UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZF NORTH AMERICA, INC., ZF ACTIVE SAFETY US INC.,
Petitioners,

v.

STONERIDGE CONTROL DEVICES, INC.,
Patent Owner.

Inter Partes Review No. IPR2023-00273
Patent No. 7,021,415

PATENT OWNER'S SUR-REPLY[1]

[1] This Sur-Reply replaces Patent Owner's Sur-Reply filed on December 21, 2023, as authorized by an email from the Board, dated December 22, 2023.

TABLE OF CONTENTS

TABLE OF AUTHORITIES ii

TABLE OF EXHIBITS iii

I. INTRODUCTION 1

II. THE '415 PATENT AND REFERENCES CANNOT BE ANALYZED WITHOUT CONSTRAINT 1

A. Petitioners Have Not Established All Elements Are Present In The References 2

1. Constructions of Sub-Frame and Actuator Housing 3

2. Poertzgen Lacks a Motor Isolation Cavity 5

B. The Claimed Invention 7

1. References Must Be Considered in their Entirety 12

2. Tight Tolerances and Other EPBA Design Considerations Would be Evaluated by a POSA 13

3. Differences Between an EPBA and a Fan 15

4. Isolators at Axial Ends of Motor 16

5. Petitioners' New Arguments 17

6. Level of Ordinary Skill 19

C. Multiple Isolators 20

III. EVIDENCE OF NON-OBVIOUSNESS 22

TABLE OF AUTHORITIES

Cases **Page(s)**

Axonics, Inc. v. Medtronic, Inc.,
73 F.4th 950 (Fed. Cir. 2023) 8, 9, 10, 11

Henny Penny Corp. v. Frymaster LLC,
938 F.3d 1324 (Fed. Cir. 2019) 18, 19

In re Enhanced Security Research, LLC,
739 F.3d 1347 (Fed. Cir. 2014) 15

In re Kotzab,
217 F.3d 1365 (Fed. Cir. 2000) 12

In re Smith Int'l, Inc.,
871 F.3d 1375 (Fed. Cir. 2017) 3, 4

Lucent Techs., Inc. v. Gateway, Inc.,
580 F.3d 1301 (Fed. Cir. 2019) 6

Muniauction, Inc. v. Thomson Corp.,
532 F.3d 1318 (Fed. Cir. 2008) 11

Panduit Corp. v. Dennison MFG., Co.,
810 F.2d 1561 (Fed. Cir. 1987) 14, 15

Par Pharm., Inc. v. TWI Pharms., Inc.,
773 F.3d 1186 (Fed. Cir. 2014) 7

W.L. Gore & Associates, Inc. v. Garlock, Inc.,
721 F.2d 1540 (Fed. Cir. 1983) 15

Wasica Fin. GmbH v. Cont'l Auto. Sys.,
853 F.3d 1272 (Fed. Cir. 2017) 6

TABLE OF EXHIBITS

Exhibit	Description
2001	Statutory disclaimer under 35 U.S.C. 253(a)
2002	FR 2 693 779 to Ralf-Michael, *et al.*
2003	Certified Translation of FR 2 693 779
2004	Government Accountability Office Report to the Subcommittee on Courts, Intellectual Property, and the Internet, Committee on the Judiciary, House of Representatives
2005	Declaration of Jeffrey L. Stein, Ph.D.
2006	CV of Jeffrey L. Stein, Ph.D.
2007	Transcript of Deposition of Bruno Lequesne, Ph.D.
2008	U.S. Patent No. 6,397,981 to Tamasho, *et al.*
2009	Mopar.com listing for Park Brake Actuator (Part No. 68225300AB), viewed August 7, 2023
2010	ZF Press Release dated May 23, 2022
2011	Declaration of Rolf Patrick
2012	Stoneridge, Inc. presentation to TRW, dated February 21, 2003
2013	E-Motors advertisement (Exhibit 4 from Deposition of Lequesne)
2014[2]	Placeholder - Physical Exhibit Retained By Counsel (Exhibit 5 from Deposition of Lequesne)
2015	Collection of Photographs of Physical Sample of TRW EPBA (i.e., Photos of Ex. 2014; Exhibit 6 from Deposition of Lequesne)
2016	Exhibits A and B from Patent Owner's Infringement Contentions, served in *Stoneridge Control Devices, Inc. v. ZF North America, Inc. et al.*, U.S. District Court for the Eastern District of Michigan, Case No. 2:22cv10289
2017	"Electric Parking Brake (EPB) System Market…" from https://www.einpresswire.com/article/632662740/electric-parking-brake-epb-system-market-projected-to-reach-usd-6-07-billion-by-2032-with-7-3-cagr-i-reports-and-data

