporate auto-grading, including GPS or at least laser-guiding (such as is disclosed with respect to Funk, as discussed above) with the Eckrote machine.

Second, Eckrote in view of Lumpkins fails to disclose “operably connecting the automatic grade control system to a hydraulic that controls a pitch axis of movement” with the “arm against the stop” and the main arm prevented “from providing any lifting force” as recited in claim 1. Specifically, Eckrote does not disclose controlling a pitch axis of movement as the arm is against the stop. The Petition advances two “mappings” of how Eckrote could allegedly control pitch, but both “mappings” are unavailing. With respect to the first “mapping,” Petitioner relies exclusively on its expert declaration because nothing intrinsically in the Eckrote disclosure is supportive. The Eckrote disclosure more strongly supports the

opposite, namely that the Eckrote machine is inoperable to engage in the “pitch control” identified by Petitioner. As for the second “mapping,” it requires a claim interpretation that the claimed method is accomplished with only a single “hydraulic” even though two hydraulics are necessary, as discussed above with respect to the claim construction of “a hydraulic.” Regardless of the Petition’s “mapping” approach, Eckrote in view of Lumpkins fails to disclose these claimed limitations.

Third, even if Eckrote in view of Lumpkins discloses the recited limitations of claim 1, a POSITA would not have been motivated to combine Eckrote and Lumpkins at the time of the invention described in the '300 Patent. Eckrote is directed to a skid-steer. Lumpkins relates to bulldozers, not skid-steers, which are in a different field posing different problems that a POSITA would not consider.

1. Eckrote and Lumpkins Fail to Disclose an “automatic grade control system”

Claim 1 of the '300 Patent is directed to a “method for controlling a dozer blade controlled by a [GPS] automatic grade control system on a skid steer vehicle.” The Petition argues that Eckrote discloses a controller for “rais[ing] and lower[ing] the arms” and “mov[ing] the adaptor between the fully extended position and the fully retracting position.” Petition, at 50 (*citing* Exhibit 1006, 9:65-10:28). In terms of automation, the Petition solely relies on Eckrote disclosing that “[i]n other embodiments, the controller sends instructions based on instructions stored in the

memory device.” Petition, at 50 (*citing* Exhibit 1006, 10:22-28).

The fact that Eckrote discloses a controller with a memory device for storing instructions does *not* equate Eckrote's control system to any automatic grade control system, let alone a “[GPS] automatic grade control system” as recited in claim 1, when properly construed. Storing instructions is not the same as “automation” of a control system. Exhibit 2001, ¶ 134. For example, a user-initiated command to raise the arms would trigger the control system to execute instructions stored in the memory device to activate the arm actuators. *Id.* Such a command would be user control, *i.e.* manual control, not automatic.

Furthermore, to the extent that the Eckrote control system could be construed to have “automatic” features, the Eckrote control system is still not an automatic *grade* control system. *Id.* Nowhere does Eckrote contemplate a control system to perform automatic grading. The only automatic feature discussed by Eckrote is returning the main arms to a lowered position when they are not in the lowered position.

The Petition's efforts to sidestep Eckrote's omission of an “automatic grade control system” should be unavailing. First, the Petition argues “that grading is one of the primary functions of a dozer blade attachment” so the Eckrote system would have been at least suitable for an automatic grade control system. Petition, at 51. However, Eckrote discloses no suitable structure for automatic grade control such

as a GPS control system, as is correctly construed, or even a laser-guided control system. Exhibit 2001, ¶ 134. The Petition also argues that “adjusting the position of a dozer blade is a hallmark feature” of a grade control system, and a POSITA would have appreciated the prevalence of automatic grade control systems. Petition, at 51. However, the prevalence of automatic grade control systems does nothing to establish that *Eckrote* discloses the claimed limitation, and being able to adjust a dozer blade position is a characteristic of earth moving equipment regardless if the vehicle includes an automatic grade control system or not. Exhibit 2001, ¶ 135.

The Petition then argues in the alternative that Eckrote's shortcomings are rectified by Lumpkins' teachings of “a system that permits the operator to grade faster by automatically controlling blade pitching.” Petition, at 51. However, the Petition fails to explain how the Eckrote-Lumpkins combination is capable of automatic grading where Eckrote does not disclose the necessary equipment (*e.g.* laser guiding, or GPS consistent with Patent Owner's claim construction). There is no teaching or suggestion that the Eckrote machine is capable of integrating a GPS automatic grade control system.

