Trials@uspto.gov
571–272–7822

Paper 48
Entered: February 1, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARCTIC CAT, INC.,

Petitioner,

v.

POLARIS INDUSTRIES, INC.,

Patent Owner.

Case IPR2015-01789
Patent 8,746,719 B2

Before KARL D. EASTHOM, PHILLIP J. KAUFMAN, and MICHAEL W. KIM, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 17–33 of U.S. Patent No. 8,746,719 B2 (Ex. 1002, "'719 patent"). Pet. 1–2. Patent Owner filed a Preliminary Response. Paper 6 ("Prelim. Resp.").

We instituted trial for claims 17–33 (the "challenged claims"). Paper 7 ("Institution Decision" or "Inst. Dec."). After institution of trial, Patent Owner filed a redacted Patent Owner Response. Paper 19 ("PO Resp.").[1] Petitioner filed a Reply. Paper 28 ("Pet. Reply"). Patent Owner then filed authorized briefing listing an allegedly improper new rationale in Petitioner's Reply. Paper 33. Petitioner responded. Paper 38. The parties also filed additional authorized briefing sought by Patent Owner to address its allegation that Petitioner contradicted itself in a related proceeding. Paper 45; Paper 47. The record includes a transcript of the Oral Hearing that occurred on November 21, 2016. Paper 43 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision issues pursuant to 35 U.S.C. § 318(a). Petitioner has shown by a preponderance of the evidence that claims 17–33 of the '719 patent are unpatentable.

A. *Related Proceedings*

Petitioner indicates that Patent Owner alleges infringement of the '719 patent in *Polaris Industries Inc. v. Arctic Cat Inc.*, No. 14-cv-3386 (D. Minn. 2014). Paper 5, 2. Petitioner filed a petition concurrently with the instant Petition, challenging claims 1–16 of the '719 patent in Case IPR2015-01788.

[1] Patent Owner also filed a confidential version. Paper 20.

Petitioner also filed petitions in IPR2015-01781 and IPR2015-01783, challenging U.S. Patent No. 8,827,028 B2, which is related by technology, but not continuity.

Patent Owner and Petitioner each contend that other PTAB proceedings have bearing in this case. *See* Paper 44, 3 (citing *Arctic Cat, Inc. v. Polaris Industries, Inc.*, Case IPR2017-00199 (PTAB Nov. 7, 2016) (Paper 2, petition)); Pet. Reply 23 (citing *Arctic Cat, Inc. v. Polaris Industries, Inc.*, Case IPR2014-01427, slip op. at 35 (PTAB Feb. 4, 2016) (Paper 58, final written decision, holding claims unpatentable) (appealed by Patent Owner to the Court of Appeals for the Federal Circuit)).

B. *The '719 Patent*

The '719 patent discloses side-by-side (two-person) vehicles 100 with frame 112, power source (engine) 130, CVT (continuously variable transmission) 342, and a suspension system that includes radius arms 526A and 526B, control arms 530 and 532, dampening member 560, and sway bar 570. Ex. 1002, 11:50–53, 16:8–23, 20:62–21:5, 22:15–64, Figs. 10, 11, 28–35. Figure 29 of the '719 patent follows:

FIG. 29

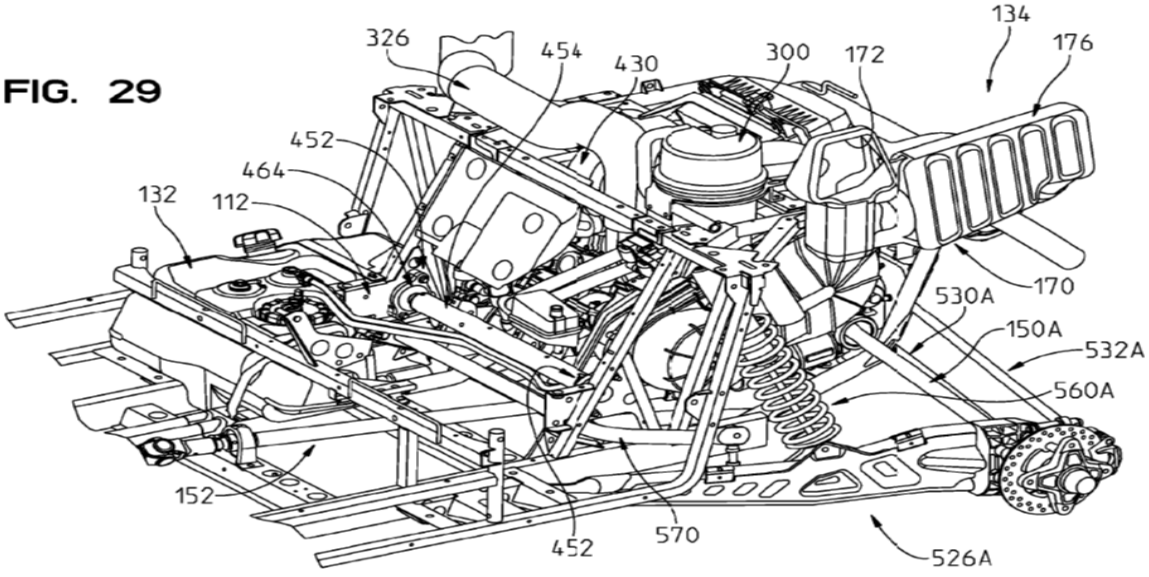


Figure 29 above is a perspective view depicting sway bar 570 and control arms 530A, 532A coupled to radius arm 526A, which is coupled to frame 112 forward of engine 130 (not numbered in Fig. 29). Control arms 530A, 530B, 532A, and 532B couple to frame 112 at two locations—via member 480 and via radius arms 526A, B. *See id.* at 3:16–32, 12:1–6, 20:62–21:25, Figs. 1, 2, 6, 29, 32; Prelim Resp. 6 (annotating Figs 29 and 32).

To illustrate the invention, Patent Owner provides an annotated version of Figure 28, which follows:

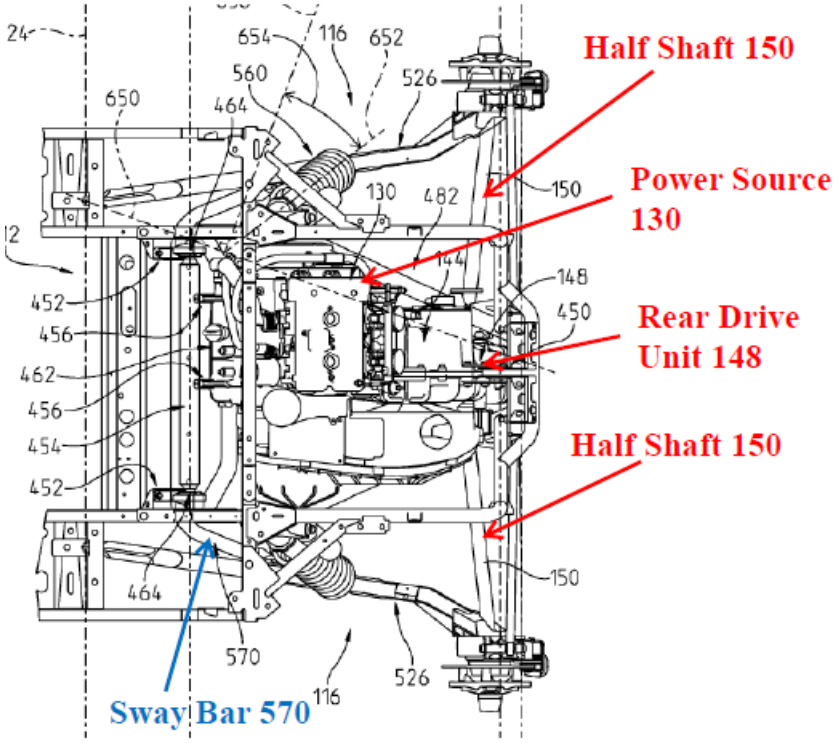


FIG. 28

PO Resp. 5. Figure 28 represents a top view of Figure 29. Patent Owner identifies some of "[t]he claimed structure" in Figure 28. *Id*. at 5.

C. Illustrative Challenged Claim

Claim 17, the sole independent challenged claim, follows:

17. A vehicle, comprising:

a frame;

a plurality of ground engaging members supporting the frame;

a power source supported by the frame and operatively coupled to at least one of the plurality of ground engaging members to propel the vehicle;

an operator area supported by the frame, the operator area including side-by-side seating and operator controls;

a rear drive unit supported by the frame and positioned rearward of the operator area, the rear drive unit being operatively coupled to the power source and operatively coupled to a first ground engaging member positioned rearward of the operator area through a first half shaft to transfer power received from the power source to the first ground engaging member and to a second ground engaging member positioned rearward of the operator area through a second half shaft to transfer power received from the power source to the second ground engaging member, the first ground engaging member being positioned on a first side of a vertical centerline longitudinal plane of the vehicle and the second ground engaging member being positioned on a second side of the vertical centerline longitudinal plane of the vehicle;

a first rear suspension system moveably coupling the first ground engaging member to the frame, the first rear suspension system including a first moveable arm;

a second rear suspension system moveably coupling the second ground engaging member to the frame, the second rear suspension system including a second moveable arm; and

a sway bar coupling the first rear suspension to the second rear suspension, the sway bar being coupled to the frame at a location forward of the power source.

Ex. 1001, 26:48–27:17.

D. Evidence of Record

Petitioner primarily relies on the following Declarations and prior art references:

Reference or Declaration	**Exhibit No.**
Declaration of Gregory W. Davis, Ph.D., P.E.	Ex. 1001
U.S. Pat. No. 3,292,944 (Dec. 20, 1966) ("Dangauthier")	Ex. 1004
U.S. Pub. No. 2008/0283326 A1 (Nov. 20, 2008) ("Bennett")	Ex. 1005
Dean Kirsten, *Sand Styling*, DUNE BUGGIES AND HOT VW'S, Oct. 2004, at 76 ("Sand Styling")	Ex. 1010
U.S. Pub. No. 2007/0000715 A1 (Jan. 4, 2007) ("Denney")	Ex. 1011
Responsive Declaration of Gregory W. Davis, Ph.D., P.E. ("Davis Reply Declaration")	

Pet. i–iii.

Patent Owner relies on the Declaration of Dr. John J. Moskwa (Ex. 2044 ("Moskwa Declaration")) and other Exhibits, some of which are discussed below. *See* PO Resp. vi–ix (listing Exhibits 2001–44). Each party deposed the other party's Declarant. *See* Exs. 1023 and 1026 ("Moskwa Deposition"); Ex. 2031 ("Davis Deposition").

E. *Instituted Grounds of Unpatentability*

We instituted trial on the following grounds under 35 U.S.C. § 103(a) as asserted by Petitioner:

Claims Challenged	**References(s)**
17, 18	Denney and Dangauthier
19–22	Denney, Dangauthier, and Bennett
23–33	Denney, Dangauthier, Bennett, and Sand Styling

Pet. 2; Inst. Dec. 21.

II. ANALYSIS

A. *Claim Construction*

The claims of an unexpired patent are interpreted using the broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *aff'd sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard).

For the purposes of this Final Written Decision, and on this record, most of the claim terms do not need express construction. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only those terms which are in controversy need to be construed and only to the extent necessary to resolve the controversy).

"forward of," "rearward of"

Claim 17 and several of the dependent claims generally recite that an element is "forward of" or "rearward of" another structure. The claim terms "forward" and "rearward" employ their ordinary meaning as relational terms with respect to the front and rear of the vehicle. *See, e.g.*, Ex. 1002, 9:58–59 (describing Figure 8 as a "back view of the exemplary side-by-side vehicle"), 10:58–59 (describing Figure 32 as "a rear view of the rear suspension of the vehicle of FIG. 1"); 13:34–38 (describing Figure 6 as depicting "a majority of muffler 120 . . . positioned rearward of frame 112" and "muffler forward of a rear extend of the tires 106 of rear axle 110 and forward of a rear extent of vehicle 100"), 6:37–40 (describing Figure 28 as showing CVT housing 342 as "completely rearward of line 524 associated

with rear suspension 116 and completely forward control arms 530 and 532 of rear suspensions 116").

In the Institution Decision, based on the '719 patent Specification, we construed the terms "forward of" and "rearward of" as respectively including "elements that are either partially or completely forward of and rearward of other structures." Inst. Dec. 6–7. Neither party disputes this construction. We incorporate herein our analysis regarding construction of the term from the Institution Decision. *See id*.

B. *Obviousness*

1. Claims 17–18

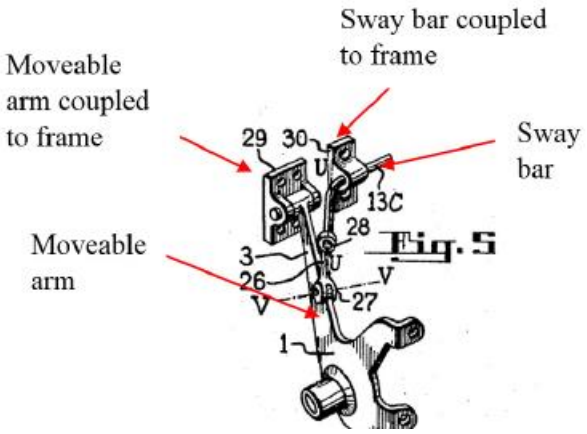
Relying on the testimony of Dr. Davis, Petitioner contends that the combination of Denney and Dangauthier would have rendered claims 17 and 18 obvious. Pet. 15–27; Ex. 1001. According to Petitioner, Denney discloses or suggests most of the elements of the vehicle as set forth in claim 17, including a frame, a plurality of ground engaging members, a power source, an operator area, and a rear drive unit. *See id*. at 15–22.

Petitioner relies on Dangauthier's first and second rear radius arm suspension systems, which include a sway bar, to address the first and second "moveable arm[s]" and sway bar as recited in claim 17. *See id*. at 22–26.[2] Petitioner also relies on Dangauthier to suggest a sway bar coupled to first and second moveable arms as set forth in claim 18. *See id*. at 26–27.

