

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

YAMAHA GOLF CAR COMPANY,
Petitioner,

v.

CLUB CAR, LLC,
Patent Owner.

Case IPR2017-02144
Patent 7,480,569 B2

Before JOSIAH C. COCKS, CARL M. DEFRANCO, and
ROBERT L. KINDER, *Administrative Patent Judges*.

KINDER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) AND 37 C.F.R. § 42.73

I. INTRODUCTION

Yamaha Golf Car Company (“Petitioner”) filed a Petition pursuant to 35 U.S.C. §§ 311–19 to institute an *inter partes* review of claims 11, 12, 17–19 of U.S. Patent No 7,480,569 B2, issued on January 20, 2009 (Ex. 1002, “the ’569 patent”). Paper 1 (“Pet.”). Club Car, LLC (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). Pursuant to our request (Paper 12) the parties each filed a supplemental claim construction brief. See Paper 13 (Patent Owner’s brief), Paper 15 (Petitioner’s brief).

Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a) we issued an Initial Decision (“Dec.”) on April 4, 2018, instituting *inter partes* review of claim 12, but denying Petitioner’s challenge with respect to claims 11 and 17–19. Paper 17, Dec., 2, 17.

On May 4, 2018, Petitioner filed a request for rehearing of our Initial Decision pursuant to 37 C.F.R. § 42.71(d). Paper 19.

On June 26, 2018, we granted Petitioner’s Request for Rehearing (Paper 19). Paper 26 (“Rehearing Dec.”). In the Rehearing Decision we reasoned that we overlooked material fact disputes and competing witness testimony regarding the disclosure in the ’894 Provisional (see below), which at the institution stage should have been viewed in a light most favorable to Petitioner rather than Patent Owner. Rehearing Dec. 4 (citing 37 C.F.R. 42.108(c)). We then determined that considering the competing expert testimony in a light most favorably to Petitioner, that “Petitioner presents a reasonable likelihood of prevailing” as to claim 11. *Id.* at 7. Based on the Supreme Court’s decision in *SAS Inst. Inc. v. Iancu*, 138 S.Ct. 1348, 1359–60 (2018), and the Office’s Guidance on the Impact of *SAS* on AIA Trial Proceedings, which states that “if the PTAB institutes a trial, the

PTAB will institute on all challenges raised in the petition”

(<https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>), we instituted review based on all grounds and claims as set forth in the Petition. Rehearing Dec. 10. We also noted that:

On April 27, 2018, Club Car (Patent Owner) filed a statutory disclaimer under 35 U.S.C. § 253 for claim 12 of the ’569 patent. *See* IPR2017-02144, Paper 22, Exhibit B (Disclaimer of claim 12). Because claim 12 has been disclaimed, we need not issue a final written decision addressing the patentability of this claim.

Id. at 10, n.9. Accordingly, this Final Decision does not address claim 12, which has been disclaimed.

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 37, “PO Resp.”), to which Petitioner replied (Paper 48, “Pet. Reply”). Patent Owner also filed a Sur-Reply (Paper 53, “PO Sur-Reply”).

Patent Owner filed a Motion to Exclude evidence (Paper 55), to which Petitioner opposed (Paper 57), which Patent Owner replied (Paper 58).

Oral argument was conducted on February 14, 2019, and the transcript of the hearing has been entered as Paper 62 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 11 and 17–19 of the ’569 patent are unpatentable. We deny Patent Owner’s Motion to Exclude as moot.

II. BACKGROUND

A. The '569 patent (Ex. 1002)

The '569 patent is titled “Method and System for Golf Cart Control.” Ex. 1002, [54]. The '569 patent claims priority from U.S. Provisional Application No. 60/440,894 (“the '894 Provisional”), filed January 17, 2003. *Id.* at [60], 1:6–9.

As stated in the '569 patent, “[t]he present invention relates in general to the field of vehicle control, and more particularly to a method and system for control of a golf cart based on location of the golf cart.” *Id.* at 1:20–22. The system and method use a golf cart’s GPS position on a golf course for monitoring the location of and controlling golf carts “to preempt or otherwise reduce damage from golf cart movement” in certain at-risk portions of a golf course. *Id.* at 2:3–5.

As described in the '569 patent, “[g]olf course owners generally make a substantial financial investment in a golf course in order to develop and maintain the appearance and quality of play.” *Id.* at 1:25–27. In a relatively short period of time, “a thoughtless golfer can create considerable damage to sensitive golfing areas, such as greens, simply by driving a golf cart in the wrong place, such as locations having wet turf that [are] particularly susceptible to damage.” *Id.* at 1:43–47. “Inattentive and even malicious golf cart drivers can cause even greater amounts of damage and also present a safety hazard by driving too fast or recklessly near other golfers or natural hazards.” *Id.* at 1:47–51. Based on these problems faced in the art, the '569 details that “a need has arisen for a method and system which applies a golf cart’s GPS position on a golf course to preempt or otherwise reduce damage from golf cart movement.” *Id.* at 2:3–5. Another stated objective is to

define areas of a golf course where golf carts have limited access and movement is restricted. *Id.* at 2:5–9.