Lumpkins' only reference to GPS, states that “[i]n yet another alternative embodiment, a GPS can be coupled to controller 136 to provide location information to controller 136 that could *provide better information on the vehicle's path through the field.*” Exhibit 1007, [82] (emphasis added). Again, nothing in this

application discusses using GPS for grading control. Instead Lumpkins describes laser-guided grading, before describing it as “overkill” and proposing a solution that does not use either laser receivers or GPS. Exhibit 1007, [6]-[9]; Exhibit 2001, ¶138. Instead Lumpkin solution relies on the greater size and weight of a bulldozer, which locally “reduc[es] dozer blade pitching as the dozer chassis pitches[,] ... keep[s] the dozer blade at a relatively constant height and at a relatively constant position as the chassis of the tractor-crawler pitches.[, and] ...*partially relieves the operator* of the burden of manually raising and lowering the blade as the vehicle pitches while traveling over the ground [by] ... automatically control[ing] blade pitching faster than an operator can manually control blade pitching.” Exhibit 1007, [10] (Emphasis added). In other words, Lumpkins does not disclose an automatic grade control system. It discloses a grade-assist function for the operator of a bull dozer engaging in manual grade control. Importantly, Lumpkins describes this process as follows:

When the operator switch is in the “on” position, controller 136 controls blade pitching by monitoring the blade's angular position with sensor 134 and driving the blade up or down with valve 140, to keep it at a generally constant angle with respect to the earth. This automatic pitch control is described below in conjunction with FIGS. 3 and 4.

When the switch is in the “on” position, controller 136 operates, generally, by (1) receiving signals indicative of blade position from blade position sensor 134, (2) receiving signals indicative of a preferred or target blade position from device 130 and (3) combining the two

signals to keep blade 112 at the preferred or target position.

Controller 136 determines the operator's preferred blade position from the signals that are provided by input device 128. It compares that position with the actual blade position and, based upon the difference between the two, drives the blade to the target position. It does this by controlling pilot valve 140, which in turn controls main valve 142, which in turn controls hydraulic lift cylinders 118,120, which in turn raise and lower blade 112 with respect to the crawler-tractor.

Id., [40]-[42]. Lumpkins further recites:

If the lever is in neutral, the process continues to step 156, if is not in neutral, controller 136 continues to step 158. In step 158, controller increments or decrements “TARGET”, a digital value stored in the memory of controller 136 (and identified herein for convenience as “TARGET”) that indicates the operator's preferred or target position for blade 112.

Id., [47].

Lumpkins has the controller choose a target blade position based on *operator* input (i.e. manual control of the dozer blade), and then adjusts that position based on movement of the machine and dozer blade to try to maintain the operator's desired blade position while the bulldozer moves. Exhibit 2001, ¶ 140. In the industry, this is called grade-assist functionality, not automatic grade control. *Id.* It is a manual system because it relies on the operator input to set the target blade position, whereas automatic grade control systems rely on outside input (from a laser receiver or a GPS

system) to determine what the blade position should be automatically (i.e. without operator input). *Id.* Accordingly, Lumpkins does not teach an automatic grade control system of any type.

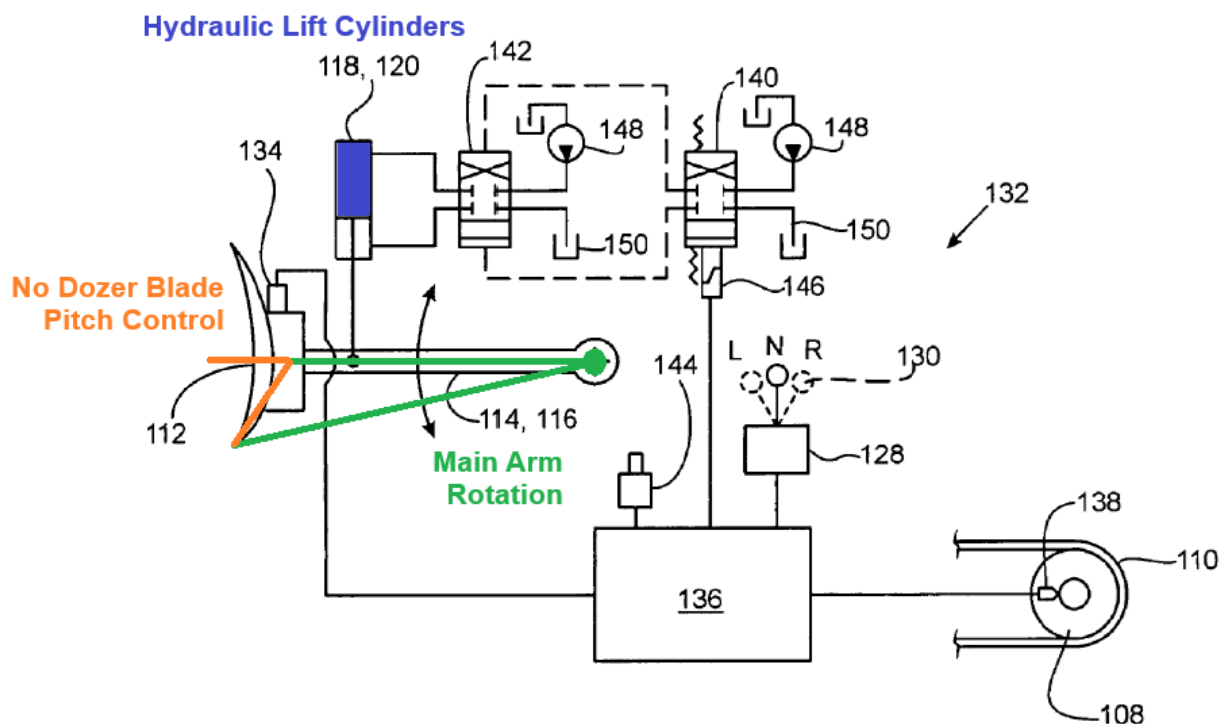
Ground 2A of the Petition should be denied because Eckrote in view of Lumpkins fails to disclose an automatic grade control system, either with GPS as correctly construed, or by another means such as laser guidance.