[2] Denney's A-arm suspension systems appears to include moveable arms, because they provide some limited "wheel travel," according to Dr. Davis. *See* Ex. 1001 ¶ 32. Nevertheless, Petitioner relies on using Dangauthier's radius arm and sway bar system in place of Denney's. *See* Pet. 22–26.

Petitioner notes that Denney's suspension system does not include a radius arm, but Dangauthier's suspension system does. Pet. 15. As Dr. Davis explains, Denney discloses a rear A-arm suspension system. Ex. 1001 ¶ 32; Ex. 1011, Fig. 1 (elements 100, 115). Petitioner contends that implementing a radius arm suspension, like that of Dangauthier, would have provided predictable advantages for off-road vehicles like that of Denney. Pet. 15–18 (citing Ex. 1001 ¶¶ 147–51); *see* Pet. 36 (citing Ex. 1001 ¶¶ 179–180); Ex. 1001 ¶¶ 32–33 (explaining that A-arm suspension systems generally require increasing vehicle width to increase vertical wheel travel, which may be undesirable in certain off-road circumstances, such as limited trail width)) ¶¶ 146–151 (noting other benefits).

Petitioner annotates Figure 5 of Dangauthier to explain that Dangauthier's radius arm suspension system includes sway bar 13C connected to radius arms 3 on both sides of the rear of a vehicle at pivot points attached to a frame, as follows:

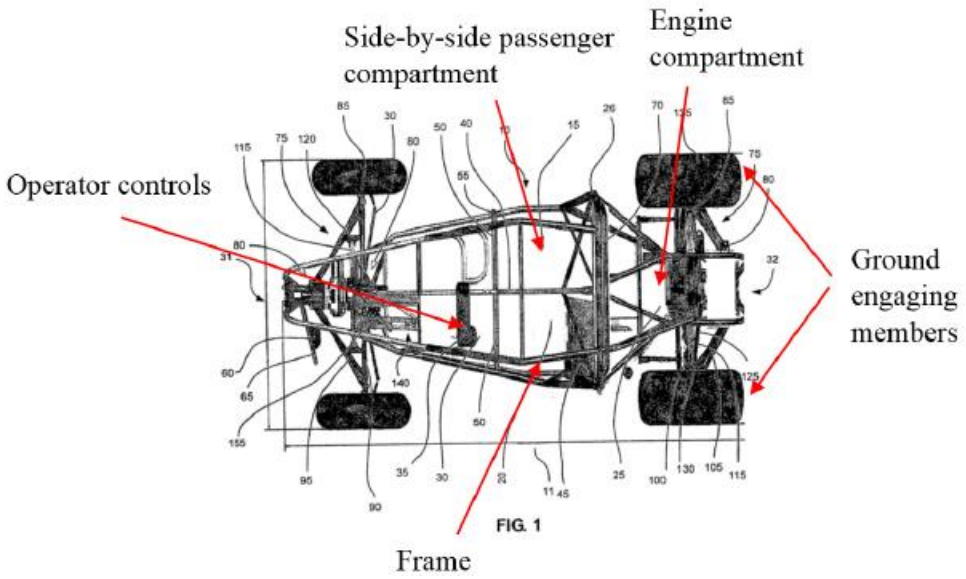


See Pet. 24 (citing Ex. 1001 ¶ 157; Ex. 1004, 3:25–35, Fig. 5). Annotated Figure 5 above represents a sway bar embodiment of Dangauthier in which sway bar 13C attaches to a frame at different locations than moveable radius arms 3. *See* Ex. 1004, 3:25–30, Fig. 5.

Regarding "the sway bar being coupled to the frame at a location forward of the power source," as claim 17 recites, Petitioner notes that Denney discloses "rearward engine compartment 25 . . . intended to house the engine, power train, and transmission of the vehicle." Pet. 20 (quoting Ex. 1011 ¶ 17). Petitioner contends that skilled artisans knew that radius arms could be mounted forward of a rear engine as a matter of design choice in order to accommodate other components, including an engine and transmission. Pet. 25–26 (citing Ex. 1001 ¶¶ 71, 114, 161). Petitioner characterizes Dangauthier as providing "a menu of options" for positioning a sway bar on a frame near the pivot points of radius arms. *See* Pet. 26 (citing Ex. 1004, Figs. 1–5; Ex. 1001 ¶ 171). As additional supporting evidence, Petitioner cites Sand Styling "[a]s relevant to this IPR," based partly on its disclosure of a common suspension system having upper and lower links mounted forward of the transmission and engine location. Pet. 15 (citing Ex. 1010, 77–78; Ex. 1001 ¶ 83); Pet. 43–44 (citing Ex. 1001 ¶¶ 174–180; Ex. 1010, 77).[3]

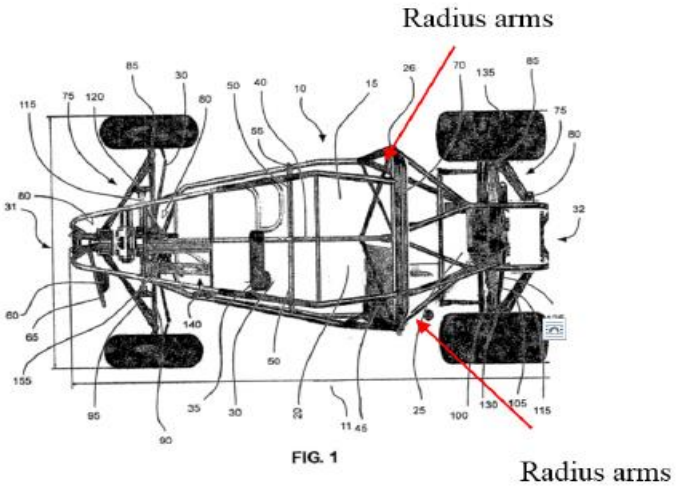
Further addressing the forward mounting location of the sway bar as recited in claims 17 and 18, Petitioner annotates Figure 1 of Denney to illustrate that Denney discloses a rear engine side-by-side vehicle, as follows:

[3] Page numbers refer to original page numbers in Ex. 1010. Discussing claims 23 and 24, which ultimately depend from claim 17, Petitioner contends that using two links coupled forward of an engine, as Sand Styling teaches, divides the stress that occurs on a single radius arm link and connection point, increases the length of the radius arm, and increases wheel travel. Pet. 41–44 (citing Ex. 1001 ¶¶ 174–180, 189–192).



Pet. 12 (citing Ex. 1011, Fig. 1); Ex. 1011 ¶ 17. Annotated Figure 1 above portrays rearward engine compartment 25 located toward the back of frame 10, and rear ground engaging members 135 (*i.e.*, wheels of various sizes). *See* Ex. 1011 ¶¶ 17, 27.

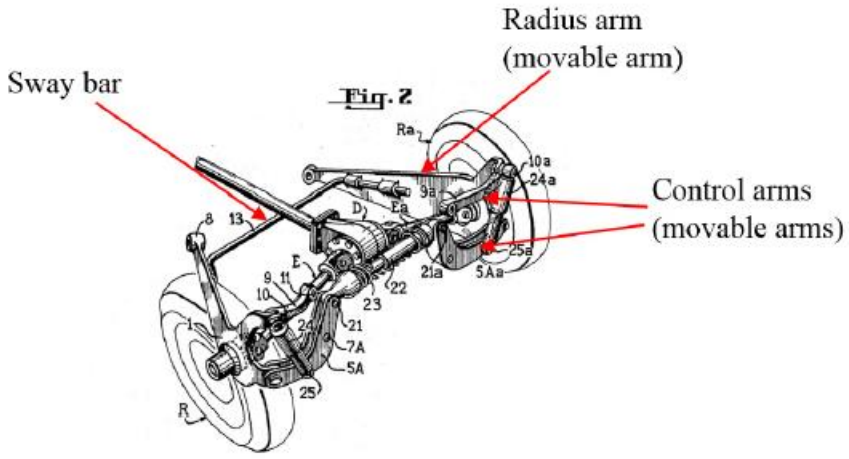
Dr. Davis also annotates Figure 1 of Denney, as follows:



Ex. 1001 ¶ 180. According to Dr. Davis, annotated Figure 1 above portrays a "natural place" to couple Dangauthier's radius arm to Denney's frame. *See id*. (explaining that attaching radius arms as identified by the arrow

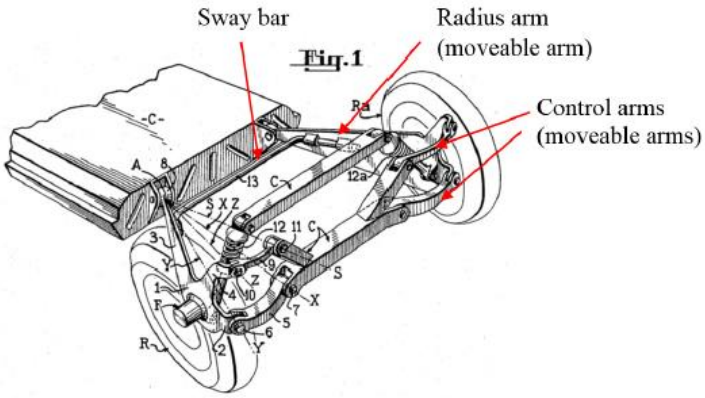
would have provided benefits of increased wheel travel with attachment to a central rigid point of the frame for stability).

Addressing another embodiment of Dangauthier's sway bar suspension system, Petitioner annotates Figure 2 of Dangauthier, as follows:



Pet. 11. Annotated Figure 2 of Dangauthier depicts sway bar 13 coupled to radius arms. Radius arms 3 (integral arm of member 1) couple to frame C at multiple pivot points 8, 7A, and 11—i.e., forward of differential D at points 8 and rearward of the differential D at points 7A and 11. *See* Ex. 1004, 2:63–71, Fig. 2.

In a similar arrangement, Dangauthier discloses radius arms 3 coupled to frame C via pivot bearings 8 on frame body C. Ex. 1004, Fig. 1. Accordingly, sway bar 13 also may be coupled to the frame at least via pivot point 8, as illustrated by Petitioner's annotation of Dangauthier's Figure 1, reproduced below:



Pet. 6. Annotated Figure 1 above represents one of Dangauthier's rear suspension system embodiments, without showing differential D, but indicating coupling of the system to the rear of frame/body C at three points. *See* Ex. 1004, 1:63–67 (describing "rigidly integral" "body and chassis" C), 2:62–64 (noting that Figure 2 lacks a depiction of body parts "to render the drawing more clear").

In other words, Figures 1, 2, and 5 of Dangauthier depict different sway bar 13 and coupling embodiments. *See* Pet. 6–7, 10–11. Relying on the testimony of Dr. Davis, Petitioner contends that the Figure 5 "configuration allows for coupling the sway bar to both the radius arm and the frame, which has known stability advantages and results in maximum design flexibility, as it allows for coupling the radius arm to the frame at a different location than the sway bar." Pet. 11 (citing Ex. 1001 ¶ 70). Discussing Figure 1, Dr. Davis contends that the "sway bar . . . is slightly set back from the pivot point at which the radius arms couple to the frames." Ex. 1001 ¶ 69.

Regarding stability, Dangauthier teaches that its sway bar and radius arm suspension system provides "anti-banking." *See* Ex. 1004, 2:46–47. Petitioner also explains that positioning a sway bar farther from the pivot

point of the moveable arm ("i.e., beneath or behind an engine"), may introduce unnecessary bending, whereas positioning a sway bar closer to the pivot point still provides stability. *See* Pet. 25 (citing Ex. 1001 ¶¶ 106, 160).

Relying further on Dr. Davis, Petitioner advances several reasons for modifying Denney's frame and radius arms to include Dangauthier's suspension system with a sway bar forward of the engine, including providing known sway bar benefits (e.g., stability), minimizing bending of the sway bar, providing room for an engine and other components, and allowing the engine to "sit lower in the vehicle (e.g. without interference from the sway bar), which also has the known advantage of contributing to [a] lower center of gravity, one of Denney's goals." Pet. 25 (citing Ex. 1011 ¶¶ 7, 17; Ex. 1001 ¶¶ 106, 160, *see also* Pet. 9–11, 16–18, 24–26 (discussing advantages, including increased stability, large vertical wheel movement, compact suspension, and protection against vehicle rollover); Ex. 1001 ¶¶ 37–47, 69–71 (discussing benefits of sway bars, including Dangauthier's suspension system, for example, providing weight transfer during turns to prevent rolling over and consequent injury or deaths).

Petitioner also contends that artisans of ordinary skill would have been motivated to use Dangauthier's sway bar and radius arm suspension system in Denney's vehicle, because it locates the suspension system outside the power train assembly, thereby allowing maximum design flexibility "in terms of both the size and location of the vehicle's power train." *Id*. at 16. Based on its showing, Petitioner contends the proposed modification would have been "merely the use of a known technique" to "improve similar devices." *Id.* at 17 (quoting *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) ("When a patent 'simply arranges old elements with each performing

the same function it has been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious.") (citation omitted)).

In response, Patent Owner disputes Petitioner's allegation of motivation to combine Dangauthier with Denney. Patent Owner contends that Petitioner "is simply wrong" that Dangauthier's radius arm would increase vertical wheel travel as compared to Denney's A-arm suspension (given a certain vehicle width). PO Resp. 21. Patent Owner contends that two of Petitioner's reasons for combining "are redundant and the Board should not credit them." *Id*. Patent Owner also contends that the rationale based on *KSR* is "a conclusory statement," that if followed, "results in a person of ordinary skill in the art assembling something other than the patented invention." *Id*.