The '569 patent solves the problems identified in the prior art by, among other things, incorporating a controller that “automatically imposes restrictions on a golf cart’s movement . . . if the golf cart is positioned to enter a limited access area.” *Id.* at 2:54–59. As depicted in Figure 1 below, a golf cart control system is used to implement these concepts.

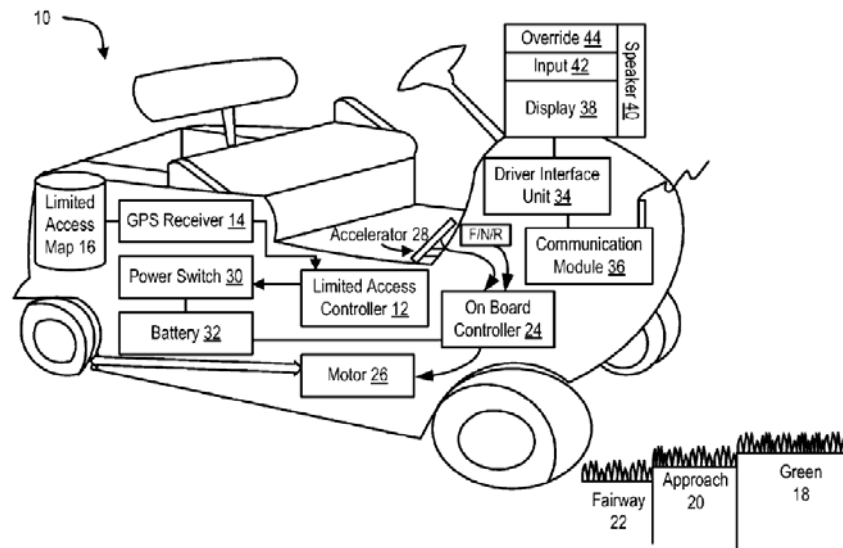


Figure 1

Figure 1 of the '569 patent above “depicts a functional block diagram of a golf cart having a limited access controller.” *Id.* at 3:36–37. Movement of golf cart 10 is restricted “in response to driver inputs,” “if the movement violates a limited access area of the golf course.” *Id.* at 4:4–7. “A limited access controller 12 determines limited access area violations by comparing golf cart position determined from a GPS receiver 14 with limited access areas defined in a limited access map 16.” *Id.* at 4:7–11. In one embodiment, when golf cart 10 approaches “a predetermined distance of

green 18, limited access controller 12 reduces the maximum available speed of golf cart 10 and notifies the driver with a message and/or audible alert if the projected path of golf cart 10 will traverse green 18 or approach 20.” *Id.* at 4:49–53. Further, “[i]f the GPS position of golf cart 10 enters into approach 20, the available speeds of golf cart 10 are restricted, such as to selections like reverse gear that will result in a velocity vector out of the approach without crossing into green 18.” *Id.* at 4:56–60.

B. The Challenged Claims

Petitioner makes clear that it does not challenge any of independent claims 1, 6, or 13 of the ’569 patent, rather only claims that depend, directly or indirectly, from claims 6 and 13. Specifically, claim 11 depends from claim 6, and claims 17–19 depend from claim 13. *See, e.g.*, Pet. 16–22 (mapping limitations of base claim 6 and intermediate claim 10 before reaching claim 11, but explaining that “[o]nly Claim 11 is challenged here”); *id.* at 23–26 (mapping limitations of base claim 13 and dependent claim 17 but clarifying that “[o]nly Claim 17 is challenged here”).

The unchallenged base claims 6 and 13 are directed to a “method” and “system” for controlling golf cart movement relative to a “predetermined area” or a “limited access area” of a golf course. *See* Ex. 1002, 8:17–25, 8:51–63. Challenged claim 11 further adds an additional feature of disabling golf cart movement toward a predetermined area, except in a reverse direction. *Id.* at 8:44–46. Challenged claims 17–19 are directed to additional features of the controller and how it interfaces with the driver of the cart and a base station that defines the limited access areas and issues commands to the controller. *Id.* at 9:10–10:11.

Claims 13 and 17, both reproduced below, are illustrative of the claimed golf cart control system:

13. A system for control of plural golf carts on a golf course, the system comprising:

a position determining device associated with each golf cart and operable to determine a position of an associated golf cart;

a map defining limited access areas;

a controller associated with each golf cart and interfaced with the position determining device and map, the controller operable to limit the performance of driver commands to move an associated golf cart based at least in part on a position of the associated golf cart relative to a limited access area.