2. Eckrote and Lumpkins Fail to Disclose Controlling “Pitch Axis Movement” While the Arm is Against the Stop and Restricted.

As discussed above, neither Eckrote nor Lumpkins disclose an automatic grade control or a GPS automatic grade control system, and thus the combination of Eckrote in view of Lumpkins necessarily fails to recite this element under any construction. Exhibit 2001, ¶ 164.

As a starting point, while Lumpkins identifies as “automatic pitch control,” is controlling the pitch of the arms not the pitch of the dozer blade. Exhibit 2001, ¶ 160. The Lumpkins disclosure is limited to a single hydraulic that controls arm movement and also serves to control blade movement. *Id.* The teachings of Lumpkins are further non-functional when combined with the teachings of Eckrote because Lumpkins requires lifting and lowering the main arms using hydraulic lift cylinders 118, 120 to accommodate for detected changes in pitch of the dozer blade. *Id.*, ¶ 164. However, this is unreconcilable with Eckrote's teaching that the arms should be maintained at the lowered position, and with the '300 Patent's claim

limitation, “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm.” *Id.* Implementing Lumpkins with the claim limitation of “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm” would restrict Lumpkins’ hydraulic lift cylinders 118, 120 from being able to engage in Lumpkins’ so-called “pitch control.” See, e.g., *Id.*; Exhibit 1007, Fig. 2 and [42]. Lastly, claim 1 requires “controlling a pitch axis of movement of the dozer blade” independently of raising or lowering the main arms of the skid steer, which is not present in Lumpkins. Exhibit 2001, ¶ 165.



Accordingly, Eckrote in view of Lumpkins fails to disclose the limitation “operably connecting the automatic grade control system to a hydraulic that controls

a pitch axis of movement of the dozer blade to affect a height of the dozer blade” as recited in claim 1, because neither Eckrote nor Lumpkins teach or otherwise disclose “controlling the pitch axis of movement of the dozer blade.” *Id.*, ¶ 166. Eckrote teaches rotating an adaptor 200, and Lumpkins teaches lifting and lowering the main arm to accomplish what it calls “pitch control.” *Id.*

Nevertheless, the Petition offers two, distinct and alternative “mappings” as to how Eckrote and Lumpkins allegedly disclose “operably connecting the automatic grade control system to a hydraulic that controls a pitch axis of movement of the dozer blade to affect a height of the dozer blade” while the arm is “against the stop” and there is a “restricting the ability of a hydraulic that lifts the main arm” off the stop. Both “Mappings” are deficient.

a. The Petition's First “Mapping” is Deficient

i. Eckrote's “Tilt Assembly” Does Not Operably Control a Pitch Axis of Movement of the Dozer Blade

According to the Petition, “Mapping #1 relies on Eckrote's disclosure that “the arm assembly 106 includes a tilt assembly configured to control rotation of the adaptor 200.” Petition, at 56 (emphasis original), *citing* Exhibit 1006, 3:35-36. At the outset, this argument disregards the remainder of that paragraph in Eckrote, which states:

Additionally, the arm assembly 106 includes a tilt assembly configured to control rotation of the adaptor 200. In some embodiments, the work

vehicle implement 300 includes the tilt assembly 306 coupled to the adaptor 200. The tilt assembly 306 includes a hydraulic cylinder 308 configured to drive rotation of the work implement. Furthermore, it is to be understood that the term “arm assembly” as generally used here not only refers to the first and second arms, but also to an input device or devices (e.g., one or more hand controllers, levers, etc.) and other components sufficient to facilitate operation of the arms, such as pump(s), hose(s), valve(s), fitting(s), hydraulic cylinder(s), hardware, and so forth.”

Exhibit 1006, 3:35-47.

Several observations jump out from the disclosure. First, significant detail is lacking with respect to “a tilt assembly configured to control rotation of the adaptor.” Exhibit 2001, ¶ 169. What is clear, however, is that this does *not* refer to rotation about a pivot axis that would affect the pitch of the dozer blade, as recited in claim 1. *Id.* Irrespective of whether the unlabeled “tilt assembly” controls the pitch or another rotation of adaptor 200, because the adaptor 200 can raise or lower the dozer blade, controlling the pitch of the adaptor would not control the pitch of the dozer blade. *Id.* (See adapted Fig. 1C, below in orange). Even if Eckrote contemplates the former, there is no discussion of “control.” *Id.* When Eckrote refers to control, Eckrote is referring to manual, active adjustments, not automatic adjustments that would be performed as part of automatic grade control. *Id.* The final sentence firmly answers this rhetorical question in the negative. Eckrote makes clear that “the term