Addressing Petitioner's allegation of increased vertical wheel travel of Dangauthier's radius arm system as compared to Denney's A-arm system, according to Patent Owner, "Petitioner's expert admitted [that] simply adding a radius arm (or lengthening an existing radius arm) will not give you increased vertical travel." *Id*. at 23 (citing Ex. 2044 ¶128). To further support its argument, Patent Owner cites "real world" examples of vehicles having A-arms with narrower width than other vehicles with radius arms. *Id*. Patent Owner explains that the travel would be increased only by lengthening the control arms. *Id*. at 23–24.

Addressing the alleged advantages related to freeing up component and engine space, Patent Owner contends that Denney already locates the vehicle's suspension components outside the area in which the other functional components are located (outside the frame and engine

compartment), so that any rationale based on that motivation merely shows hindsight as a "redundant" motivation. *See* PO Resp. 24–25. Patent Owner makes a similar argument regarding Denney's sway bar. *See id*. at 26, 28–29. Patent Owner also contends that using a known technique is not motivation; it is hindsight. *Id*. at 27. Patent Owner additionally contends that Petitioner failed to provide a sufficient reason to couple a sway bar forward of an engine, arguing that asserting a "design choice" is insufficient. PO Resp. 29–30.

Patent Owner argues that the Board incorrectly characterized the prior art as describing a finite set of predictable locations for a sway bar in the Institution Decision, as evidenced by "Petitioner's failure to present any evidence that anyone ever made such a [forward coupling] choice in the course of 40+ years of vehicle suspension design[, which] shows that the choice was not 'routine.'" *Id*. at 30. Patent Owner contends that "there is ample evidence of rear sway bars fixed at every location with respect to the engine except the specific one Patent Owner claimed." *Id*. at 31 (citing Ex. 2044 ¶¶ 35–46, 66, 68–71). Patent Owner points out that "[t]he Federal Circuit has observed that when an invention on its face appears 'simple,' that may actually be strong evidence of *nonobviousness*, particularly in fields of crowded art." *Id*. at 33 (citing *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996); *McGinley v. Franklin Sports, Inc*., 262 F.3d 1339, 1351 (Fed. Cir. 2001).

Patent Owner also argues that Denney's sway bar, mounted "over the engine," is "more than adequate to confer stability," Petitioner identifies no "problem" with it, nothing suggests mounting it further forward or adding a forward radius arm, and mounting it further forward would not minimize

bending in the legs. *See id*. at 35–46 (citing Ex. 2044 ¶¶ 138–139). Patent Owner also contends that Dangauthier teaches a sway bar mounted rearward of an engine in a compact system that would not provide space for an engine, and Dangauthier suggests a "rear-wheel drive vehicle" even "if one of ordinary skill was motivated to look to Dangauthier." *Id*. at 47.

Patent Owner's arguments are not persuasive. The mere age of the prior art reference to Dangauthier does not undermine its probative force as a teaching directed to the mounting using radius arms with a sway bar at or near the pivot point of the radius arms to obtain predictable sway bar stabilizing benefits and radius arm benefits. *See In re Wright*, 569 F.2d 1124, 1127 (CCPA 1977) (citation omitted) ("The mere age of the references is not persuasive of the unobviousness of the combination of their teachings, absent evidence that, notwithstanding knowledge of the references, the art tried and failed to solve the problem."); *In re Ethicon, Inc*., App. No. 2015-1696, 2017 WL 24641, at *6 (Fed. Cir. Jan. 3, 2017) (quoting *Wright* with approval and noting "Ethicon presented no evidence of a long-felt need or the failure of others"). Similar to the situation in *Ethicon*, Patent Owner presents no evidence of a long-felt need or the failure of others in implementing a sway bar and radius arm system such as Dangauthier's. *In KSR*, the Court instructed that "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions," 550 U.S. at 417, and apply "an expansive and flexible approach" to obviousness, *id.* at 415; *see* Pet. 18 (quoting *KSR*, 550 U.S. at 417: "When a patent 'simply arranges old elements with each performing the same function it has been known to

perform' and yields no more than one would expect from such an arrangement, the combination is obvious.").

Patent Owner's arguments ignore the combination. Petitioner relies on the combination of Denney and Dangauthier, including Denney's disclosure of an engine located in a rearward portion of a frame, and Dangauthier's disclosure of a radius arm suspension system coupled to a frame location forward of a rear differential D. *See* Pet. 17–18, 20–21, 24–25; Ex. 1004, Fig. 2; Ex. 1011, Fig. 1; Pet. Reply 5–6, 9–10, 13–14; Ex. 1001 ¶¶ 150; Pet. Reply 5–6, 9–10. Petitioner shows persuasively that faced with Denney's rear engine teachings and Dangauthier's applicable sway bar and radius arm teachings, skilled artisans readily would have recognized the benefit of Dangauthier's sway bar as providing for a reduction of a center of gravity as applied to Bennett's engine, and would have recognized other benefits asserted by Petitioner as outlined above, including compactness (with the sway bar running along the radius arms), flexibility in design (different pivot points for sway bar and radius arms), increased wheel travel (due to radius arms), stability (due to sway bar and spreading of components), and minimizing of sway bar bending in a central region thereof. *See, e.g.*, Pet. Reply 15 ("The fact that a proposed benefit might also be obtained in other ways is immaterial . . . . A lower center of gravity was a known benefit before 2010 . . . ."); Ex. 1001 ¶¶ 106, 147–150.

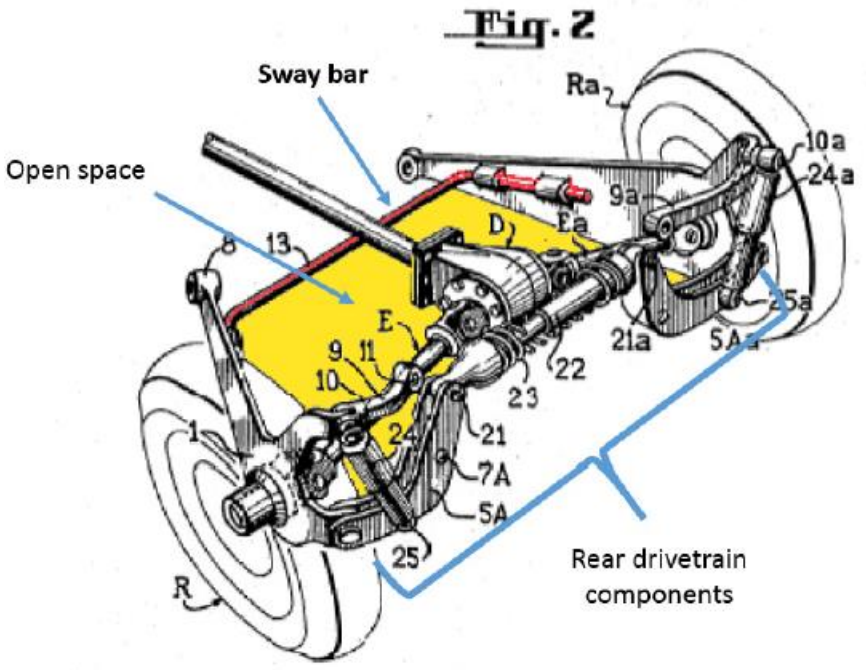
Contrary to Patent Owner's arguments (*see* PO Resp. 47), Dangauthier does not limit its suspension system to forward located or any particular engine location. Rather, Dangauthier's "invention relates *in a general way to vehicle suspensions*, and more particularly to the suspensions of the rear wheels which may be the driving wheels." Ex. 1004, 1:11–12

(emphasis added); *see* Pet. 10–11 (pointing out that Dangauthier's system prevents roll-over in "off-road vehicles" and "allows for coupling the radius arm to the frame at different locations than the sway bar" to provide flexibility (citing Ex. 1001 ¶ 70)), 24–25 (noting that Dangauthier suggests mounting locations near the pivot points of radius arms).

Contrary to Patent Owner's related argument that using Dangauthier's system in Denney's vehicle would undermine Dangauthier's desire for a compact system (*see* PO Resp. 47 (citing Ex. 1004, 1:15–17)), not only is this a tradeoff that the record shows would have been well within the abilities of one of ordinary skill to accommodate, Dangauthier's expressed compactness goal could have been maintained in rear engine systems also, as suggested by its general suspension teachings. Ex. 1004, Figs. 1–5; 1:11–16. Dangauthier also suggests that running the sway bar along a radius arm and across a frame utilizes space adjacent to the radius arm and frame, keeping the space for the sway bar relatively compact for a variety of vehicles. *See* Ex. 1004, Figs. 1–5; 1:11–16; Pet. 25 (providing a sway bar forward of an engine frees up space in Denney's rear compartment that contains engine and other components and lowers the center of gravity). Also, Dangauthier's desire for a compact suspension appears to be relative to wheel size or other considerations, and Dangauthier's various figures and disclosure do not fix the radius arm length, suggesting a variation thereof. S*ee* Ex. 1004, Figs. 1–3; 1:15–17. In addition, Dangauthier's stated goals include not only a compact suspension system and the noted sway bar stability benefits, but "a particularly simple suspension having a small number of pivotal connections," and compensation for "the rising movement

of the body . . . as a result of longitudinal decelerations brought about by braking." Ex. 1004, 1:19–21, 31–32.

Further suggesting the modification, Dangauthier's space for holding differential D appears to be similar in location, if not also in size, to Denney's space 25 for holding an engine and transmission. *Compare* Ex. 1004, Fig. 2, *with* Ex. 1011, Fig. 1; Pet. 25 (providing a sway bar forward of an engine frees up space in Denney's rear compartment that contains engine and other components and lowers the center of gravity); Pet. 17 (skilled artisans would have been motivated by a desire to "improve similar vehicles" using "a known technique"). To further emphasize its point about the similarities of the two teachings and Dangauthier's suggestion to mount a sway bar forward of an engine location (i.e., near the pivot points of a radius arm), Petitioner provides the following annotated version of Dangauthier's Figure 2:



Pet. Reply 10 (annotating Figure 2 of Dangauthier). Petitioner's annotated Figure 2 of Dangauthier represents a similar engine area to that of Denney. *See id*.; Pet. 15–18; Ex. 1001 ¶¶ 146–151; Ex. 1028 ¶¶ 6–8, 16. Finally, as noted above, skilled artisans already had been mounting suspension systems coupled "forward of the engine and transmission," as evidenced by Petitioner's citation to Sand Styling. Pet. 15 (citing Ex. 1010, 77–78), Pet. 43–44 (citing Ex. 1001 ¶¶ 174–180; Ex. 1010, 77).

Regarding the increase in wheel travel, Dr. Davis explains that radius arms, such as Dangauthier's, provide "increased vertical wheel travel, while maintaining the width of the vehicle." Ex. 1001¶ 147. On the other hand, A-frame suspensions require an increase in the wheel base width to obtain more vertical wheel movement, which would be undesirable for trail riding, and Dr. Davis notes that Denney refers to a goal of decreasing the risk of rollover and increasing stability. Ex. 1001 ¶¶ 32 (annotating Ex. 1011, Fig. 1), 80 (citing Ex. 1011 ¶¶ 5–6). Denney also discloses using additional suspension members for enhanced suspension in rough terrain, and a variety of wheel sizes, suggesting flexibility in Denney's system and providing another reason to implement Dangauthier's suspension system and modify that of Denney. *See* Ex. 1011 ¶¶ 26–27.

Replying to Patent Owner's arguments that other horizontal parts (*i.e.*, horizontal control arms) of a radius arm system also would limit vertical wheel travel, Petitioner responds that radius arms provide greater wheel travel "within the same width parameters" and contends that Patent Owner does not address the proposed substitution. *See* Pet. Reply 4–5 (citing Ex. 1001 ¶ 147; Ex. 1028 ¶ 15; Ex. 2013, 75:3–21, 77:8–19, 78:5–11). As Dr. Davis persuasively explains in response to Dr. Moskwa, "the whole

point of implementing Dangauthier's trailing arm suspension would be to *eliminate* the forward member 100 (part of an A-arm suspension piece)." Ex. 1028 ¶ 15. He also explains that even if Dangauthier's suspension also would be limited by

> the length of [horizontal] link 9 as Dr. Moskwa suggests (paragraph 129), this length can be easily adjusted as it is connected to the frame at a point which is located behind the axle. In incorporating this trailing arm suspension into the frame of Denney, for example, the location for attachment of the rear control arms (used in place of the A-arms) shown near callout 80 of Figure 1 could simply be moved further back—lengthening the control arms—to allow for additional vertical suspension travel in the same width.

Id.

The record supports Dr. Davis's testimony on this point. Patent Owner's argument that "one would have to lengthen the control arms" and that "the real world" supports its position with other configurations (*see* PO Resp. 23–24 (citing Ex. 2044 ¶¶ 31–32)), fails to undermine sufficiently Dr. Davis's testimony that skilled artisans easily could have attached a longer control arm to a frame, without increasing vehicle frame width, in order to obtain the benefit of increased wheel travel for a given vehicle width. At the least, a radius arm system would have provided more flexibility while obtaining the same or greater wheel travel. *See* Ex. 1028 ¶ 15 (citing easy adjustment in frame connection points behind the wheel axle). Petitioner also points out persuasively that any real world examples that employ radial arms in wider vehicles as compared A-arms in narrower vehicles only shows "[t]here are many reasons that manufacturers may choose one suspension over another." *See* Pet. Reply 4 n.1 (citing Ex. 1026, 50:22–51:25 (fairly characterizing Dr. Moskwa's testimony as showing "that he did not know

whether there was any relationship between the width of the vehicles identified by Polaris and their suspension travel")); *see infra* Section II.B.5 (discussing wheel travel further with respect to Motions for Observation). In addition, claim 17 requires a radial arm and does not require control arms, so that Patent Owner's arguments about the effect of control arms are not commensurate in scope with claim 17.