Ex. 1002, 8:51–63.

17. The system of claim 13 further comprising the driver interface unit associated with each golf cart and operable to communicate an alarm to a base station of a controller limiting the performance of a driver command.

Id. at 9:10–13.

C. Related Proceedings

Petitioner and Patent Owner identify a related litigation in the Southern District of Georgia involving the '569 patent: *Club Car, LLC v. Yamaha Golf-Car Company*, Case No. 1:17-cv-00034. Pet. 1; Paper 4, 1. Patent Owner also identifies a related petition (IPR2017-02143) challenging claims of the '569 patent and two additional petitions (IPR2017-02141 and IPR2017-2142) challenging claims of related U.S. Patent No. 7,239,965 B2. Paper 4, 1.

D. Real Party-in-Interest

Petitioner certifies that the real party-in-interest for this Petition is Yamaha Golf Car Company. Pet. 1. Patent Owner certifies that Club Car, LLC is the real party-in-interest. Paper 4, 1.

E. References

Petitioner relies on the following reference: U.S. Patent Publication No. 2006/0052918 A1, filed March 18, 2003,¹ published March 9, 2006 (Ex. 1003, “the ‘918 Publication”).

Petitioner also relies on the Declaration of Kevin C. Breen (Ex. 1001). Patent Owner, in turn, relies on the Declaration of Henry DeLozier (Ex. 2007) as well as the Declaration of Scott Andrews (Ex. 2009). The parties rely on other evidence and exhibits as addressed in the analysis below.

F. Grounds Asserted

Petitioner challenges the patentability of claims 11, 12, and 17–19 of the ‘569 patent on the following grounds (Pet. 3):

Reference	Basis	Claim(s) Challenged
’918 Publication	§ 102(e)	11
’918 Publication	§ 103(a)	12 and 17–19

¹ Petitioner contends “[t]he latest conceivable priority date for the ‘918 Publication – i.e., March 18, 2003 (*i.e.*, the filing date of the ‘046 Application, which was published as the ‘918 Publication) – antedates the January 9, 2004 priority date of the Challenged Claims.” Pet. 16. Thus, Petitioner contends “[t]he ‘918 Publication therefore qualifies as prior art consisting of patents or printed publications under 35 U.S.C. §§102(e)(1) and 103.” *Id.*

III. ANALYSIS

A petition must show how the construed claims are unpatentable under the statutory ground it identifies. 37 C.F.R. § 42.104(b)(4). Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must establish the facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016).

Petitioner proposes the construction of two limitations — “golf cart” and “driver.” Pet. 4–6. Patent Owner focuses its analysis on these same two limitations and also proposes that we construe “velocity.” PO Resp. 5–14.

Patent Owner also recognizes, however, “that no construction of the disputed terms is necessary.” *Id.* at 6; PO Sur-Reply 2 (“no construction of the disputed claim terms—‘golf cart’ or ‘driver’—is necessary”). In its Reply Brief, Petitioner also agrees that the constructions for terms “golf cart” and “driver . . . are irrelevant in this IPR.” Pet. Reply 4 (“Board has not construed ‘golf cart’ or ‘driver’ in this IPR, and it need not.”).

We agree with the parties that none of the disputed terms requires an express construction in reaching a final decision on any of Petitioner’s challenges. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent

necessary to resolve the controversy”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

B. Principles of Law

1. Anticipation

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). “To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

2. Obviousness

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations.² See *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

² Neither party has offered evidence of secondary considerations in this proceeding.

C. Patent Owner's Priority Claim for Claim 11

As mentioned above, the '569 patent claims priority to an earlier provisional application, the '894 Provisional, filed January 17, 2003. Ex. 1002, (60), 1:6–9. Whether the challenged claims of the '569 patent are entitled to priority to the '894 Provisional is relevant here because Patent Owner relies on the priority claim in order to antedate the '918 Publication (priority date of March 18, 2003) proffered by Petitioner as evidence of anticipation of claim 11 pursuant to 35 U.S.C. § 102(e)(1) and § 103. PO Resp. 19–24. Patent Owner does not challenge Petitioner's contentions (Pet. 11–14) that claims 17–19 each have a limitation that is not supported by the '894 Provisional. *See generally* PO Resp. Thus, based on the final record before us, the '918 Publication is prior art with respect to claims 17–19.³ Pet. 11–14. Below, we address the parties' contentions with respect to the priority date of claim 11.

At the outset, we note that we originally denied institution of the ground challenging claim 11 because we determined that “the '918 Publication does not qualify as prior art against claim 11,” and as such, “Petitioner has thus not established a reasonable likelihood of prevailing on the basis that claim 11 is anticipated by the '918 Publication.” Dec. 12. For the reasons discussed above, we later instituted trial of claim 11. We base this Final Decision on the record developed during trial that is now before us.