‘arm assembly’ *as generally used here*” refers to “components sufficient to facilitate operation of the arms.” *Id.* In other words, any “tilt assembly” included with the arm assembly functions to keep the *arms* firmly stable in their lower position. *Id.*

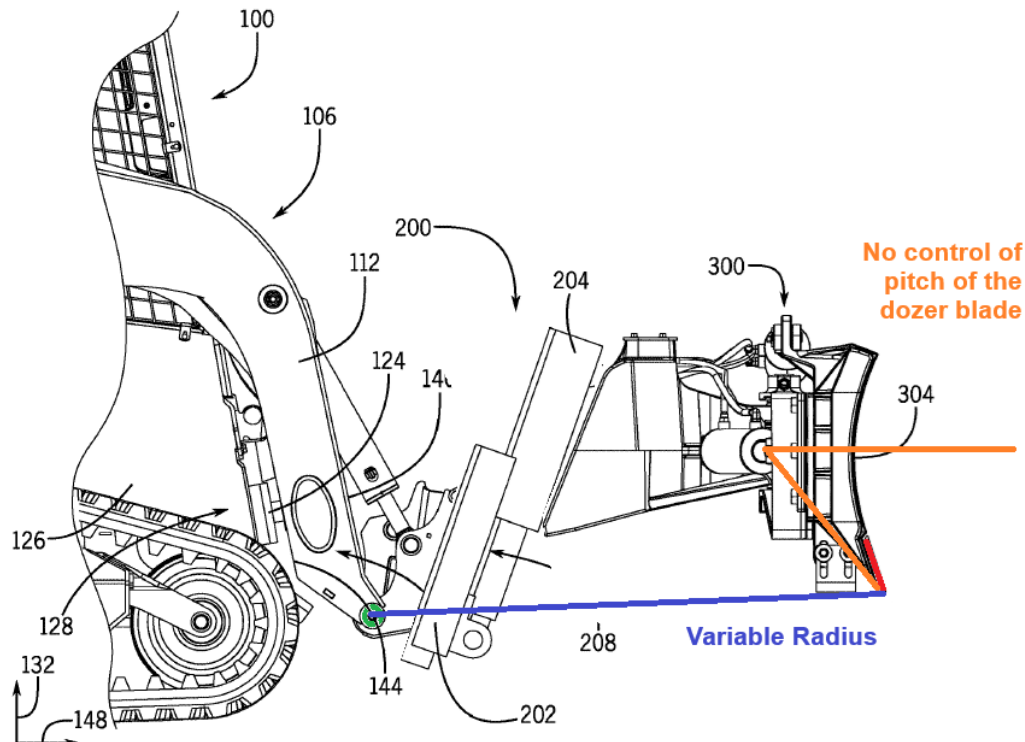


Exhibit 1006, Fig. 1C (annotated)

ii. Eckrote Cannot Change, or at Least Teaches Away from Changing, the Tilt While the Arm is Against the Stop

To be clear, Patent Owner is unconvinced that the structure identified by Petitioner in annotated Fig. 1C is a “tilt assembly” included with the arm assembly. *See* Petition, at 57. The Board should be equally unconvinced. But assuming *arguendo* that it is, Eckrote does not disclose, and certainly teaches away from, allowing operable control of tilting about what the Petition identifies as a pitch axis

while the arm in Eckrote is against the stop. Exhibit 2001, ¶ 170.

First, if Eckrote permitted operational control to tilt what Mapping #1 identifies as a pitch axis, then Eckrote would be unsuitable for “automatic grade control.” A POSITA would understand that an “automatic grade control system” requires the system computer to track or detect changes in the height of the bottom end of the blade as it traverses the surface. Exhibit 2001, ¶ 170. An automatic grade control system calculates the height change by establishing a known or fixed radius between the pivot axis and the bottom of the blade and detecting changes in that distance.⁸ However, a key feature of Eckrote is to vertically raise and lower blade assembly 300 via adaptor 200 while the arms are kept at a lowered position, this would destroy their ability to engage in automatic grading control. *Id.* If the system were to vertically raise or lower blade assembly 300, it would independently change the distance or radius between the identified pivot point and the bottom of the blade. *Id.* The radius (measured from the rotation hinge to the bottom of the dozer blade) is variable because it changes dependent on the vertical movement of the dozer blade on the adaptor. *Id.* In other words, the distance between the hinge that provides the axis of rotation (highlighted in green above) and the bottom of the dozer blade

⁸ Incidentally, exemplary calculations for this determination are shown in Petitioner's prior art Funk. *See* Exhibit 1004, Fig. 1c and ¶ [33].

(highlighted in red below) would increase as the height of the dozer blade on the adaptor increased. *Id.* Any system for automatic grade control would have to do real time adjustments based on the position of the blade on the adaptor and the angle maintained by this hinge. *Id.* Eckrote does not begin to address this issue because it does not disclose any grading control system. *Id.* This would make the control of the grading system incredibly complicated, and unmanageable to most systems at the time of the '300 Patent, and is certainly neither taught nor disclosed by three, threadbare sentences about "tilt assemblies." *Id.* Thus, if Eckrote was able to operate for automatic grading (again, Patent Owner disagrees that it even can), a POSITA would understand that titling identified in Mapping #1 of the Petition would be restrained or disabled, not operably controlled as required to practice the method of claim 1.