Patent Owner acknowledges that "if the sway bar is in the rear compartment then there is no freed-up space in such compartment." Prelim. Resp. 28. Nevertheless, Patent Owner correctly contends that to keep the space free and allow the engine to sit low, the sway bar also could be positioned above or rearward of the engine "as actually shown in Dangauthier," or "anywhere else not directly underneath the lowest part of the engine"—including forward of the engine. *See* Prelim. Resp. 28–29. At most, Patent Owner's arguments suggest three main places to couple a sway bar to a frame in a vehicle having a rear engine to keep the space "freed-up" (*see id.*), amounting to a predictable and finite set of choices. *See* Inst. Dec. 16 (making this preliminary point about a finite set of choices). Patent Owner disagrees, contending, among other things, that if a forward location would have been a predictable design choice, "the prior art would presumably be replete with evidence of *all* of those choices." PO Resp. 31 (Ex. 2044 ¶¶ 35–46, 68–71).

Petitioner persuasively replies that the prior art need not describe every single possible choice "before the location is deemed an obvious design choice" based on a sufficient reason (or a finite number of predictable locations). *See* Pet. Reply 14 (citing *Plasmart, Inc. v. Kappos*, 482 Fed. Appx. 568, 573–574 (Fed. Cir. 2012) (component location would have been

on obvious design choice). In addition, Dangauthier suggests the forward location, as noted above, by disclosing it relative to a similarly situated differential D and relative to forward coupling near pivot points of radius arms. *See, e.g.*, Ex. 1004, Fig. 2. Patent Owner concedes that "a person of skill in the art following Dangauthier would have coupled the sway bar to the frame where Dangauthier shows." *See* Prelim. Resp. 29. As Petitioner argues, using Dangauthier's radius arm suspension would increase vertical wheel travel for a set vehicle width, and locating the radial arm suspension system outside the engine/differential compartment, as Dangauthier suggests, allows for increased flexibility of component placement, which in turn leads to increased balance and drivability. *See* Pet. 54; Pet. Reply 2–6 (citing Ex. 1001 ¶¶ 70, 147).

In simple terms, as Dr. Davis explains, sway bars provide "flatter cornering" (Ex. 1001 ¶ 43) and "act to prevent a vehicle from rolling over and seriously injuring or killing a passenger" (*id*. ¶ 47). Petitioner adds that it was well known that off-road vehicles were "aggressively" driven in difficult terrain so that sway bars that provide stability would have been important. Pet. 16–17 (citing Ex. 1001 ¶¶ 37–38, 43; Ex. 1004, 2:46–47, 3:13–24). Therefore, even though Denney already employs a sway bar as Patent Owner argues (PO Resp. 46–47), skilled artisans still would have recognized, at the least, that Dangauthier's system also provides this "anti-banking" stability in a "compact" radial arm system that uses "conventional, simple and cheap forms" of pivotal connections. *See* Ex. 1004: 1:15–22, 3:13–15, Figs. 1–5.

Contrary to Patent Owner's argument that Dangauthier's "entire suspension unit, including the rear sway bar," must be mounted "rearward of

the engine" (PO Resp. 47), Dangauthier's sway bar and radius arms provide this "anti-banking" stability "*in a general way* to vehicle suspensions . . . and more particularly the suspensions of the rear wheels which may be the driving wheels." *See* Ex. 1004, 1:11–14 (emphasis added), 2:46–47. That is, Dangauthier implies or suggests advantages for using its sway bar system with its radius arms, in all types of vehicles, including rear engine vehicles in order to promote anti-banking and other benefits. *See* Ex. 1001 ¶¶ 37–38, 69–70 (noting Dangauthier's goals of compact suspension in generic vehicles, while allowing "for significant wheel travel," design flexibility, and stability advantages). Dangauthier's sway bar runs closely along the radius arms and can be mounted near the radial arm pivot points (*see* Ex. 1004, Figs. 1–4), thereby contributing to unit's "compact[ness]" (*see id.* at 1:15–17), and suggesting it would have been beneficial in Denney's vehicle for that reason in addition to providing anti-banking stability, increased vertical wheel travel, a low center of gravity, and decreased sway arm bending stress, while freeing up space for placement of other components in order to better balance their weight distribution.

Regarding sway bar bending, the record also shows that skilled artisans would have recognized that Dangauthier's sway bar system would have minimized bending stress in the central part of a sway bar and would have provided anti-banking and other benefits. *See* Pet. Reply 16–17 (citing Ex. 1028 ¶¶ 8–11, 16; PO Resp. 36–37. For example, as Petitioner notes, Patent Owner "concedes that '[m]ounting the sway bar bushings (which hold the sway bar to the frame) towards the outer lateral ends of the sway bar, adjacent to the sway bar legs, can minimize bending in the straight central part of the sway bar.'" Pet. Reply 16 (quoting PO Resp. 36–37; citing Ex.

1026, 93:19–94:2 (asserting Dr. Moskwa agrees); Ex. 2044 ¶ 82 (Dr. Moskwa explaining that central sway bar stress decreases by placing mounting bushings outward toward the legs).

Patent Owner's contention that bending stress also could be minimized in a central part of the sway bar by locating a sway bar in other places or by keeping Denney's sway bar in place, instead of using Dangauthier's well-known system, does not rebut sufficiently Petitioner's showing. *See* PO Resp. 35–37. Petitioner shows persuasively that it would have been obvious to implement Dangauthier's system similar to the manner in which Dangauthier discloses it, albeit as applied to Denney's rear engine vehicle, in order to provide benefits of freed-up component space, anti-banking to prevent roll-over, minimal stress in a central part of a sway bar, increased vertical stroke with a radius arm system, and a lower center of gravity. *See* Ex. 1001 ¶¶ 37–46, 148–151, 160; Ex. 1028 ¶¶ 8–11, 16; Pet. 15–18; Pet. Reply 16–18.

Petitioner also persuasively responds to Patent Owner's argument that a forward-mounted sway bar may impose additional stresses on the sway-bar legs—i.e., Patent Owner's argument essentially shows "the mere existence of . . . tradeoffs," which does not negate obviousness. *See* Pet. Reply 18; *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000) ("The fact that the motivating benefit comes at the expense of another benefit . . . should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another.")). Petitioner similarly responds persuasively that any increase in stress could have been overcome in a predictable fashion by using "different/additional materials, shapes/thicknesses, if necessary." Pet. Reply 18 (citing Ex. 1028 ¶ 12).

Petitioner also persuasively points out that similar to other prior art vehicles, Denney's frame "is wider in the middle of the vehicle, and tapers toward the rear of the vehicle." Pet. Reply 17 (citing Ex. 1028 ¶ 11; Ex. 1003, Fig. 6). "Because of this, mounting the sway bar near Denney's wider frame section (e.g., near the pivot point of the radius arm in the Denney/Dangauthier combination), allows for the sway bar bushing to be placed nearer to the outer ends of the sway bar, thereby reducing bending stress on the sway bar." *Id*. (citing Ex. 1028 ¶¶ 8–11, 16; Ex. 1026, 154:6–17; Ex. 1011, Fig. 1; Ex. 2013, 83:12–19, 97:14–18)). Although Patent Owner challenges Dr. Davis's testimony in it its Motion for Observation, the challenge is not persuasive, because it shows that Denney's system uses wide bushing mounts, which Dangauthier suggests employing in a wide forward part of Denney's frame as Petitioner contends. *See* Paper 35, 10–11 (Observation 11); Paper 40, 6–7 (addressing Observation 11). For these additional reasons, Petitioner persuasively shows that the combination of Denney and Dangauthier suggest mounting a sway bar forward of Denney's engine and "near the pivot point of the radius arm," as the arrangement would have been known to limit bending in the middle of the sway bar, and provide other known benefits described above. *See id*.; Ex. 1028 ¶¶ 9–12; Ex. 1001 ¶¶ 41 (placing sway bar at or near radius arm pivot points reduces bending stress), 106, 160.

On balance, considering all of Patent Owner's arguments and the record evidence, Petitioner persuasively shows that employing Dangauthier's radius arm and sway bar system in Denney's vehicle forward of its engine amounts to routine engineering work involving the mere arrangement of known prior art vehicle components for their intended

purposes. Petitioner sets forth numerous reasons that explain why implementing Dangauthier's sway bar and radius arm suspension system at a frame location forward of an engine amounts to a predictable design choice supported by providing known benefits with at most some design trade-offs. *See* Pet. Reply 2–17. In addition, Petitioner persuasively points out that many of Patent Owner's arguments rest on re-designing Dangauthier's system——i.e., "re-engineer[ing] Dangauthier's sway bar to face the other way and be located rearward of Denney's engine. In doing so, Polaris simply disregards the fact that Dangauthier ***already teaches*** a sway bar in the claimed orientation." *Id*. at 11 (citing Ex. 1028 ¶¶ 6–8; PO Resp. 47–48).

In Papers 31 and 32, we authorized additional briefing to address Patent Owner's assertion, *inter alia*, that Petitioner improperly added new and improper rationale to combine the references. *See* Papers 31 and 32 (clarifying Paper 31); Ex. 3001. According to Patent Owner, the Petition does not assert that locating a sway bar forward of an engine provides for ease of access to the engine for maintenance and similar purposes, but the Reply Brief and Reply Declaration belatedly make that assertion. *See* Paper 33, 3 (citing Pet. Reply 11, Ex. 1028 ¶¶ 8, 19). Petitioner replies that the new rationale constitutes a proper response to Patent Owner's arguments that Denney employs a sway bar in other locations. *See* Paper 38, 2.

Petitioner's reply is persuasive. *See* Paper 38. Patent Owner's Response includes the argument that "[b]ecause Denney already provides a sway bar, the fact that Dangauthier's suspension includes a sway bar cannot be a motivation to combine." PO Resp. 26–27. Pointing out an additional advantage of using Dangauthier's sway bar location, instead of Denney's

location, properly responds to Patent Owner's argument and similar arguments stressing that Denney's vehicle already has a sway bar. Nevertheless, even though this additional rationale supports obviousness and responds properly to Patent Owner, it is not necessary to our holding, given other reasons advanced by Petitioner.

In summary, Petitioner shows persuasively that using Dangauthier's radius arms and sway bar mounted forward of Denney's rear engine vehicle would have amounted to no "more than the predictable use of prior art elements according to their established functions." *See KSR* 550 U.S. at 417; Pet. 15–25. "When a patent 'simply arranges old elements with each performing the same function it has been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR* 550 U.S. at 417 (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)).

Claim 18 depends from claim 17. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney and Dangauthier would have rendered claim 18 obvious. Pet. 26–27. Petitioner's showing as to claims 17 and 18 is persuasive and we adopt it as our own. *See* Pet. 15–27. Patent Owner does not address claim 18 separately from claim 17. *See* PO Resp. 48.

Based on the foregoing discussion, and considering the evidence of nonobviousness addressed below, Petitioner persuasively shows the unpatentability of claims 17 and 18 by a preponderance of the evidence.

2. Claims 19–22

Claim 19 depends from claim 18 and further recites a "front drive" unit (creating four-wheel drive or FWD) coupled to the power source. Claim 20 is similar to and depends from claim 19, and adds a requirement for a CVT. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, and Bennett would have rendered claims 19 and 20 obvious. Pet. 27–33; Ex. 1001 ¶¶ 51–52, 171–172. Petitioner contends that it would have been obvious to modify the Denney/Dangauthier combination of claims 19 and 20 to include a FWD vehicle with a CVT as Bennett teaches. *See* Pet. 29–33 (citing Ex. 1001 ¶¶ 170, 175; Ex. 1005, Fig. 10A, ¶¶ 63, 66). Petitioner advances several well-known and predictable benefits for using FWD, including better traction and acceleration. *Id*. (citing Ex. 1001 ¶ 170; Ex. 1020); Pet. Reply 19. Petitioner explains that adding front wheel drive would have involved minor and routine modifications ("if any") and "would have been merely the use of a known technique (*e.g.*, implementing four-wheel drive) to improve similar devices (*e.g.*, four-wheeled, all-terrain vehicles)." Pet. 31 (citing Ex. 1001 ¶ 170; Ex. 1001 ¶ 170; *KSR*, 550 U.S. at 417). Petitioner also explains that a CVT would have been known to provide a low-cost transmission alternative, while providing a smoother ride, because CVTs use a continuous, as opposed to a step, gear ratio variation. Pet. 32–33 (citing Ex. 1001 ¶ 172); Pet. Reply 19–20.

Patent Owner responds that "[e]ven assuming that it would be obvious to convert Denney into a four-wheel-drive vehicle, doing so would crowd the engine compartment and rear frame portion forward of the engine." PO

Resp. 49 (citing Ex. 2044 ¶ 143–144). Patent Owner makes materially the same argument with respect to adding a CVT. *See id*. at 49–50 (citing Ex. 2044 ¶¶ 142–145). Patent Owner concludes that this crowding would "lead a person of ordinary skill to follow conventional design principles—couple the rear sway bar at a location that is not forward of the engine. *Id*. (citing Ex. 2044 ¶¶ 145).

Patent Owner's arguments turn on motivation with respect to claim 17, and focus on an unpersuasive bodily incorporation allegation—i.e., adding a front drive and CVT would further crowd Denney's system. *See* PO Resp. 48–50; Pet. Reply 20 (arguing that the "references do not need to be bodily incorporated to show obviousness"). We incorporate our findings above regarding motivation with respect to claim 17 herein.

Contrary to Patent Owner's arguments that further crowding defeats motivation, the record shows that artisans of ordinary skill readily would have been able to fit components into tight spaces in order to accommodate desired components, motivated by the reasons for using a sway bar as set forth with respect to claim 17, and the reasons for using a FWD and CVT with respect to claims 19 and 20. *See* Pet. 15–33. Dr. Moskwa's testimony that Denney's "area forward of the engine *would become much more crowded* with structure" if one adds a front drive unit and a CVT shows that skilled artisans knew how to place components into tight spaces and were motivated to do it. *See* Ex. 2044 ¶ 144 (emphasis added). Dr. Davis supports this finding by testifying that "Bennett's front drive shaft could readily be modified to the length necessary to run between Denney's transmission and front axle assembly . . . without interfering with the purposes of [an existing] truss." Ex. 1001 ¶ 170. Dr. Davis also testifies

that "[b]ased on my experience, such modifications were routine." *Id.* It follows that skilled artisans readily could have mounted a sway bar of the desired size within the scope of the claims so that it extends along a radius arm and frame structure, as Dangauthier suggests (*see* Ex. 1004, Figs. 2–4), even with added CVT and front drive structure. Denney's existing transmission structure further implies or suggests that replacing it with a CVT would not add appreciable crowding. *See* Ex. 1001 ¶ 171; Pet 32–33. And as noted above, Dangauthier's compact system includes running a sway bar closely along radius arms and frame structure at flexibly-spaced pivot points, which lends itself to providing more room for components by occupying small existing spaces adjacent the radius arms and frame structure. *See* Ex. 1004, Figs. 1–5.