³ Based on the final record before us, we accept Petitioner's contention that claims 17–19 are entitled to a priority date no earlier than January 9, 2004, i.e., the filing date of U.S. Application No. 10/754,916 that was continued as U.S. Application No. 11/758,702, which issued as the '569 patent. *See* Ex. 1002, (21), (60).

1. Petitioner's Contentions for Claim 11

In its Petition, Petitioner relies on the March 18, 2003 filing date of the '918 Publication in order to antedate what it contends is the earliest priority date of the challenged claims—the application filing date of January 9, 2004 for the '569 patent. Pet. 14. Presuming that Patent Owner might assert the earlier priority claim to the January 17, 2003 filing date of the '894 Provisional, Petitioner argues that “the priority claim to the '894 Provisional must be disregarded . . . because the subject matter of the Challenged Claims was not disclosed in the manner required by 35 U.S.C. § 112 in the '894 Provisional.” *Id.* at 8. “For the non-provisional utility application to be afforded the priority date of the provisional application . . . the written description of the provisional must adequately support the claims of the non-provisional application” in the manner set forth by 35 U.S.C. § 112. *New Railhead Mfg. LLC v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294 (Fed. Cir. 2002). Here, Petitioner argues that Patent Owner's priority claim must fail “because at least one element of each Challenged Claim is not adequately disclosed by the '894 Provisional,” including claim 11. Pet. 10–11.

Petitioner contends that the '894 Provisional lacks support for the claim 11 limitation “wherein disabling golf cart movement towards the predetermined area further comprises *disabling golf cart movement except in a reverse direction.*” Pet. 10. Petitioner argues that “[t]here is no mention of limiting a cart's movement to ‘reverse’ movement as a cart control action.” *Id.*

In its Reply Brief, Petitioner further argues that the '894 Provisional is a “disjointed, hodge-podge” of information that requires putting it all

together in an “impermissible obviousness-type argument.” Pet. Reply 10. Petitioner alleges that the ’894 Provisional consists of multiple distinct documents that make it suspect as a source for § 112 support. *Id.* at 10–12. Petitioner argues that there is no actual or inherent disclosure in the ’894 Provisional of cart movement that must be disabled in every respect except reverse. *Id.* at 13. Petitioner similarly argues that there is no actual disclosure in the Provisional of a control action wherein movement is disabled in all respects except reverse, as required by the claim. *Id.* at 14.

Petitioner characterizes Patent Owner’s purported argument as requiring a person of ordinary skill in the art to “infer the existence of this limitation from: (1) language disclosing progressively slowing then stopping a cart as an automatic control action; and (2) a separate disclosure that the cart may be operated in reverse, unrelated to any automatic control action.” *Id.* at 14 (emphases omitted). Further, Petitioner argues that “the disclosure of a reverse gear does not actually teach disabling movement (let alone in all respects except in reverse), and therefore is not a sufficient Section 112 disclosure.” *Id.* (“The reverse gear is never actually discussed in connection with automatic control actions at all.”) (emphases omitted). Petitioner contends that the arguments Patent Owner makes are obviousness type arguments, which are not sufficient for a § 112 disclosure. *Id.* at 16.

2. Patent Owner’s Contentions for Claim 11

In relying on its priority claim, Patent Owner asserts only that the ’918 Publication is not prior art with respect to challenged claim 11. *See generally* PO Resp. By seeking to antedate the ’918 Publication, Patent Owner bears the burden of production (i.e., coming forward with evidence) to show entitlement to the priority date for the ’894 Provisional. *See*

Dynamic Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375, 1379–80 (Fed. Cir. 2015). To meet its burden, Patent Owner points to detailed descriptions in the '894 Provisional as support for the disputed claim limitations, and submits a declaration from Scott Andrews as evidence of what a skilled artisan would have understood from these descriptions. PO Resp. 19–24 (citing Ex. 2009).

Also, because challenged claim 11 necessarily includes limitations from base claim 6, as well as intervening claim 10, Patent Owner submits proof of how the '894 Provisional provides adequate written description support for those claims. *Id.* at 21 n.4 (citing Ex. 2009 ¶¶ 44–47). Petitioner does not dispute that the '894 Provisional provides adequate written description support for claims 6 and 10. From our review of the final record, we are persuaded that Patent Owner has met its burden of showing sufficient support in the '894 Provisional for base claim 6 and intervening claim 10. Thus, we begin our analysis of the priority issue with the claim in dispute, i.e., claim 11.

Patent Owner contends that the '894 Provisional maintains support for all claim limitations, including the claim 11 limitation “wherein disabling golf cart movement towards the predetermined area further comprises disabling golf cart movement except in a reverse direction.” PO Resp. 19–24. Patent Owner argues that other sections of the '894 Provisional not addressed by Petitioner support this disputed limitation. *Id.* at 20. Patent Owner's analysis provides citations to portions of the '894 Provisional it contends support the disputed limitation. *Id.* at 22–24.