Separately, Eckrote makes clear that this structure is meant to ensure that arm 112 is maintained against the stop. Eckrote repeatedly and emphatically states that its primary goal is to provide an adaptor that can withstand elevated horizontal forces while the arm is positioned against the stop. *See, e.g.,* Exhibit 1006, 1:21-31, 3:48-62. As demonstrated by a simple force diagram, horizontal forces pushing on the blade attachment generate torque that could pull arm 112 away from its stop. Exhibit 2001, ¶ 171.

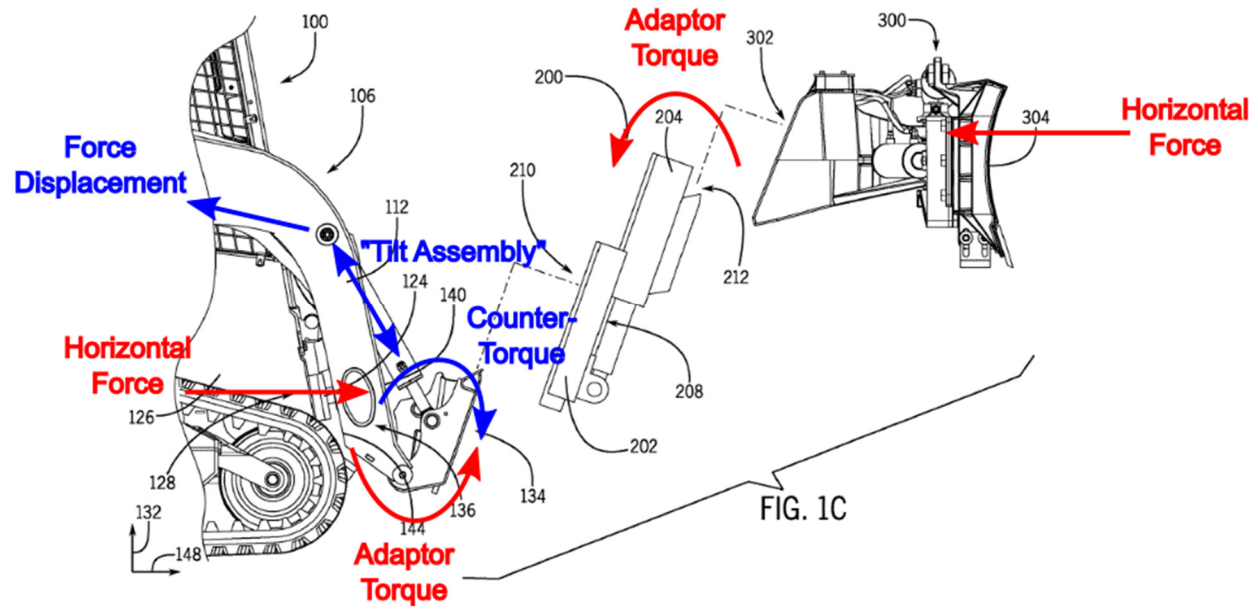


Exhibit 1006, Fig. 1C (annotated)