Claims 21–22 depend directly or indirectly from claim 20. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, and Bennett would have rendered claims 21 and 22 obvious. Pet. 33–38. Petitioner's showing regarding claims 19–22 is persuasive, and we adopt it as our own. Pet. 27–38. Patent Owner does not address claims 21–22 separately from claims 19 and 20. PO Resp. 50. Petitioner shows persuasively that claims 19–22 involve the arrangement of prior art elements with each performing the same function it has been known to perform to yield a predicable result. *See KSR*, 550 U.S. at 417.

Based on the foregoing discussion, and considering the evidence of nonobviousness addressed below, Petitioner persuasively shows the unpatentability of claims 19–22 by a preponderance of the evidence.

3. Claims 23–28

Claim 23 depends from claim 20 and further recites

> wherein the first suspension includes an upper link and a lower link, the upper link and lower link extending generally along a longitudinal extent of the vehicle, a rear portion of the upper link being further spaced from the vertical centerline of the longitudinal plane of the vehicle than a front portion of the upper link.

Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, Bennett, and Sand Styling would have rendered claim 23 obvious. Pet. 39–42 (citing Ex. 1001 ¶¶ 186–190; Ex. 1010, 77). Petitioner contends that it would have been obvious to modify the Denney, Dangauthier, and Bennett combination of claim 20 to include upper and lower links in place of Dangauthier's single radius arm, as Sand Styling teaches and as claim 23 requires. *See* Pet. 39–42 (citing Ex. 1010, 77). Petitioner advances several well-known and predictable benefits for using upper and lower links, including dividing the stress into two arms instead of using a single radius arm, generally providing two lighter components, "because each arm undergoes less stress," and providing more control, because "there are two pivot points which can be separated thus providing more control over the suspension travel." *Id*. at 40–42 (citing Ex. 1001 ¶ 189–190); Pet. Reply 20–21.

In response, Patent Owner identifies various alleged disadvantages with a multi-link system, including a requirement for more space relative to Dangauthier's radius arm, and a requirement for design adjustments such as adding structure in the form of additional linkage points, for example. *See* PO Resp. 52. Patent Owner contends that Dangauthier's radius arm requires

a single pivot as part of its compact suspension system, such that a skilled artisan would avoid using two pivots. *Id*. (citing Ex. 2044 ¶ 147; Ex. 1004, Fig. 1, 1:15–17). Patent Owner also points out that Dangauthier's radius arm and sway bar couples to a control arm, and "Petitioner provides no motivation for both dividing a radius arm . . . and also changing Denney's sway bar so that it is positioned forward of the engine and coupled to one of such links rather than keeping the sway bar right where it is and coupling it to a control arm." *Id*. Patent Owner also contends that substantial transverse loads in the center of Dangauthier's radius arm would preclude "long, slender links such as those shown in Sand Styling. *See id.* (citing Ex. 2044 ¶ 14[8]).

Petitioner replies that Patent Owner at most identifies trade-offs and does not refute the advantages asserted. Pet. Reply 20–21 (citing *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000) ("The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another.") In its Reply, Petitioner reiterates the benefits of increased control and divided stress, which Patent Owner does not refute. Pet. Reply 20 (citing Ex. 1001 ¶¶ 189–191). Addressing Patent Owner's allegation that Sand Styling's arms would be incapable of withstanding center stress, Petitioner points to Dr. Moskwa's deposition testimony indicating that artisans of ordinary skill would have known that different materials could accommodate different loads. *See* Pet. Reply 21 (citing Ex. 1026, 26:6–24; 30:21–32:33).

During his deposition, Dr. Moskwa concedes that "somebody of ordinary skill would take into account the weight, size, strength, material,

shape of a control arm when selecting a control arm during vehicle design." Ex. 1026, 32:16–21 (answering "[t]hose may be some of the considerations"). These strength of material, size, and weight considerations would apply to most parts of the suspension system, including radius arms. *See, e.g.*, Ex. 1026, 32:10 ("You need to look at the whole system."); Ex. 1028 ¶ 12) (testifying similarly that stress in sway bar legs could have been overcome in a predictable fashion by using "different/additional materials, shapes/thicknesses, if necessary"); Pet. Reply 18.

Although Patent Owner argues that upper and lower links would not have been obvious, Patent Owner appears to contend that the disclosed upper and lower control arms simply constitute *different (upper and lower) sides connected together to form one radius arm*—as opposed to separate individual links. *See* PO Resp. 6 (pointing to upper connecting arm 592B and lower connecting arm 594B on both sides of radius arm 526B (citing Ex. 1002, Fig, 35)). The '719 patent similarly describes the two connecting arms as welded or otherwise connected together via two cross and two end members, essentially forming single radius arm 526B. *See* Ex. 1002, 23:33–48. This disclosure, which corroborates Patent Owner's description of the lower and upper links (PO Resp. 6), means that claim 23 reads on dividing Dangauthier's radius arm into upper and lower pieces and then welding or somehow joining them together to form a single radius arm—in other words, making separable parts out of an integral part but joining the separable parts back together.

In any event, Patent Owner's contentions that Dangauthier's radius arm could not have been split into two bars, as Sand Styling suggests, to accommodate Dangauthier's sway bar in a compact system, is not

persuasive. Only minor modifications, at most, would have been required to run all three bars generally together, generally keeping the system relatively compact if so desired, even if different pivot points resulted. *See* Pet. 42 (asserting "a person of ordinary skill would . . . have understood that the multi-link configuration (as suggested by Sand Styling) would have been readily applied to the resulting combination of Denney in view of Dangauthier (having a suspension as suggested by Dangauthier), to obtain the known benefits of an upper and lower link, without otherwise negatively altering the suggested suspension") (citing Ex. 1001 ¶ 192). At most, modifying the system to obtain the unrefuted benefits of increased control with lighter components at the expense of compactness or other benefits amounts, at most, to design trade-offs as Petitioner contends. *See* Pet. Reply 20–21.

Claims 24–28 depend directly or indirectly from claim 23. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, Bennett, and Sand Styling would have rendered claims 24–28 obvious. Pet. 42–54. Petitioner's showing regarding claims 23–28 is persuasive, and we adopt it as our own. Pet. 39–54. Patent Owner does not address claims 24–28 separately from claim 23. PO Resp. 53. Petitioner persuasively shows that claims 23–28 involve the arrangement of prior art elements with each performing the same function it has been known to perform to yield a predicable result. *See KSR*, 550 U.S. at 417.

Based on the foregoing discussion, and considering the evidence of nonobviousness addressed below, Petitioner persuasively shows the unpatentability of claims 19–22 by a preponderance of the evidence.

4. Claims 29–33

Claims 29–33 depend directly or indirectly from claim 28. Claim 29 further requires and upper and lower control arms, with the lower control arm coupled to a bearing carrier about an axis below an opening in the bearing carrier. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, Bennett, and Sand Styling would have rendered claim 29 obvious. Pet. 54–55 (citing and annotating Ex. 1004, Fig. 2; Ex. 1001 ¶ 203).

To reach claim 29, Petitioner relies on Dangauthier and what it fairly suggests to a person of ordinary skill, as follows:

> A person of ordinary skill would have been prompted to position the control arm above and below the bearing carrier (as suggested by Dangauthier), at least because doing so would provide a more favorable connection by providing a force point both above and below the axle, thereby more effectively distributing the vehicle load and controlling the wheel motion. (AC1001 ¶203.) Additionally, mounting the control arms above and below the bearing carrier results in a less crowded suspension system because it spreads out the control arms, rather than grouping them together. (*Id.*, *see also Boston Scientific*, 554 F.3d at 990).

Pet. 54–55 (citing Ex. 1001 ¶ 203; *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 990 (Fed. Cir. 2009)).

In response, Patent Owner annotates Figures 1 and 2 of Dangauthier, and contends that it does not show the lower control arm's mounting location (axis of rotation) below the opening of the bearing carrier, as claim 29 requires, but shows it even with the opening. PO Resp. 57–59. Patent Owner reasons that because Dangauthier's depicted "pivot point is not below the bearing carrier opening, a person of ordinary skill in the art would

recognize that Dangauthier *does not disclose* the recited element." PO Resp. 58 (citing Ex. 2044 ¶¶ 150–155) (emphasis added). Patent Owner concludes that absent such a disclosure, "Dangauthier does not suggest a lower control arm mounted below the opening in the bearing carrier and Petitioner has not demonstrated that Claim 29 is obvious." *Id.*

In Reply, Petitioner persuasively contends that Patent Owner fails to address or rebut its rationale that spreading out the connection points of the radius arm so that the lower arm connects at a point below the barrier carrier opening would have resulted in better control and less crowding in part by distributing the vehicle load. *See* Pet. Reply 22 (citing Pet. 55; Ex. 1026, 125:24–126:10; Ex. 1001 ¶ 203). There is no dispute that Dangauthier discloses vertically spreading out upper and lower radial arm connection points relative to the bearing carrier opening. *See* Ex. 1004, Figs. 1–5; PO Resp. 56–58; Ex. 2044 ¶¶ 150–155. Therefore, notwithstanding a dispute that Patent Owner raises and which turns on the precision of Dangauthier's figures (a dispute we need not resolve), Dangauthier suggests the claimed feature as Petitioner contends, because Dangauthier's vertical spreading of radial arm connection points relative to a bearing carrier at least suggests connection points above and below the bearing carrier, in order to provide better control and less crowding, as articulated by Dr. Davis and Petitioner. *See* Ex. 1004, Figs. 1–5; Ex. 1001 ¶ 203; Pet. 54 (citing *Boston Scientific*, 554 F.3d at 990 ("even though figure 3B shows only two layers of polymer . . . , the specification clearly contemplates the use of several, or more than two, layers of polymer, meaning it contemplates at least two coatings")).

Claims 30–33 depend directly or indirectly from claim 29. Relying on the testimony of Dr. Davis, Petitioner points to evidence and provides rationale to support its showing that the combination of Denney, Dangauthier, Bennett, and Sand Styling would have rendered claims 30–33 obvious. Pet. 55–60. Petitioner's showing regarding claims 29–33 is persuasive, and we adopt it as our own. Pet. 54–60. Patent Owner does not address claims 30–33 separately from claim 23. PO Resp. 59. Petitioner persuasively shows that claims 29–33 involve the arrangement of prior art elements with each performing the same function it has been known to perform to yield a predicable result. *See KSR*, 550 U.S. at 417.

Based on the foregoing discussion, and considering the evidence of nonobviousness addressed below, Petitioner persuasively shows the unpatentability of claims 29–33 by a preponderance of the evidence.

5. Additional Briefing and Observations

Patent Owner alleges in additional briefing that Petitioner advances an inconsistent allegation in a related proceeding concerning the obviousness of a sway bar mounting location. *See* Paper 45, 3 (citing IPR2017-00199); *supra* Section I.A. (Related Proceedings, providing full citation). Petitioner disagrees. Paper 47. Petitioner's position is persuasive, and we adopt it. In summary, as Petitioner argues, the related proceeding, IPR2017-00199, involves different evidence and prior art. *See id*. at 2–3. As Petitioner summarizes, Petitioner collectively asserts, in the two proceedings, that "different known positions [for mounting sway bars] were associated with different predictable benefits before 2010." *See id.* at 3. Patent Owner's briefing does not show persuasively how asserting the obviousness of a sway mounting location based on certain prior art and evidence contradicts

asserting the obviousness of a different sway mounting location based on different prior art and evidence. *See* Paper 45.

Patent Owner filed a Motion for Observation and Petitioner filed a Response to Patent Owner's Motion for Observation. Papers 35 and 40. Considering the Papers in light of the record, Patent Owner's Motion for Observation does not materially undermine Dr. Davis's testimony or show a material inconsistency in his testimony that adequately undermines Petitioner's position.

By way of example, Patent Owner points to testimony regarding Denney's arms 100 and 105 in Observations 13 and 14 as showing a lack of credibility in Dr. Davis's testimony, but as Petitioner points out, Dr. Davis relies on using Dangauthier's radius system and to the extent required in claims 25–35, Dangauthier's control arms. *See* Paper 40, 8–10 (addressing Observations 13 and 14); Pet. 44–60 (relying on Dangauthier's control arms to reach claims 25–35). *See* Ex. 1028 ¶ 15 ("[The whole point of implementing Dangauthier's trailing arm suspension would be to *eliminate* the forward member 100 (part of an A-arm suspension piece)."); Ex. 2117, 65:17–66:24 (consistently explaining that the reason for replacing Denney's A-arm system is to remove forward *horizontal* link 100 and replace it with Dangauthier's *longitudinal* radius link 3); Paper 40, 8–9 (replying to Observations 13 and 14).

Contrary to Patent Owner's Observation 14 with respect to Denney's link 105, nothing requires making Dangauthier's link 9 "more longitudinal," given there is more latitude for it. *See* Paper 35, 35–14 (Observation 14); Paper 40, 8–9 (responding to Observations 13 and 14). Even if Dr. Davis's testimony could be construed as indicating Dangauthier's control arm link 9

would need to be lengthened because it limits travel, Dr. Davis testified that "you have a lot more latitude" lengthening link 9 than link 105 of Denney's A-arm. *See* Paper 35, 12–13 (Observations 13 and 14, quoting Dr. Davis's deposition testimony); Paper 40, 8–9 (responding to Observation 13); Ex. 2117, 65:17–25). Dr. Davis's testimony implies that one would have to lengthen both horizontal links 100 and 105 "*if* I were to reuse those rear links" in Denney's system, but the combination does not require moving link attachment points further rearward. *See* Ex. 2117, 68:3–19 (answering "No" as to whether "he would move the attachment point on the frame further rearward"); Paper 40, 8 (quoting the testimony); *but see* Paper 35, 13–14 (contending that rearward member 105/9 would need to be "more longitudinal").