Addressing the disclosure of reverse operation, Patent Owner notes that the '894 Provisional describes “a ‘Curtis 1510 controller’ that ‘is used to

regulate motor performance, to enable configuration functionality,” and this “controller sets configuration settings for several system variables, including ‘PEDAL UP MODE,’ ‘SPEED SETTING,’ and ‘FAST ACCEL.’”

PO Resp. 22 (quoting Ex. 1004, 10). The controller also logs information for other system variables such as “THROTTLE” and “FOOT INPUT.” *Id.* (quoting Ex. 1004, 12). Most “[s]ignificantly for claim 11, the ’894 Provisional specifies that the Curtis 1510 controller includes a configuration setting for ‘REVERSE SPEED’ separate from the maximum forward speed settings, ‘M1 MAX SPEED,’ ‘M2 MAX SPEED,’ ‘M3 MAX SPEED,’ and ‘M4 (HIGH) MAX SPEED.’” *Id.* (quoting Ex. 1004, 12).

Patent Owner points out that “[t]he ’894 Provisional also discloses multiple levels of control commands, such as first issuing a warning to the vehicle driver and initially slowing the speed of the vehicle.” PO Resp. 22 (quoting Ex. 1004, 30). Patent Owner notes that when a driver continues to move towards a restricted access area, the control system warns the user that “your car will continue to slow down until you return to the course.” *Id.* Thus, setting the maximum speed to zero stops the vehicle from further movement towards the restricted area, but “setting the maximum speed, such as ‘M2 MAX SPEED,’ to zero leaves the separate ‘REVERSE SPEED’ configuration setting in the motor controller unchanged.” *Id.* at 22–23 (quoting Ex. 1004, 16).

According to Patent Owner, “restricting maximum forward speed while leaving ‘REVERSE SPEED’ enabled ensures that the golf cart safely returns to the course without entering the restricted access area.” *Id.* at 23 (citing Ex. 2009 ¶¶ 58–59). Mr. Andrews testifies that “‘REVERSE SPEED’ is a separate configuration setting that the controller can configure

based on GPS location.” Ex. 2009 ¶ 58. Further, Mr. Andrews contends that a person of ordinary skill in the art “would understand that using the separate ‘REVERSE SPEED’ configuration setting ensures that the driver and golf cart safely ‘return to the course’ as instructed by the warning message.” *Id.* ¶ 59. Thus, Mr. Andrews opines that “the disclosures from the ’894 Provisional sufficiently describes ‘disabling golf cart movement except in a reverse direction.’” *Id.* ¶ 60.

In its Sur-Reply, Patent Owner further argues that “a provisional application need not use the exact same terminology as is found in the challenged claims.” PO Sur-Reply 3. Patent Owner notes that, “Petitioner advances only attorney argument to support” its theories with no expert testimony addressing Patent Owner’s positions. *Id.* at 6. Patent Owner addresses one such attorney argument that other functions may be enabled when a golf cart is slowed. Patent Owner counters that ’894 Provisional never mentions slowing the golf cart to a speed only tolerable for a U-turn or locking both the forward and reverse functionality of the golf cart as argued by Petitioner. *Id.* Patent Owner maintains that the Curtis 1510 controller has “a configuration setting for ‘REVERSE SPEED,’ which is separate from the forward speed settings.” *Id.* (citing Ex. 2009 ¶ 58; Ex. 1004, 12). When a driver travels toward a restricted area, the control system will warn the driver and eventually the maximum speed may be set to zero to stop the vehicle. *Id.* According to Patent Owner, because the reverse speed setting is separate, a person of ordinary skill in the art “would understand that once this occurs, only the ‘REVERSE SPEED’ would remain functional.” *Id.* (citing Ex. 2009 ¶¶ 58–60).

Thus, Patent Owner concludes that the '894 Provisional provides written description support for the reverse only functionality. *Id.* at 6–7. As Patent Owner further argues, “Claim 11 is entitled to claim priority to the '894 Provisional,” thus, “the '918 Publication is not prior art,” and “Petitioner cannot demonstrate that claim 11 is invalid in light of the '918 Publication.” *Id.* at 7.

Having now considered the evidence in the complete record established during trial, we are persuaded that, based on this record, Patent Owner has demonstrated that the limitations of claim 11 are supported by the '894 Provisional.