[2] Patent Owner emailed the Board on July 28, 2023 asking how to handle custody of this physical exhibit. *See* Ex. 2019. Patent Owner's counsel is currently maintaining custody of the physical exhibit. *Id.*

2018	"Electric Parking Brake Market is Expanding at a CAGR of…" from https://www.globenewswire.com/news-release/2023/7/5/2699470/0/en/Electric-Parking-Brake-Market-is-Expanding-at-a-CAGR-of-12-4-to-Cross-US-5-92-Billion-by-2033-Fact-MR.html
2019	Email dated July 28, 2023 from Patent Owner's counsel to Board asking how Board would like to handle custody of physical exhibit 2014
2020	The Board's default protective order

I. INTRODUCTION

Petitioners' Reply suffers from three key flaws. First, Petitioners do not consistently consider the entirety of the references' teachings—a basic tenet of patent law. Second, Petitioners drag the teachings of the '415 Patent into the question of whether the '415 Patent itself would have been obvious. Specifically, they use the target '415 Patent as a reference against itself when trying to fill in some gaps in their obviousness argument. This is not allowed. Third—and fatal to the Petition as a whole—Petitioners try to introduce arguments that they could have made, but neglected to make, in their original Petition.

II. THE '415 PATENT AND REFERENCES CANNOT BE ANALYZED WITHOUT CONSTRAINT

To succeed in their obviousness challenge, Petitioners must first establish that the prior art has all the elements claimed. They must then establish that a POSA would have been motivated to combine the prior art elements to reach the claimed invention. On both counts, Petitioners have failed to properly consider the '415 Patent under the relevant legal standards.

As one example, Petitioners argue that a POSA should completely disregard the consistent and repeated usage of the terms "sub-frame" and "actuator housing" throughout the patent. While Petitioners claim they are doing so to avoid importing limitations, patent law does not permit a party to construe terms in a vacuum.

As another example, Petitioners purport to argue from the perspective of a POSA but, on closer analysis, Petitioners' arguments are inconsistent with how a true POSA would consider a problem. In particular, Petitioners argue that a POSA would automatically place an isolator anywhere in a path that NVH might occur. But, Petitioners' analysis leading to this conclusion is not founded on a POSA's understanding of the claimed invention or how a POSA would interpret the references because the context matters (i.e., EPBAs versus non-EPBAs is an important difference).

A. Petitioners Have Not Established All Elements Are Present In The References

Petitioners have not established that all elements of the '415 Patent claims are present in the cited prior art references. Specifically, Petitioners do not and cannot establish the presence of a "sub-frame" and an "actuator housing" in the prior art.

With respect to the claimed "motor isolation cavity," Petitioners confuse their burden. It is Petitioner's burden to establish what Poertzgen discloses and not Patent Owner's burden to prove what Poertzgen does not disclose. Yet Petitioners attack Dr. Stein's declaration with a vigor meant to distract from Petitioners' failure to satisfy their burden.