Rather, the record evidence indicates that to the extent horizontal control arms 100 and 105 in Denney's A-arm (as modified/replaced by horizontal control arm 9 in Dangauthier's radius arm) limit vertical wheel travel, the dominant limiting feature would be Denney's "'shorter forward arm 100' as Dr. Moskwa suggests (paragraph 129)." Ex. 2028 ¶ 15 (Dr. Davis quoting Dr. Moskwa, Ex. 2044 ¶ 129). So *replacing* Denney's forward arm 100 with Dangauthier's radius arm 9 creates more latitude for creating larger wheel travel (as addressed further below). *See* Ex. 1004, Fig. 1; Ex. 1011, Fig. 1; Pet. 44–60. And claims 18–24 do not require any horizontal control members that otherwise might limit vertical wheel travel.

With respect to the recited upper and lower control arms in claims 25–35 (which do not recite any length), Dr. Davis's testimony indicates much more "latitude" in a radial arm system for connecting upper and lower control arms 5 and 9, rendering them longer relative to where one might

attach arm 100 (or arm 105). *See* Ex. 1028 ¶¶ 15–16; Ex. 2117, 65:17–66:24; Paper 40, 8–9; Pet. 44–60. Therefore, contrary to Patent Owner's Observation 14 argument, employing Dangauthier's upper control arm 9 would not result in "Denney lacking control arms" (as allegedly being "non-perpendicular"). *See* Paper 35, 13–14.[4] More specifically, the evidence shows that replacing Denney's control arm 105 with Dangauthier's modified upper 9 and lower 5 control arms does not necessarily require a connection behind rear call out location 80 in order to obtain greater vertical wheel travel. That is, given the latitude arising from eliminating horizontal control arm 100 and replacing it with Denney's longitudinal control arm 3, Dangauthier's horizontal upper 9 and lower 5 control arms (or Denney's arm 105) could be lengthened by creating a frame attachment point toward the center of a frame. Therefore, this modification creates a longer vertical wheel travel than Denney's A-arm system. *See* Ex. 1028 ¶¶ 15–16; Pet. 44–60; Ex. 2117, 65:17–66:24; Ex. 2044 ¶¶ 129.

Dr. Moskwa's testimony, in light of Dr. Davis's testimony, corroborates this finding, because Dr. Moskwa testifies that "vertical travel can be increased only by lengthening the substantially perpendicular arm" of either 9 or 100. Ex. 2044 ¶ 129. But this testimony does not address the combination where shorter control arm 100 would be eliminated and

[4] Dr. Davis testifies that control arms would be "generally perpendicular," and Patent Owner "agrees" to this claim construction. PO Resp. 17 (citing Ex. 1001 ¶ 30; Ex. 2044 ¶¶ 28, 60). Patent Owner does not make any argument in its Response about generally perpendicular control arms missing from Petitioner's showing, which relies on *Dangauthier's* control arms. *See* Pet. 44–60 (addressing claims 25–33); PO Resp. 53–59 (responding to Petitioner's showing with respect to claims 25–33)

replaced by longer longitudinal radius arm 3, allowing more leeway to attach rear control arms (*i.e.*, Dangauthier's relatively parallel upper 5 and lower 9 control arms) toward either a more center or rearward frame portion (similar to Denney's front suspension system). *See* Pet. 44–60 (relying on using Dangauthier's modified control arms 5 and 9 as combined with Denney to reach claims 25–33); Ex. 1028 ¶ 15 ("[T]his length can be easily adjusted as it is connected to the frame at a point which is located behind the axle."); Ex. 1011, Fig. 1. Without replacing member 100 (*i.e.*, without replacing Denney's A-arm system), this easy adjustment would not lengthen wheel travel, according to both experts, because member 100 would limit the travel. *See* Ex. 2044 ¶ 129; Ex. 1028 ¶ 15. Also, this attachment, forward of attachment at the "call out 80" toward a more center frame location in a slightly modified frame of Denney, would keep Dangauthier's upper and lower modified control arms 5 and 9 "substantially perpendicular" to Bennett's frame. *See* Ex. 1004, Fig. 1; Ex. 1011, Fig. 1.[5]

[5] Patent Owner's Observations 13 and 14 collectively address an alleged requirement for an attachment point rearward of "callout 80 of Figure 1 of Denney" in Dr. Davis's testimony resulting in a "more longitudinal" control arm. *See* Paper 35, 13–14. Patent Owner does not direct attention to where Patent Owner asked Dr. Davis if increased wheel travel necessarily *requires* an attachment location rearward of "callout 80 of Figure 1" of Denney (for control arms 5 and 9 or 105, *see* Ex. 1028 ¶ 15), or if a claim limitation precludes that rearward attachment location (i.e., would render the resulting modified control arms 5 and 9 of Dangauthier to be non-perpendicular (let alone not "generally perpendicular" as required by claims 25–35 under the agreed-upon claim construction of a "control arm")). *See id.*; PO Resp. 17 (claim construction); Ex. 2117, 65:17–66:24. Dr. Davis's testimony concerning an "example" that "even if" control arm 9 would limit vertical travel does not concede that it does, but more importantly, his main point is

6. Secondary Considerations of Nonobviousness

Patent Owner also alleges evidence of secondary considerations of nonobviousness. PO Resp. 59–64. Patent Owner contends that "third parties have specifically highlighted and touted the RZR XP 900 and 1000 vehicle's patented structure (particularly its rear suspension and four-wheel-drive capability) as being a vital differentiator and part of the XP[ ]900 and XP 1000s success." PO Resp. 64 (citing Ex. 2026, 54; Ex. 2027, 20; Ex. 2028, 102, 106; Ex. 2030, 16–18). Patent Owner asserts a "significant" (redacted) sales figure over the years 2011–14. *See id.* at 60 (citing *Ecolochem, Inc. v. S. Cal. Edison Co*., 227 F.3d 1361, 1377 (Fed. Cir. 2000)), 64 (citing Exs. 2017–2020 (sales figures)); Paper 18, 64 (citing confidential figure)). Patent Owner contends that "[a] patent owner establishes a prima facie case of nexus by showing that there is commercial success, and that the product that is commercially successful is the invention disclosed and claimed in the patent." *Id*. at 60.

Petitioner replies that

> the documents identified by Polaris also identify a panoply of unclaimed features, such as tire type and fuel capacity. . . . Indeed, it is telling that in connection with earlier proceedings before this same Board, Polaris has argued that different claim elements (other than those in the challenged claims of the '719 patent) are the drivers of demand for the RZR. . . . Polaris has made no showing that any purported benefits of the claimed invention in the '719 patent drive consumer demand as opposed to any of the unclaimed advertised features.

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that "this length can be easily adjusted." *See* Ex. 1028 ¶ 15; Paper 40, 8–10 (rebutting Patent Owner's Observations. Dr. Davis also does not testify that an increase in vertical wheel travel requires that "example" of a rearward attachment location (i.e., rearward of 80). *See id.*; Ex. 2117, 65:17–66:24.

Pet. Reply 23 (citing IPR2014-01427, Paper 58, 35; Ex. 2024, 14).

As our reviewing court has explained, "when secondary considerations are present, though they are not always dispositive, it is error not to consider them." *In re Huai–Hung Kao*, 639 F.3d 1057, 1067 (Fed. Cir. 2011). More recently, our reviewing court explained that even if some claims may be broader than "the praised embodiment," the Board should have afforded the proffered evidence (of praise)

> *some* weight, taking into account the degree of the connection between the features presented in evidence and the elements recited in the claims. *There is no hard-and-fast rule for this calculus*, as "[q]uestions of nexus are highly fact-dependent and, as such are not resolvable by appellate-created categorical rules and hierarchies as to the relative weight or significance of proffered evidence.". . . . *Here, because claims 2 and 14 are considerably broader than the particular features praised in the articles, it would be reasonable for the Board to assign this evidence little weight*.

ClassCo, Inc. v. Apple, Inc., 838 F.3d 1214, 1221–22 (Fed. Cir. 2016) (quoting *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1331 (Fed. Cir. 2016) (emphasis added).

Similar to the situation in *ClassCo*, we afford the evidence of commercial vehicle sales and praise little weight, because we determine that the broadly recited claims capture features well-known in the art, and they do not recite or require several features that Patent Owner's cited literature touts as important and describes as part of an "entire [vehicle] package." *See* Ex. 2027, 26 (describing the "ultimate thrill ride this *entire package* creates") (emphasis added). In making these findings as outlined below with more particularity, we stress that we do not require Patent Owner to show success for each commercial or disclosed embodiment that falls in the scope

of the challenged claims. *See infra* notes 8 (nexus presumed), 11 (summarizing some cited precedent).

Patent Owner contends that the RZR XP 900 and XP 1000 vehicles embody the invention disclosed and claimed by at least claims 17–22. PO Resp. 60 (citing Ex. 2044 ¶¶ 156–167). Claims 17 and 18 do not require the "four-wheel-drive capability" (4WD) that Patent Owner states contributes "particularly" to its commercial success or praise. *Id.* at 64. Patent Owner also focuses attention on its "rear suspension" as contributing to its success and as garnering praise (*see id.*), but Patent Owner fails to describe any particular praised "rear suspension" features and fails to point to a specific claim that requires such a praised feature in particular. Dr. Moskwa describes some unclaimed praised features and attempts unpersuasively to relate them to broad claim limitations that do not require the features, as explained further below. *See* Ex. 2044 ¶ 164 ("The literature identifies Polaris's 3-link rear suspension as including 'two extra-long radius rods and a far forward-connecting trailing arm'" (citing Ex. 2021; 2027, 20)); *see id.* at App. A (addressing claim limitations).

Further, regarding the rear suspension system, in IPR2015-1788, which also involves the '719 patent, Patent Owner attributes success and praise to left and right *upper and lower* control arms as part of its commercial product's rear suspension system—arms which symmetrically attach to both rear ground engaging members (wheels). *See* IPR2015-1788, PO Resp. 59–62 (describing CL1, CL2, CU1, CU2). Yet, none of the

challenged claims here require left and right upper and lower control arms coupled to both rear ground engaging members (wheels).

Patent Owner contends that it "consistently touted those features [i.e., 'particularly its rear suspension and four-wheel-drive capability'] in its marketing literature." PO Resp. 64 (citing Ex. 2021–24). Nevertheless, Patent Owner also consistently touted *a myriad* of features in each of the cited advertising brochures. *See* Exs. 2021–24. Apart from generally citing "RZR XP portions of (PO2021-2024)," Patent Owner does not direct attention to which parts of the four advertising brochures support its showing. *Id*. at 64.

As an example, Patent Owner cites as evidence, Exhibit 2023. *Id*. Exhibit 2023 advertises the RZR® 800 model (and other models) in addition to the RZR® XP 900 and RZR® XP 1000 models that Patent Owner relies upon in this proceeding to show commercial success and industry praise. *See* Ex. 2023, 11; PO Resp. 60 ("Polaris's RZR XP 900 and XP 1000 vehicles embody the invention disclosed and claimed by at least claims 17–22." (citing Ex. 2044 ¶¶ 156–167, App. A, addressing claim features related to commercial vehicle pictures)).

Patent Owner states that sales for the RZR® XP 900 and 1000 were "significant" over the years 2011–2014. PO Resp. 64. Nevertheless, the sales sheets reflect sales for other models, including several types of RZR® 800 models. For example, the unit sales for the RZR® 800 model appear to dominate sales in 2011 relative to the relied-upon XP 900 and XP 1000 (later) models. *See* Ex. 2017. Corroborating this sales evidence for RZR® 800 models, Patent Owner presents evidence of commercial success and industry praise for the RZR® 800 in related IPR 2015-01781. For example,

Patent Owner contends that the RZR® 800 had significant sales with "particularly strong" commercial success, based on its "extremely low center of gravity." IPR 2015-01781, Paper 20, 61–62.[6] Apart from providing a list of sales units in this proceeding, Patent Owner does not provide any analysis that compares its sales or market share for the RZR® 800 relative to sales for the XP 900 and XP 1000.[7] Patent Owner also does not provide any market share data for the XP 900 and XP 1000 relative to competitors. *See In re DBC*, 545 F.3d 1373, 1383–84 (Fed. Cir. 2008) ("DBC has done little more than submit evidence of sales," and "[h]owever substantial those sales, that evidence does not reveal in any way that the driving force behind those sales was the claimed [invention]."); *Vandenberg v. Dairy Equip. Co., a Div. of DEC Int'l, Inc.*, 740 F.2d 1560, 1566–67 (Fed. Circ. 1984) ("The evidence does indicate that appellants' device achieved a certain amount of acceptance in the market place, with sales peaking at $192,000 in 1980. As the district court pointed out, however, appellants failed to show how sales of the patented device *compared to sales of their previous model, or what percentage of the market their new model commanded*." (emphasis added)).

Furthermore, contrary to Patent Owner's showing, Exhibit 2023 advertises the same features and groups the RZR® 800 and RZR® 900

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[6] Considering the two proceedings, Patent Owner's evidence shows virtually equal sales for the RZR® 800 model versus the collective sales for the XP 900 and XP 1000 models in confidential Responses and evidence—sales we refer to as "significant"—based on Patent Owner's characterizations thereof. *Compare* Paper 18, 64 (citing confidential figure for the XP 900 and 1000 models collectively), *with* IPR2015-01781, Paper 19, 61 (citing confidential figure of same magnitude for the RZR® 800).