3. Discussion

The '894 Provisional describes a control action that automatically slows the speed of the golf car until it returns to the course—“[Y]our cart has been *slowed down* because you are outside the boundaries of the course. Your car will *continue to slow down until you return to the course.*” Ex. 1004, 30 (emphases added) (also showing that “Reduce Maximum Speed” may be adjusted to a select speed as similarly set forth in Figure 3 of the '569 patent). The '894 Provisional specifies that the Curtis 1510 controller includes a configuration setting for “REVERSE SPEED,” and we find persuasive Mr. Andrews’ testimony that this control setting is separate from the maximum forward speed settings, “M1 MAX SPEED,” “M2 MAX SPEED,” “M3 MAX SPEED,” and “M4 (HIGH) MAX SPEED.” Ex. 1004, 12; Ex. 2009 ¶ 58 (“‘REVERSE SPEED’ is a separate configuration setting that the controller can configure based on GPS location.”). We find that these disclosures in the '894 Provisional—slowing or stopping the car until it reverses course and separate configurable settings for reverse speed in the

motor controller—establish affirmative support for a configuration as claimed where the car’s forward movement is disabled, but the car may still move in a reverse direction, as required by claim 11. Because the maximum forward speed can be set to zero to stop the vehicle from further movement towards the restricted area, but setting the maximum speed to zero leaves the separate “REVERSE SPEED” configuration setting in the motor controller unchanged, Patent Owner has shown how the vehicle is capable of operation only in a reverse direction. *See* Ex. 1004, 10, 12, 16, 30.

From a functional capability, there is simply no difference between the descriptions found in the ’894 Provisional and the claimed limitations. *See* Ex. 2009 ¶¶ 49–60. Thus, Patent Owner has met its burden of showing adequate written description support for claim 11 in the earlier ’894 Provisional. Accordingly, the ’918 Publication does not qualify as prior art against claim 11. Based on the final trial record before us, Petitioner does not present sufficient arguments and credible evidence to support a finding that claim 11 is anticipated by the ’918 Publication.

D. Obviousness of Claims 17–19 Over the ’918 Publication

Petitioner challenges the patentability of claims 17–19 of the ’569 patent under 35 U.S.C. § 103 as obvious based on the ’918 Publication. Pet. 22–27. Having now considered the evidence in the complete record established during trial, Petitioner has not demonstrated by a preponderance of the evidence that these claims would have been obvious over the ’918 Publication. We begin our analysis with a brief overview of the ’918 Publication and then discuss the parties’ contentions for claims 17–19.

1. '918 Publication (Ex. 1003)

The '918 Publication discloses a “control and diagnostics system and method for vehicles.” Ex. 1003, (54), (57). The “remote diagnostic system” disclosed in the '918 Publication features a “base station,” which is associated “with a transceiver and a remote unit installed in a vehicle.” *Id.* at (57). The “remote unit” transmits “diagnostic data” about the vehicle to the “base station,” which may include the vehicle’s current location on a virtual map. *Id.* The concepts disclosed in the '918 Publication may be applied to “a battery powered golf cart.” *Id.* ¶ 22. Diagnostic information gathered from the cart (and transmitted to a base station) may include information concerning “battery voltage” and “battery state of charge,” as well as the location of the cart on a virtual course map. *Id.* ¶¶ 29, 58, 59.

The remote unit installed on the cart includes a wireless transceiver, a memory, a communications bus, and a controller. *Id.* ¶ 27; *see also id.* at Fig. 2. The remote unit controller is coupled to a GPS receiver and mapping processor. *Id.* ¶ 9. The memory stores a map of the course with areas that are allowable or restricted, and the processor correlates the GPS-determined cart location with the virtual map. *Id.* Different modes of vehicle operation are enabled depending on the vehicle’s position relative to the map. *Id.* ¶ 62. For example, forward or reverse operation may be disabled, speed may be reduced near hazards, and a deterrence mode may fully disable the vehicle. *Id.*

2. Claims 17–19

Petitioner challenges the patentability of claim 17 as rendered obvious by the '918 Publication. Pet. 23–25. According to Petitioner, the '918 Publication discloses each of the limitations of claim 17, including

those of base claim 13. *Id.* Claim 17 requires “the driver interface unit associated with each golf cart and operable to communicate an alarm to a base station of a controller limiting the performance of a driver command.” Ex. 1002, 9:10–13.

Petitioner contends that “[t]he ‘918 Publication discloses a driver interface unit [that] is operable to communicate to the base station an alarm of a driver command to move a golf cart in a restricted access area.” Pet. 25 (citing Ex. 1003 ¶ 68 (“An optional signal can be transmitted . . . from the vehicle 21 to the base station 18 alerting the course operator of the violation.”)). According to Petitioner, and Mr. Breen, “[i]t would have been obvious to one of ordinary skill in the art that the system *could also* provide a message to the course personnel of not only the violation, but also of any remedial corrective measures taken in response, such as the controller limiting performance of a driver command.” *Id.* (citing Ex. 1001 ¶ 277) (emphasis added).