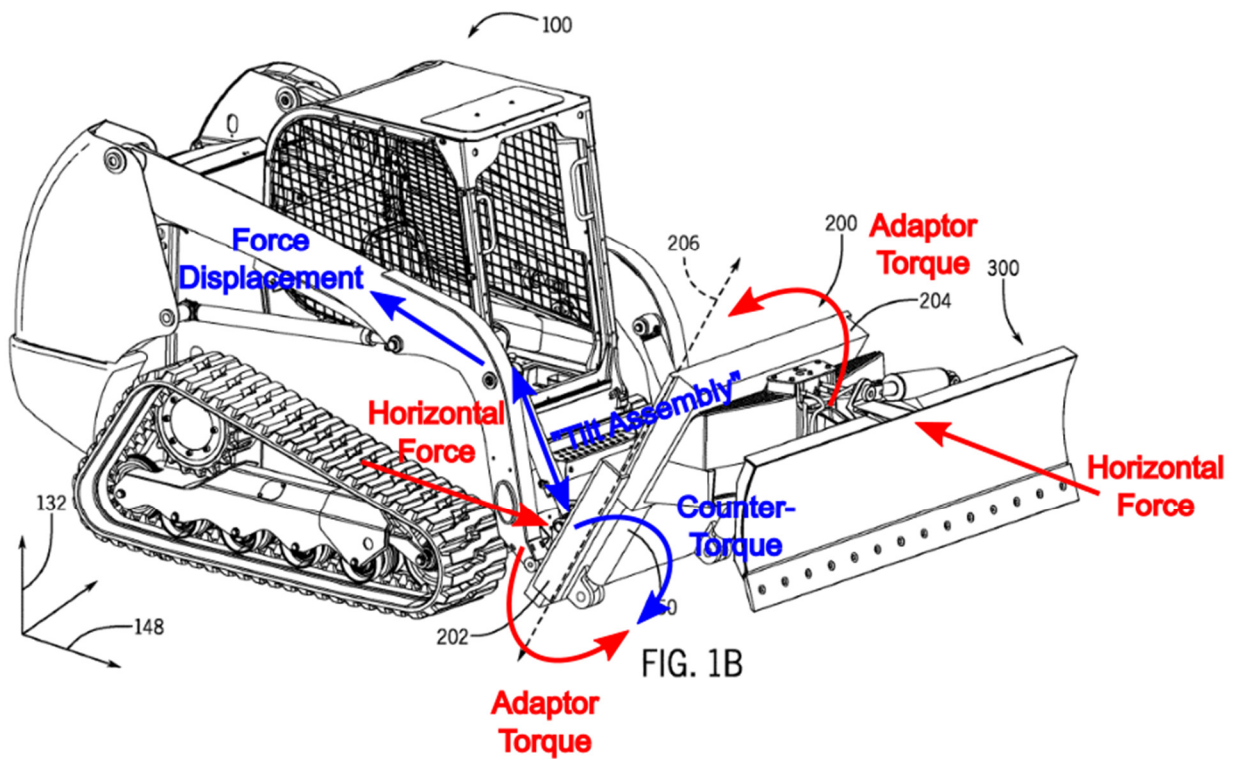


Exhibit 1006, Fig. 1B (annotated)

Thus, the “tilt assembly” is *not* provided to “control a pitch axis of movement

of the dozer blade” as alleged in the Petition, but rather serves to stabilize the arm assembly experiencing high horizontal forces by a) preventing torque generated to pull the arms away from the stop, and b) displacing the horizontal force into the upper part of the arms.. Exhibit 2001 ¶172. Nowhere in the Eckrote disclosure is it contemplated that whatever structure is there, and not described in any detail, is operable to control a pitch axis of movement to affect a height of the dozer blade, as recited in claim 1. *Id.* More likely is that Eckrote teaches or suggests rendering inoperable any tilt capabilities about the pitch axis identified in Mapping #1 to promote arm assembly stability.

Viewing the Eckrote disclosure in its entirety, nothing suggests that Eckrote contemplates or teaches controlling a tilt axis of movement of the dozer blade. *Id.*, ¶ 73. Eckrote does not expressly disclose any such feature or structure, and viewing any such structure to meet this limitation would render the Eckrote less efficient, not more, for its primary purpose of providing an adaptor to withstand elevated horizontal forces. Thus, this first “Mapping” is not supported by the Eckrote disclosure.

b. The Second “Mapping” is also Deficient

In the alternative, the Petition argues that actuator 116 in Eckrote, which controls arms 112, 114, could be read to control a pitch axis of movement of the dozer blade “[b]ecause the dozer blade and main arms are part of the same

mechanical linkage, any pitch axis movement of the mains arms is transmitted to the dozer blade and affects the height of the dozer blade relative to a ground surface.”

Petition, at 60.

This argument fails for two simple reasons. First, claim 1 requires positioning the main arm against the stop and, while positioned against the stop, preventing the ability of the main arm from providing any lifting force. Exhibit 2001, ¶ 175. While it is true that actuating the main arms could affect the height of the dozer blade, it is equally true that doing so would be “lifting force” that would separate the arm from the stop in contradiction of the required claim limitations. *Id.* Second, and aside from this glaring defect, claim 1 recites “a hydraulic that lifts the main arm” and also “a hydraulic that controls a pitch axis of movement.” *Id.* As argued above, the correct construction of claim 1 is that two hydraulics must be present. Mapping #2 relies on the function of a single hydraulic.

Thus, Ground 2A is deficient and fails to disclose each recited limitation of claim 1 under either “Mapping.”

3. No Motivation to Combine Eckrote and Lumpkins

Finally, a POSITA would not be motivated to combine the machine of Eckrote with the teachings of Lumpkins because the combination is non-functional, Lumpkins expressly teaches away from Eckrote and from the '300 Patent's “preventing the ability of the main arm from providing any lifting force by restricting

[illegible]

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Second, as discussed above, Lumpkins requires movement of the main arms to accomplish what it calls “pitch control” and restricting the main arms as taught by Eckrote and recited in claim 1, would render the teachings of Lumpkins inoperable. *Id.*, ¶ 179. Accordingly, Lumpkins teaches away from Eckrote and as such the combination of Eckrote in view of Lumpkins is improper and cannot render the claims of the '300 Patent obvious. *Id.*

Finally, Eckrote discloses an adaptor for a skid-steer while Lumpkins is directed to a bulldozer. Although both bulldozers and skid-steers are “earth moving” vehicles, they are nevertheless significantly different such that the solutions presented to a POSITA in one field would not be readily apparent or available to POSITA in another field. *Id.*, ¶ 180A skid-steer is a relatively lightweight machine, weighing as little as 500lbs, designed to maneuver in tight spaces as well as hard surfaces or uneven terrain. *Id.*, ¶ 180. By contrast, a bulldozer weighs tens of thousands of pounds, sometimes over 100,000 pounds, and are designed to move extremely heavy loads. *Id.*