[7] Patent Owner does not number the pages of Exhibit 2023. The cited page numbers correspond to brochure pages numbered by the panel.

models together as providing "RAZOR SHARP PERFORMANCE." Ex. 2023, 10–12, 20. This "RAZOR SHARP PERFORMANCE" includes "POWER" ("THE ULTIMATE in Side[-by-]Side Power" that "features high horsepower-to-weight ratio"), "SUSPENSION" (which "BOASTS SORT-TUNED SUSPENSION" and "feature[s] the longest suspension travel (up to 14 [inches])"), and "AGILITY" (with "PATENTED ENGINE-BEHIND-THE-SEAT TECHNOLOGY" to give "the absolute lowest center of gravity") for the "RANGER RZR family." *Id*. at 10. Exhibit 2023 also advertises "ON-DEMAND TRUE ALL-WHEEL DRIVE" ("AWD") as a "hallmark Polaris feature" that "keeps you moving, automatically engaging all four wheels when you need more forward traction and reverting back to 2WD when you don't." *Id*. at 3. This "ON-DEMAND TRUE AWD/2WD" also applies to all the RANGER RZR® models and RZR® 800 models. *Id*. at 12. The brochure also recites "SMOOTH RIDING DUAL A-ARM INDEPENDENT REAR SUSPENSION." *Id*. at 2, 4. According to Exhibit 2023, the dual A-arm feature applies to the rear suspension of the RZR® 800 models (garnering 12 inches of wheel travel), whereas the RZR® XP 900 employs the "TRAILING ARM" suspension (garnering 14 inches of wheel travel) that Dr. Moskwa appears to rely upon. *Id*. at 12; Ex. 2044 ¶ 164 (referring to "Polaris's 3-link rear suspension"). Dr. Moskwa verifies this understanding. *See* Ex. 2044 ¶ 31 (listing "Double A-arm" rear suspension for two RZR® 800 models and "RZR 900s" models, and listing "[m]ulti-link trailing arm" rear suspension for the RZR® XP 900 and RZR® XP 1000).

None of the claims require the dual A-arm suspension that the literature touts (and Patent Owner does not appear to rely on that feature). As noted above, in addition to relying upon four/all-wheel drive

(4WD/AWD), Patent Owner relies upon its rear suspension, and generally cites Dr. Moskwa, who testifies that "Polaris has consistently touted the RZR XP[ ]900s' rear suspension." Ex. 2044 ¶ 162 (citing Ex. 2021); *see* PO Resp. 60 (generally citing Ex. 2044 ¶¶ 156–67). Dr. Moskwa testifies, as noted above, that Patent Owner highlighted the "'NEW! 3-LINK TRAILING ARM LONG TRAVEL IRS' (or independent rear suspension)." *Id*. (citing "*E.g.*, PO2021, PO2023, PO2024"). He also testifies that "[i]ndustry publications also have recognized and highlighted the XP900 rear suspension system as being very important," in reference to the "NEW! 3-LINK TRAILING ARM LONG TRAVEL IRS." *See* Ex. 2044 ¶¶ 162–163.

Nevertheless, not only does the RZR® 800 model include the dual A-arm suspension touted in the literature (and that model exhibits sales comparable to the RZR® XP 900 and 1000 as discussed above), Exhibit 2024 reveals that the Ranger XP 900 model also includes dual A-arm IRS rear suspension ("HARDEST WORKING SMOOTHEST RIDING")—i.e., instead of the touted and relied upon 3-link trailing arm suspension that Patent Owner appears to ascribe (via Dr. Moskwa) to the RZR ®XP 900 models. *See* Ex. 2024, 6; PO Resp. 64; Ex. 2044 ¶¶ 162, 164, App. A. Although Patent Owner draws specific attention to the "RZR XP 900 and XP 1000 models" in this proceeding, in IPR2015-01788, Patent Owner also appears to more generally draw attention to the "XP[ ]900 and XP 1000s' success." *See* IPR2015-1788, Paper 21 (PO Resp.), 64. Similarly, in the instant case, at times Patent Owner relies generally on the "XP 900 and XP 1000" (PO Resp. 63 (citing 4WD and CVT)) and at other times refers to the "RZR XP 900" (*id.* at 64 (citing sales)). If Patent Owner intends to rely on

all XP 900 models for praise, this undercuts Dr. Moskwa's reliance on the 3-link design, because the XP 900 models include at least two types of rear suspension systems—the dual A-arm system and the 3-link system. *See* Ex. 2044 ¶¶ 162, 164, Ex. 2024, 6. Patent Owner's Response does not clearly state what features of the rear suspension system it relies upon. Claims 17 and 18 broadly recite first and second "moveable arm[s]," but Patent Owner does not state whether they cover a dual A-arm suspension system, and Patent does not rely on the touted dual A-arm suspension system to show nonobviousness.

In any event, the brochures each tout "a panoply of unclaimed features," as Petitioner argues. Pet. Reply 23. Several models tout these unclaimed features.[8] For example, they tout suspension in the RZR® 800 models and the XP 900 models as having similarly large wheel travel. As one example, Exhibit 2023 touts one RZR® 800 model as having "PERFORMANCE-BASED LONG-TRAVEL SUSPENSION AND SHOCKS," including "12 [inches] of front and rear travel [to] soak up the rough terrain with ease." *Id*. at 11. It similarly touts a Ranger RZR® XP 900 model as having "3-Link Trailing-Arm IRS to handle all that *massive power* and keep the ride smooth," and "[p]aired with adjustable Fox Podium 2.0 Shocks, it features "14 [inches] of rear travel and an *astounding* 13.5

[8] When broad claims capture a single (or multiple) commercial embodiment(s), nexus is presumed. *See ClassCo*, 838 F.3d at 1222 (nexus presumed when the commercial "products embodied the claimed features" and the "Board's blanket dismissal of it was in error"). In this situation, the Board must evaluate the evidence "taking into account the degree of the connection between the features presented in the evidence and the elements recited in the claims." *See ClassCo*, 838 F.3d at 1221 (explaining that "[t]here is no hard-and-fast rule for this calculus").

[inches] of front travel." *Id*. (italics added).

Exhibits 2024 and 2025 advertise similar features for several RZR® models. *See* Ex. 2024, 14–15; Ex. 2025, 14 (comparing models, advertising a host of features, including trailing arm suspension with 14 inch travel and 875 cc engine for the RZR® XP-900 and 999 cc engine 18 inch travel and for the RZR® XP-1000, and on-demand true all wheel/two wheel drive). Exhibit 2025 describes 107 HP, "THE MOST POWERFUL ENGINE IN THE INDUSTRY" for the ALL NEW! ProStar™ 1000, "unmatched throttle response and acceleration," 18 inches of wheel travel, "NEW High Performance On Demand AWD" that "offers faster engagement and full torque to pull through corners," "Standard EPS and nimble 18 [inch] turning radius offer agile response to driver." Ex. 2025, 3. Exhibit 2025 also makes it clear that Patent Owner considers all the RZR® models to be "HIGH PEFORMANCE: For riders who want the best sport performance machine delivering the ultimate combination of power, suspension, and agility check out the RZR XP 1000, RZR 900 *and RZR S 800 models*." Ex. 2025, 5 (emphasis added). Exhibit 2025 lists five RZR® models, including the RZR® S and RZR® 800 models, as having dual A-arm rear suspension. *Id*. at 14. As noted above, Dr. Moskwa testifies that the RZR® 800 and RZR® 900 (2014) series include the dual A-arm rear suspension system. Ex. 2044 ¶ 31. All the RZR® models, including the RZR® 900 and XP 1000 models use dual A-arm front suspension. Ex. 2025, 14 (listing wheel travel with suspensions).

The cited articles by third parties, who were provided with information by Patent Owner according to a note at the end of at least one of the articles (Ex. 2030, 18), similarly describe a myriad of features pertaining

to the whole vehicle package. *See* PO Resp. 64 (citing Exhibit 2026, 54; Ex. 2027, 20; Ex. 2028, 102, 106, and 2030, 16–18).[9] Patent Owner does not point to any specific passage in any of the articles to support its showing.

The cited literature prominently touts what Patent Owner's engineers focused on—the industry leading high horsepower in the XP 900—something that is not recited in any of the challenged claims. For example, "*the Polaris engineers* behind this creation *walked us through* the ins and outs of the machine. *The first subject they focused on was the all-new 875cc powerplant*. . . . This setup puts out an *industry-leading 88 horsepower* to the rear wheels through its dual overhead cam, dual 46mm throttle bodies, large valves and 180-degree crankshaft." Ex. 2026, 54 (emphases added).

Exhibit 2026 mentions the "rear trailing arm suspension," but the authors of that cited article note that "[t]his setup gives the XP *an incredible 14 inches of wheel travel* in the rear while minimizing wheel scrub to ensure that you're getting maximum power to the ground in the most unforgiving terrain." *Id*. (emphasis added). None of the challenged claims require the touted power, the touted wheel travel, or the touted minimal wheel scrub. The article also states that "[t]o make sure that the trailing arms can last while taking a beating, all of the pivot locations are equipped with spherical joints." *Id*. It notes several other unclaimed features:

> The final items brought to our attention [by Patent Owner's engineers] were *the new transmission and drive system*, the *breaking and steering system and the electronics*. This *transmission is 22 percent lighter* than the units used in other RZR models . . . . *The steering box is 22 percent faster* than any

[9] Patent Owner does not cite Exhibit 2029 as showing praise.

> of the other previous RZR models and *the brake system was beefed up to reduce braking effort by 55 percent*.

Ex. 2026, 54 (emphasis added).

The article also describes the (unclaimed) front suspension system as important: "Up front the dual A-arm suspension keeps the wheels on the ground with 13.5 inches of wheel travel." *Id.* It touts the types of shocks as important: "To maximize the performance of the suspension design, Polaris teamed with Fox Racing Shox to outfit the XP with compression- and preload-adjustable Podium X 2.0 shocks at all four corners." *Id.*

Taking a flexible overall view of the cited evidence, Patent Owner's cited literature shows that a combination of many unclaimed features instigated the literature praise by contributing to the performance of the whole package that makes up its commercial vehicles. As indicated throughout the literature, the unclaimed high power engine is a paramount feature of the commercial embodiment and praise: "[T]he rumble out of the exhaust let me know there was an abundance of power on tap. . . . I mashed the gas pedal to the floorboard. The rear of the XP went into an acceleration squat and lifted the front end . . . ." Ex. 2026, 56.

Exhibit 2027, cited by Patent Owner, appears to be an article by a "third party" (*see* PO Resp. 64), but the Exhibit contains the following nomenclature on roughly every other page of the article: "POLARIS RANGER RZR XP™ 900 PRESS LAUNCH." Exhibit 2027 describes "the new 3-Link Trailing Arm suspension" system. *See, e.g.*, Ex. 2027, 24. Patent Owner's Response does not explicitly tie this 3-link feature to its claimed system. Dr. Moskwa does not do it in a clear fashion that relates to the touted 3-link feature. *See* Ex. 2044, App. A, 131 (tying the "moveable arm" of claim 17 to a single link—i.e., the radius arm of the 3-link system).

As noted above, Dr. Moskwa describes that praised feature as a 3-link system: "two extra-long radius rods and a far forward-connecting trailing arm." Ex. 2044 ¶ 164. The radius rods may correspond roughly to the two broadly recited upper and lower control arms of claims 25–33, but Patent Owner and Dr. Moskwa do not even address claims 25–33 with respect to secondary considerations. *See* Ex. 2044 App. A (only addressing claims 17–22); PO Resp. 50–69 (not addressing any specific claim).

Patent Owner only generally directs commercial success to claims 17–22. PO Resp. 60 (The "RZR XP 900 and XP 1000 vehicles embody the invention disclosed and claimed by at least claims 17–22." (citing Ex. 2044 ¶¶156–67).) The trailing arms of the 3-link design may correspond roughly to the broadly recited "moveable arm[s]" recited in all the claims by virtue of sole independent claim 17, but the recited moveable arms need not be "far forward-connecting trailing arm[s]" as the literature touts, and nothing in claim 17 corresponds to the other "two extra-long radius rods" of the 3-link system as described in the literature and as relied upon by Dr. Moskwa. *See* Ex. 2044 ¶ 164 (quoting Ex. 2027, 20); App. A, 131 (addressing claim 17).

Even if we consider claims 25–33 not mentioned by Patent Owner, none of the challenged claims recite any respective lengths (the "two extra-long radius rods") or the "far forward" radius arm feature touted in the articles. In addition, each of challenged claims 17–25 only require control arms with respect to one rear wheel. None of the challenged claims require automatic front wheel drive as advertised (i.e., none require *fully automatic*

AWD/2WD—presumably automatically shifting from AWD to 2WD or vice versa).

Further regarding the touted feature, Exhibit 2027 refers to "a huge 14 [inches] of travel" attributed to the "all-new 3-Link design [which] consists of two extra-long radius rods and a far forward-connecting trailing arm that combine to make a lightweight yet strong system." *Id*. at 20; Ex. 2044 ¶ 164 (quoting Ex. 2027, 20).[10] In short, none of the claims require the "3-Link design" as described. Even claims 25–33, which may be closest to corresponding to the "3-Link design" with first and second or upper and lower control arms (albeit for one wheel only), not only do not require "extra-long" control arms or "far forward-connecting" radius arms, they do not require the "huge travel" (even for one rear wheel) that the article touts. *See* Ex. 2044 ¶¶ 162, 164 (reciting similar features); App. A.