In its Reply, Petitioner states, without citation to any expert testimony or evidentiary support, “that each of these claims’ missing elements, if any, could be supplied easily through a POSITA’s common sense and experience.” Pet. Reply 19. Petitioner contends that the controller operable to limit performance of claim 17 is hardware, and Petitioner identified “controller 63” in the ‘918 Publication as being operable to limit performance of a driver command. Petitioner further contends that “[t]he ‘918 Publication’s disclosure of an alarm communicated to the base station of a violation would *suggest this functionality in and of itself.*” *Id.* at 20–21. Petitioner infers, without supporting expert testimony, that a person of ordinary skill in the art “would understand it to be highly probable that the

alarm would include information about any control actions.” *Id.* at 21. Petitioner concludes, again without any supporting testimony or evidence, that “[t]he disclosure of the alarm is not an inherent disclosure of a notice of restriction, but is it so closely related and suggestive of that functionality that the teaching and suggestion to modify would come from the disclosure of the alarm in the ’918 Publication.” *Id.* at 21.

Patent Owner makes two primary arguments in response. Patent Owner first argues that “Petitioner has not made any showing that the missing limitations were known in the prior art.” PO Resp. 24. Second, Patent Owner argues that “Petitioner fails to provide any motivation to modify the ’918 Publication to add these missing limitations.” *Id.*

As to Patent Owner’s first argument, Patent Owner contends there is no evidence in the final record demonstrating that the missing limitation⁴ of a driver interface unit operable to communicate an alarm to a base station of a controller limiting the performance of a driver command was known to a person of ordinary skill in the art. *Id.* at 25. Patent Owner criticizes Mr. Breen’s initial testimony in that he “does nothing more than look at the missing limitations and conclude that they are obvious without any independent evidentiary showing that these claim elements were known in the art.” *Id.* at 25–26. Patent Owner further argues that “common sense” cannot substitute for what the ’918 Publication fails to teach because “Petitioner has not even alleged that any of the missing limitations were

⁴ Patent Owner also asserts that a limitation is missing from claim 18 and a limitation is also missing from claim 19. *See* PO Resp. 26. Because these claims depend from claim 17, and the missing limitation of claim 17 is dispositive, we focus our analysis on claim 17.

common sense or common knowledge to a POSITA at the time of the '569 patent invention.” *Id.* at 27.

Patent Owner’s second argument, which we find just as persuasive as the first, presumes that even if a person of ordinary skill in the art knew of the missing limitation of a driver interface unit operable to communicate an alarm to a base station of a controller limiting the performance of a driver command, there is no articulated reasoning with rationale underpinning as to why a person of ordinary skill in the art would have modified the '918 Publication to add the *known* limitation. Patent Owner contends that the obviousness analysis requires a showing as to why a person of ordinary skill in the art would have modified the reference, not just a showing that the reference could be modified. *Id.* at 28. Patent Owner further argues that Petitioner fails to “provide ‘articulated reasoning with some rational underpinning’ for why a POSITA would have been motivated to independently come up with these missing limitations and modify the '918 Publication to arrive at the '569 patent without using the patent itself as a roadmap.” *Id.* at 29.

Patent Owner points out in its Sur-Reply that Petitioner either repeats conclusory assertions or advances generalized attorney argument that is facially deficient. PO Sur-Reply 1. Patent Owner notes that Petitioner did not submit a responsive declaration of its expert to support its “common sense” theory, and further Petitioner did not bother to cross-examine Patent Owner’s own expert as to the issues related to this proceeding. *Id.* Thus, according to Patent Owner, there is no compelling reason for the Board to deviate from its initial findings in the Institution Decision. *Id.* at 1–2.

Patent Owner similarly argues that Petitioner's Reply still fails to identify any teaching in the '918 Publication of a system that is "operable to communicate an alarm to a base station of a controller limiting the performance of a driver command" as required by claim 17. *See* PO Sur-Reply 8. Patent Owner contends that Petitioner has misshapen its argument – the real contention does not involve just the controller, but instead Patent Owner argues that the '918 Publication fails to teach the additional claim requirement of a communicating an alarm detailing a controller limiting the performance of a driver command as required by claim 17. *Id.* at 8–9. Patent Owner contends that Petitioner's failure to address the complete limitation is a "gap in its obviousness analysis." *Id.* at 9.