In the context of Petitioner's prior art, Eckrote is principally focused on an adaptor that can vertically raise and lower a dozer blade as well as resist strong horizontal forces *for a skid-steer* vehicle. *Id.*, ¶ 181. A POSITA would not be motivated to consider automatic grade control systems for a bulldozer, which are often 100 times larger than a skid-steer vehicle, when faced with problems presented

by a skid-steer vehicle. *Id.*

The significance of the vehicles differences is illuminated by the features of Lumpkins' grade control. Lumpkins proposes grade-assist solution for manual grade control relying on the greater size and weight of a bulldozer, which locally "reduc[es] dozer blade pitching as the dozer chassis pitches[,] ... keep[s] the dozer blade at a relatively constant height and at a relatively constant position as the chassis of the tractor-crawler pitches.[, and] ...partially relieves the operator of the burden of manually raising and lowering the blade as the vehicle pitches while traveling over the ground [by] ... automatically control[ing] blade pitching faster than an operator can manually control blade pitching." Exhibit 1007, [10]; Exhibit 2001, ¶ 182. Such a solution, while it may be appropriate for a massive machine such as a bulldozer would not work as well, and is not intended to work, on a much smaller machine like the skid steer vehicles that are more susceptible to movement requiring more than just minor adjustments, and a skid-steer vehicle is a express limitation of claim 1. *Id.*

Accordingly, a POSITA would not combine Eckrote with Lumpkins non-functional (for skid steer vehicles) solution, and therefore this combination is invalid and cannot render the claims of the '300 Patent obvious. This is an independent reason to deny institution of the Petition on Grounds 2A-2D, which depend on this combination.

4. Claims 2-4 are Not Unpatentable

Because Claims 2-4 depend from Claim 1, the combination of Eckrote and Lumpkins does not render obvious Claims 2-4 for the same reasons provided above in support of the validity of Claim 1.

F. Claims 1-4 of the '300 Patent Are Not Obvious Over Eckrote in view of Lumpkins and further in view of Stratienko (Ground 2B)

As shown above, the combination of Eckrote and Lumpkins does not render claims 1-4 unpatentable. In this Ground, Petitioner further argues that “a mechanical locking device for locking a rod in a conventional hydraulic actuator” as disclosed by Stratienko allegedly satisfies certain claim limitations. Specifically, Petitioner argues that the lock disclosed in Stratienko discloses “preventing the ability of the main arm from providing any lifting force by restricting the ability of a hydraulic that lifts the main arm” as recited in claim 1, as well as “locking the main arm” as recited in claims 2 and 4. Petition, at 67-71. Stratienko fails to cure the deficiencies of Funk and Lewis, and the Board should deny institution on Ground 1B.

Stratienko does not disclose a “[GPS] automatic grade control” as recited in claim 1. Stratienko, which was published in 1980, is strictly directed to a “mechanical locking device for locking a rod in a conventional hydraulic actuator.” Exhibit 1008, Abstract; Exhibit 2001, ¶ 185. Stratienko is not directed to any “control system,” yet alone a GPS automatic grade control system for use with a skid-steer vehicle. *Id.* Thus, Stratienko fails to cure this deficiency of Eckrote and

Lumpkins.

Stratienko also fails to disclose “operably connecting the automatic grade control system to a hydraulic that controls a pitch axis of movement of the dozer blade to affect a height of the dozer blade” while the arm is “against the stop” and there is a “restricting the ability of a hydraulic that lifts the main arm” off the stop as recited in claim 1. Stratienko merely discloses a “locking mechanism for locking a rod in a conventional hydraulic actuator” without connection to any particular field of endeavor. Thus, Stratienko does not cure the deficiency of Eckrote and Lumpkins failing to disclose the *entire* claimed method. *Id.*, ¶ 186.

Taken together, Stratienko fails to cure the deficiencies of Eckrote and Lumpkins, and the Petition should also be denied institution under Ground 2B.

G. Claim 2 and 4 of the '300 Patent Are Not Obvious Over Eckrote in view of Lumpkins and further in view of Orser (Ground 2C).

As shown above, the combination of Eckrote and Lumpkins does not teach or suggest all the limitations of Claim 1. In this Ground, prior art reference Orser is cited for allegedly disclosing “locking the main arm against the stop” as recited in dependent claims 2 and 4. Without acquiescing to any alleged teachings or disclosure of Orser, the Petition should also be denied institution under Ground 2C because claims 2 and 4 depend from independent claim 1, which as explained above is not unpatentable over Eckrote and Lumpkins.

H. Claim 2 and 4 of the ‘300 Patent Are Not Obvious Over Eckrote in view of Lumpkins and further in view of Stratienko and Orser (Ground 2D).

As shown above, the combination of Eckrote and Lumpkins does not teach or suggest all the limitations of Claim 1. In this Ground, prior art reference Orser is cited for allegedly disclosing “locking the main arm against the stop” as recited in dependent claims 2 and 4. Without acquiescing to any alleged teachings or disclosure of Orser, the Petition should also be denied institution under Ground 2D because claims 2 and 4 depend from independent claim 1, which as explained above is not unpatentable over Eckrote, Lumpkins, and Stratienko.