It follows that none of the claims "enable" or inherently require the huge wheel travel praised in the article. *See Rambus Inc. v. Rea*, 731 F.3d 1248, 1257, 1258 (Fed. Cir. 2013) (stating the "Board did not address any of" Rambus's evidence that showed that "the claimed dual-edge data transfer functionality is what enabled the praised high-speed transfer of data"—citing a ten-fold speed increase praised in the literature as speed enabled by the claims). Dangauthier discloses a 3-link design that enables as much wheel travel as the challenged claims require. *See* Ex. 1004, Figs. 1–5. Exhibit 2027 makes it clear that in addition to the "all-new 3-Link design" in the RZR® XP 900 (which it describes as "combine[d] make a

[10] Claims 32 and 33 respectively recite 10.5 and 13 inches of "ground clearance," but Patent Owner does not contend that a vehicle with high ground clearance must have any set wheel travel (or vice versa).

lightweight yet strong system"), the RZR® S is "*also* graced with a very capable suspension"—i.e., even though it has dual A-arm rear suspension as noted above. Ex. 2027, 20 (emphasis added). The evidence of praise for the dual A-arm suspension and a myriad of features, tied to the RZR® 800 and other models outside the scope of the claims, and sales evidence for those models, implies that the vast bulk of any commercial success or sales was not due to the "all-new 3-Link design" (even if some of the challenged claims require that, which they do not), let alone the generic rear suspension, or the generic four wheel drive, or a combination thereof.

Exhibit 2027 also touts the "[u]p front . . . Dual-A-Arm suspension [with] 13.5 [inches] of travel." *Id* at 24. Again, none of the claims require such front wheel travel or any particular front suspension. The article notes that "[e]ven the tires have been designed exclusively for this vehicle." *Id*. at 25. The article touts "an abundantly powerful 800 Twin" engine (*id*. at 20), praising it as follows:

> Among most interesting of the *many freshly designed parts to this heaven sent buggy*, the engine. . . . It features a 180 degree crankshaft, which means it is naturally balanced, and dual overhead cams, large valves, twin 46 mm throttle bodies . . . which combine to make it a high revving and acceleration-friendly package. It red lines at a whopping 8750 rpm!"

Id. at 25 (emphasis added).

Exhibit 2027 also states that "[t]he *chassis is specifically designed* to maximize the high performance of the suspension, which is built to be able to fully harness the generous 88 hp output delivered by the completely

new . . . 4-stroke engine, equipped with a worry free and performance enhancing fuel injection system." *Id* at 20–23 (emphasis added).

The challenged claims do not require any specific chassis, output power, engine type, or any of the other specifically touted steering, breaking, transmission, shocks, or other features praised in the cited articles. In addition, Patent Owner touts a lower center of gravity as driving success in other proceedings. *See* Pet. Reply 23 (citing IPR2014-01427, Paper 58, 35); IPR2015-01781, Paper 20, 61–62 (alleging lower center of gravity for the XP 800 as driving success). By alleging success based on a lower center of gravity implicit in broad claims, as Patent Owner did in the two related cases, Patent Owner acknowledges that any commercial success would have been due to a variety of factors. Exhibit 2023 touts a "LOWER CENTER OF GRAVITY" for the RZR® XP 900 and RZR® 800 models. Ex. 2023, 11. Nevertheless, as noted, Patent Owner does not rely on that feature in this proceeding.

Patent Owner does not show persuasively a consumer demand for any specific portion of its vehicle sales as driven by its broadly recited front-wheel drive and/or rear-suspension systems. *See* Pet. Reply 23 (attributing any success to a variety of unclaimed features). Exhibit 2027 corroborates that any commercial success, if it follows the praise, would have been due to the "ultimate thrill ride this *entire package* creates." Ex. 2027, 26 (emphasis added). *See Tokai Corp. v. Easton Enters.*, 632 F.3d 1358, 1370 (Fed. Cir. 2011) (Sales evidence for a utility lighter product insignificant in the obviousness calculation where "the feature that purportedly distinguishes the claimed inventions from prior art utility lighters" was the lighter's automatic locking features, but "Tokai proffered no evidence from which one could

reasonably infer a nexus between its sales data and its utility lighters' automatic-locking features.").

Even setting aside power, handling, and other touted features, without reciting the front dual A-Arm suspension, without reciting the specifics of the "3-Link design" for each rear wheel, let alone for one (for example "extra-long" control arms and a "far forward-connecting" radius arm for each wheel), and without reciting the specific chassis for that suspension, the challenged claims simply do not require, let alone support, the beneficial suspension system touted in the articles. In *MeadWestVaco Corp. v. Rexam Beauty and Closures, Inc*., 731 F.3d 1258 (Fed. Circ. 2013), the court held that a district court erred by considering "secondary considerations of non-obvious [that] involved only fragrance-specific uses, but *the claims now at issue are not fragrance-specific*." *Id*. at 1264 (emphasis added). By analogy, none of the challenged claims in this proceeding are suspension-specific enough to garner the praise Patent Owner attempts to tie to its vehicle sales. Another way of stating the problem with the evidence is that the claims are broad enough to cover devices that *would not* increase performance significantly, if at all, in the claimed suspension system relative to what the prior art (Denney, Dangauthier) discloses. *See id*.

Even if claims 25–33 were deemed to recite specific enough detail to support an inherent increase in suspension performance as touted in the cited literature albeit in one rear wheel (they are not), one wheel could not support any such touted beneficial suspension system performance. In addition to *MeadWestVaco*, a long line of precedent and guidance from our reviewing court shows that it would be error not to discount this type of evidence. *See Therasense, Inc. v. Becton, Dickinson & Co*., 593 F.3d 1325, 1336 (Fed. Cir.

2010) (finding "objective evidence of non-obviousness fails" "because claims are broad enough to cover devices that either do or do not solve the 'short fill' problem"); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000) (stating the presumption that commercial success is due to the patented invention applies "if the marketed product embodies the claimed features, *and is coextensive with them*") (emphasis added); *In re Law*, 303 F.2d 951, 954 (CCPA 1961) ("Thus, assuming the affidavits are a proper showing of commercial success, they do not show commercial success of dockboards covered by the appealed claims which are not limited to the bead of claim 13.")

Similar to *MeadWestVaco Corp.*, in *In re Tiffin*, 448 F.2d 791 (CCPA 1971), the court found that claims that are "too broad" fail to show that the claims are reasonably commensurate with the scope of the objective evidence of non-obviousness: "The solicitor's position is that the objective evidence of non-obviousness is not commensurate with the scope of claims 1–3 and 10–16, reciting 'containers' generally, but establishes non-obviousness only with respect to 'cups' and processes of making them. We agree." *Id*. at 792.[11]

[11] We stress that we do not require Patent Owner to show success for each of its embodiments that fall in the claim scope to establish a nexus with some attached weight of evidence of nonobviousness. *See Rambus*, 731 F.3d 1257 (error to impose "[s]uch a strict requirement"). We only cite these precedential cases to emphasize that if the claims are so broad as to capture generically recited features (especially those disclosed in the prior art reference relied upon—i.e., the rear suspension as disclosed in Denney or Dangauthier and as generically recited in the challenged claims with one or

As *Therasense* reasons:

> Because *the claims are broad enough to cover devices that either do or do not solve the "short fill" problem*, Abbott's objective evidence of non-obviousness fails *because it is not "commensurate in scope with the claims which the evidence is offered to support.*" *In re Grasselli*, 713 F.2d 731, 743 (Fed.Cir.1983); *see also In re Kubin*, 561 F.3d 1351, 1356 (Fed.Cir.2009) ("[T]he obviousness inquiry requires this court to review the Board's decision that the *claimed* sequence, not appellants' *unclaimed* cloning technique, is obvious in light of the abundant prior art." (emphases added)).

593 F.3d at 1336 (first sentence emphasis added).

Patent Owner's Response does not point to evidence that praises the sway bar mounting location as important, or as contributing beneficially to the claimed combination's overall suspension system performance. *See* PO Resp. 60–62. A product sheet in Exhibit 2025 lists an "Anti-Sway Bar" as part of RZR® 800 and other RZR® models with a dual A-arm rear suspension, but does not even list it for the RZR® 900 or RZR® XP 1000 models with trailing arm suspensions. *See* Ex. 2025, 14. At the least, it is not consistently touted, if at all, as a praised feature in the cited advertising brochures or articles. Notwithstanding that Dr. Moskwa describes the "XP 900 and XP 1000" models as "not differ[ing] in any material respect" (Ex. 2044 ¶ 161), Dr. Moskwa does not support that statement with evidentiary

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three arms—analogous to the generically claimed containers in *Tiffen*), we must factor this into the calculus as *ClassCo supra* indicates, and determine if the evidence ties to more specifically described *unclaimed* features praised or allegedly contributing to success (i.e., the "extra-long" control arms and a "far forward-connecting" radius arm as described in the literature as garnering huge wheel travel and as relied upon by Dr. Moskwa (Ex. 2027, 20; Ex. 2044 ¶¶ 162–165)—analogous to the specific and commercially successful cups in *Tiffen*).

citations (at least with respect to the sway bar) (*see* Ex. 2044 ¶¶ 156–164). Given the described lack of a listing for a sway bar for the RZR® XP 1000 juxtaposed to a listing for other models (Ex. 2025, 14), Patent Owner fails to show persuasively that the RZR® XP 1000 includes a rear sway bar, further indicating the sway bar (coupled to a trailing arm or 3-link suspension system) does not drive success.[12]

Even if the relied-upon RZR® XP 1000 model also includes a sway bar, Patent Owner does not rely particularly on any sway bar praise, direct particular attention to it as contributing to success, describe it as solving a particular long-felt problem, or describe it as making the suspension markedly better based on its location or otherwise, so Patent Owner does not "link [its] commercial success to the features of its invention that were not disclosed in" Denney. *See Asyst Techs., Inc. v. Emtrak, Inc*., 544 F.3d 1310, 1316 (Fed. Cir. 2008) ("[E]ven though commercial embodiments . . . have enjoyed commercial success, Asyst's failure to link that commercial success to the features of its invention that were not disclosed in Hesser undermines the probative force of the evidence pertaining to the success of Asyst's and Jenoptik's products."); *Ormco Corp. v. Align Tech., Inc*., 463 F.3d 1299, 1312 (Fed. Cir. 2006) ("[I]f the commercial success is due to an unclaimed feature of the device, the commercial success is irrelevant. So too if the

[12] Dr. Moskwa points to a sway bar described in a service manual for the "RZR XP 900" but does not cite a specific page or passage in an advertising brochure or article praising the feature as contributing to suspension performance. *See* Ex. 2044 ¶ 165 (citing Ex. 2021, Ex. 2023, Ex. 2024, and Ex. 2038, PLRS00107497) and stating "[t]he rear suspension also includes a rear sway bar"); *see also id*. at App. A, 132–133 (citing Ex. 2021, Ex. 2038, PLRS00107497, showing sway bar).

feature that creates the commercial success was known in the prior art, the success is not pertinent."); *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) ("[A]sserted commercial success of the product must be due to the merits of the claimed invention *beyond what was readily available in the prior art.*" (emphasis added)); *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists.").

Accordingly, following the guidance in *ClassCo*, and the other cases cited above, we afford the evidence of sales and praise little weight with respect to claims 25–33 (which Patent Owner does not particularly point to in terms of secondary considerations), and less weight with respect to claims 17–24. We determine that the claims capture features largely well-known in the art, such as the generically recited and known front-wheel drive (i.e., not true demand AWD/2WD as touted in the literature) (claims 19–33) and known CVT systems (claims 20–33), the generically recited moveable arm suspension system for two rear wheels (claims 17 and 18), and the generically recited three-link suspension systems for a single rear wheel (claims 25–33).

We also determine that the evidence of secondary considerations includes important unclaimed features that contribute to the whole vehicle package, such as engine power, handling, and overall suspension improvements attributed at least to specific aspects of a 3-link system for both rear wheels, a specific chassis, and a dual A-arm system for both front wheels, with the latter suspension improvements all contributing to the

touted vertical wheel travel, stability, and handling, according to Patent Owner's cited evidence.

Weighing all the evidence together, we determine that the claimed invention amounts to no "more than the predictable use of prior art elements according to their established functions." *See KSR*, 550 U.S. at 401. In *Tokai Corp.*, 632 F.3d at 1371, which involves secondary considerations of nonobviousness as noted above, our reviewing court provides the following post-*KSR* guidance regarding predictable solutions in the mechanical arts that involve secondary considerations:

> Although a need in the prior art for safer utility lighters is not disputed, Tokai contends that the solutions to this problem were "not at all predictable" and required "radical modification" of the asserted prior art. We reject these arguments. One of ordinary skill in the art would not have viewed the subject matter of the asserted claims as unpredictable. As the Supreme Court recognized in *KSR*, the nature of the mechanical arts is such that "identified, predictable solutions" to known problems may be within the technical grasp of a skilled artisan. 550 U.S. at 421 . . . ; *see also* [*Rothman v. Target Corp.*, 556 F.3d 1310, 1319 (Fed. Cir. 2009)] (stating that, in the predictable arts, a claimed invention may be invalidated more readily by showing "a motivation to combine known elements to yield a predictable result)."

Based on the foregoing discussion, Petitioner sufficiently demonstrates obviousness of the challenged claims by a preponderance of the evidence.

IV. CONCLUSION

For the foregoing reasons, Petitioner shows by a preponderance of the evidence that claims 17–18 of the '719 patent would have been obvious over the combination of Denney and Dangauthier, claims 19–22 would have been obvious over the combination of Denney, Dangauthier, and Bennett, and

claims 23–33 would have been obvious over the combination of Denney, Dangauthier, Bennett, and Sand Styling.

V. ORDER

In consideration of the foregoing, it is hereby

ORDERED that claims 17–33 of the '719 patent are unpatentable; and

FURTHER ORDERED that, because this Final Written Decision is final, a 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.

PETITIONER:
FISH & RICHARDSON P.C.
Dorothy P. Whelan
Michael T. Hawkins
Conrad Gosen
hawkins@fr.com
IPR39374-0004IP1@fr.com

PATENT OWNER:
CARLSON, CASPERS, VANDENBURGH, LINDQUIST & SCHUMAN, P.A.
Dennis C. Bremer
Alan G. Carlson
Samuel T. Lockner
dbremer@carlsoncaspers.com
acarlson@carsoncaspers.com
slockner@carlsoncaspers.com