Patent Owner further argues that even if this limitation were known, which Patent Owner maintains it is not, "Petitioner's Reply still fails to articulate why a POSITA would independently modify the '918 Publication to arrive at the invention described in the claims of the '569 Patent." PO Sur-Reply 10. Because "Petitioner only alleges that the '918 Publication could be modified," Patent Owner contends Petitioner's analysis "is not sufficient" without some rationale as to why the modification would be made. *Id.* Patent Owner notes that Petitioner only set forth conclusory attorney argument "without citing any expert testimony or exhibit" to reach the conclusion "that the '918 Publication 'would suggest' the missing 'functionality in and of itself.'" *Id.* at 11. Patent Owner concludes by arguing that "[n]either Petitioner nor Mr. Breen provide any independent analysis to show that the missing limitations were known in the art or that a POSITA would have modified the '918 Publication to add in missing claim limitations to arrive at the '569 Patent." *Id.*

Based on the final trial record before us, Petitioner has not explained sufficiently how the '918 Publication's disclosure of a "signal . . . of the violation" (Ex. 1003 ¶ 68) also teaches or suggests the additional claim requirements of "the driver interface unit . . . operable to communicate an alarm to the base station of a controller limiting the performance of a driver command" as required by claim 17. Petitioner recognizes the distinction by arguing "that the system *could also* provide a message to the course personnel . . . of any remedial corrective measures taken in response." Pet. 25 (emphasis added). Based on the evidence cited, the '918 Publication does not provide any such notification. Petitioner cannot suggest that a reference could have a feature that it does not have without some rational basis as to why such a feature would have been suggested by the reference. Mr. Breen's explanation mirrors Petitioner's contention (Ex. 1001 ¶ 277) and likewise states "that the system *could also* provide a message to the course personnel" (emphasis added) but no further explanation is provided as to how this unsupported conclusion was reached.

Petitioner has also failed to lay the necessary foundation to establish that "common sense" could fill the gap for the missing limitation, or provide a basis for modifying the '918 Publication to teach the claim 17 limitation. We recognize that in certain instances "common sense" can be used to supply the missing claim limitation, but only if the art is "unusually simple and the [patented] technology particularly straightforward." *Arendi Sarl v. Apple Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016). In this proceeding, we have no testimony or evidence to establish either condition is met. Neither Petitioner nor Mr. Breen explain adequately why the limitations of claim 17

would have been known or simple technology. The extent of Mr. Breen's testimony is set forth below:

In my opinion, it would have been obvious to one of ordinary skill in the art that the system could also provide a message to the course personnel of not only the violation, but also of any remedial corrective measures taken in response, such as the controller limiting performance of a driver command.

Ex. 1001 ¶ 277. Apart from suggesting “that the system could also provide” the missing limitation, Mr. Breen offers no further support as to whether this limitation was actually known in the art, or a simple modification in a patented technology that is also particularly straightforward. Mr. Breen never opines on whether the limitation, or modifying the '918 Publication to include the limitation, would have been a matter of “common sense” to a person of ordinary skill in the art. Petitioner improperly attempts to use reference to “common sense” as a basis for a missing limitation in place of a reasoned analysis and evidentiary support. *See Arendi S.A.R.L.*, 832 F.3d at 1362. We determine that Petitioner's, and Mr. Breen's, conclusory obviousness analysis relies on hindsight reasoning using the '569 patent as a roadmap.

Petitioner has not established by a preponderance of the evidence that dependent claim 17, and claims 18 and 19 which depend therefrom, would have been obvious based on the '918 Publication.

IV. MOTION TO EXCLUDE

The entirety of Patent Owner's motion is set forth below.

The basis for the Motion to Exclude is based upon objections filed and served by the Patent Owner on December 21, 2018. (Paper 50.) “Irrelevant evidence is not admissible.”

FRE 402. At no time in this proceeding did Petitioner rely on these exhibits or identify with any particularity how these exhibits are relevant to the proceeding's issues. Accordingly, Exhibits 1021–1029 and 1036–1037 are inadmissible under FRE 402, and should be excluded from the records of this proceeding.

Paper 55, 1.

Our determinations do not rely upon Exhibits 1021–1029 and 1036–1037, therefore, Patent Owner's motion to exclude these exhibits is denied as moot.

V. CONCLUSION

Because Patent Owner has met its burden of showing that the '918 Publication is not prior art against claim 11, we determine that Petitioner cannot prevail in its anticipation challenge against claim 11.

As for the claims against which the '918 Publication does qualify as prior art, we determine that Petitioner has failed to establish by a preponderance of the evidence that claims 17–19 would have been rendered obvious by the '918 Publication. Claim 12 was disclaimed by Patent Owner and thus not considered in this Final Decision.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, on the record before us, Petitioner has not shown by a preponderance of the evidence that claims 11 and 17–19 of the '569 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 55) is DENIED; and,

FURTHER ORDERED that, because this is a Final Written Decision, any party to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2017-02144
Patent 7,480,569 B2

PETITIONER

Robert W. Dickerson
Armand F. Ayazi
Zuber Lawler & Del Duca LLP
rdickerson@zuberlaw.com
aayazi@zuberlaw.com

PATENT OWNER

Cyrus A. Morton
Shui Li
William E. Manske
ROBINS KAPLAN LLP
CMorton@RobinsKaplan.com
SLi@RobinsKaplan.com
WManske@RobinsKaplan.com