I. The Board Should Independently Deny Institution Based on the *Becton Dickinson* Factors

The Board can deny a petition that presents grounds that are substantially the same as the art or arguments previously presented. *See* 35 U.S.C. § 314(a), 35 U.S.C. § 325(d); Case IPR2019-00136, slip op. at 25-27 (PTAB May 6, 2019) (denying IPR petition based on prior denial of IPR petition and applying *Becton Dickinson* factors, explained below). “In determining whether to institute or order a proceeding...the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented. The Patent Office Trial Practice Guide notes that the *Becton Dickinson* “factors are considered by the Board when determining whether to institute a trial” based on similarities found in initial examination. 83 Fed. Reg. 39,989 (Aug. 13, 2018), 12-

13.

Becton Dickinson factors (a)-(d) relate to whether, and to what extent, the Examiner considered and relied on prior art and arguments asserted in the petition, while factors (e) and (f) look to the petition and whether Petition has made a case for reconsidering the asserted prior art. *See Livanova, Inc. v. Neuro & Cardiac Techs., LLC*, IPR 2018-01709, 2019 WL 1302037, *3, 5-8 (PTAB Mar. 19, 2019) (denying institution when Petitioner relies on cumulative prior art that Examiner previously examined).

Although the '300 Patent prosecution history is short – it issued after a first-action notice of allowance – the examiner nevertheless considered prior art which was cumulative with the prior art relied upon in the Petition. The examiner stated in the reasons for allowance that “while controlling hydraulic lifts and blades are known, the prior art lacks teaching for having provided the stop with the steps of positioning and preventing in the manner claimed.” Exhibit 1002, page 23.

Patent Owner's own prior art, U.S. Pat. 8,118,111 to Armas (“Armas”) was directed to a skid steer vehicle capable of using interchangeable front-end accessories, similar to Eckrote. Exhibit 1010, Abstract. Armas also disclosed hydraulics capable of moving the vehicle's arms as well as the pitch of the blade attachment. *Id.*, Figs. 7-10; 4:37-54. The examiner also considered disclosures of “stops” including:

- U.S. Pat. 6,988,866 to Friedland (“Friedland”), Exhibit 2002, 4:23-28 (disclosing safety stop 40);
- U.S. Pat. 5,127,172 to Lund (“Lund”) Exhibit 2003, 4:1-11, Figs. 6 & 8 (disclosing a pivot axis and a stop);
- U.S. Pat. No. 5,435,117 to Eggena (“Eggena”), Exhibit 2004, 4:5-7 (disclosing “elevated rear plate 21 as a stop” for lower action arm 16); and
- U.S. Pat. 4,189,010 to Meisel (“Meisel”), Exhibit 2005, 4:1-6 (disclosing a “mechanical stop 77”).

For the Examiner, the claimed method was patentable because the prior art showed individual components such as stops and hydraulics for adjusting a skid-steer arms or a blade pitch, but the combination of the entire practiced method was absent.

The Petition similarly identifies isolated prior art references which allegedly disclose the same functional components identified by the examiner during prosecution. However, like the prior art examined by the Examiner, they fail to show “controlling hydraulic lifts ... [for the pitch of a] blade ... [where the skid steer vehicle is] provided [with] the stop with the steps of positioning [the arm on the stop] and preventing [upward movement of the blade]” in the manner claimed. Exhibit 1002, page 23. The Petition’s prior art references are, thus, cumulative of the prior art reviewed by the examiner. The Petition provides no additional evidence or errors

that warrant reconsidering the examiner's conclusion. In this circumstance, the Board should exercise its discretion and deny the Petition.

DATED: December 19, 2024

Respectfully submitted,

/s/ Rafael Perez-Pineiro

Rafael Perez-Pineiro (Reg. No.
46,041)

rperez@brickellip.com

The Brickell IP Group, PLLC

1101 Brickell Ave. S. Tower

Suite 800

Miami FL 33131

Tel: (305) 728-8831

Fax: (305) 428-2450

CERTIFICATE OF COMPLIANCE WITH WORD COUNT

This paper complies with the type-volume limitations of 37 C.F.R. § 42.24. This paper contains approximately 13,893 words, excluding the portions of the paper exempted by § 42.24(a). This paper also complies with the typeface requirements of 37 C.F.R. § 42.6(a)(2)(ii) and the type style requirements of § 42.6(a)(2)(iii) and (iv).

/s/ Rafael Perez-Pineiro

Rafael Perez-Pineiro (Reg. No. 46,041)

VII. CERTIFICATE OF SERVICE

I certify that on December 19, 2024 the foregoing document and all supporting materials were served on counsel for Petitioner as provided in 37 C.F.R. § 42.6(e) via electronic mail:

Kenneth Darby
Thomas Rozylowicz
Kiersten Batzli
Benjamin Elacqua
Email: IPR57677-0001IP1@fr.com
60 South Sixth Street
Suite 3200
Minneapolis, MN 55402

/s/ Rafael Perez-Pineiro
Rafael Perez-Pineiro (Reg. No. 46,041)