1. Constructions of Sub-Frame and Actuator Housing

Petitioners argue that there is no disclaimer or definition of "sub-frame" or "actuator housing," and that the claims do not recite a sub-frame "distinct" from an actuator housing. Reply at pages 13-17. This is incorrect. Patent Owner has set forth arguments and evidence, supported by the case law (namely *In re Smith Int'l, Inc.*, 871 F.3d 1375 (Fed. Cir. 2017)), that a sub-frame is not an actuator housing, and an actuator housing is not a brake caliper. *See* Patent Owner Response at pages 16-21. These terms all have distinct meanings in the '415 Patent and in the art, and are referred to separately in the specification and claims of the '415 Patent. *Id.*

Despite the delineation between these terms, Petitioners conflate them, and attempt to fault Patent Owner because the '415 Patent does not expressly define the terms. However, in *Smith*, there was no definition or disavowal—rather, the claims were interpreted consistent with the specification. *In re Smith*, 871 F.3d at 1382-83 (Holding that "an express definition or disclaimer in the specification" is *not* required, and holding that the correct question is *not* "whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner," nor is it "simply an interpretation that is not inconsistent with the specification," but rather "[i]t is an interpretation that corresponds with what and how the inventor describes his invention in the specification."). Here, Petitioners have done exactly with *Smith* says not to do. Indeed, the Board's Institution Decision

has also done exactly what *Smith* says not to do. *See* Patent Owner's Response at page 21 *citing* Institution Decision (Paper 9) at pages 36, 37.

Petitioners are of the view that a part of Poertzgen's alleged actuator housing is the sub-frame. The '415 Patent's disclosure, however, does not permit a POSA to reach such a broad interpretation. A main benefit—if not *the* main benefit—of the '415 Patent is the fact that the sub-frame is used to establish a subassembly that is easily inserted relative to the actuator housing. *See, e.g.,* '415 Patent at 2:11-21. If the sub-frame were a part of the actuator housing, that functionality would be destroyed and, so, would be inconsistent with "how the inventor describes his invention in the specification." *In re Smith*, 871 F.3d at 1382-83.

Regarding the Petitioners' interpretation of the claimed "actuator housing" relative to Weiler's "brake caliper," that interpretation is likewise inconsistent with *Smith*. A POSA, having read the '415 Patent, would not read an "actuator housing" on a brake caliper. The '415 Patent consistently describes the EPBA as having an actuator housing that is attachable to a brake caliper. *See* '415 Patent at 3:1-21 ("Those skilled in the art will recognize a variety of ways that the actuator 102 may be coupled to a brake caliper 106" and "the actuator 102 may be mounted directly to a brake caliper 106.").

2. Poertzgen Lacks a Motor Isolation Cavity

Petitioners make a similar mistake with the "motor isolation cavity" limitation by incorrectly claiming that Poertzgen teaches a motor isolation cavity. This is not the case. Patent Owner and Dr. Stein have argued that Poertzgen does not definitively establish a "motor isolation cavity," as recited in claim 18. *See* Patent Owner Response at pages 45-48. As a reminder, the "motor isolation cavity" is part of the claimed "actuator housing." *See* '415 Patent, Claim 18 ("said actuator housing comprising a motor isolation cavity."). While it is not Patent Owner's burden to do so, Patent Owner and Dr. Stein have demonstrated that Poertzgen could be showing a motor strap as opposed to a cavity, Poertzgen could have a completely uncovered motor, or Poertzgen could be showing another structure such as a portion of its brake caliper. *Id.*; Ex. 2005 at ¶¶ 141, 142.

Faced with the ambiguity of Poertzgen's disclosure, all Petitioners can do is argue that if the possibilities mentioned by Patent Owner were actually the case, then apparently "the cutaway line for the housing would not exist." *See* Reply at page 13. That is not true. The cutaway line could be representing "a part of Poertzgen's brake caliper that is positioned below or above the motor." *See* Ex. 2005 at ¶¶ 141, 142; *and* Patent Owner Response at pages 44-48. Petitioners also argue that "even if the figure could be construed as showing a strap… then Poertzgen would teach to a POSITA both a cavity and a strap." Reply at page 13. Petitioners' opinion about

what Poertzgen would have said if certain structures were in Poertzgen's design is irrelevant.

Petitioners have not addressed Dr. Stein's points regarding the ambiguities surrounding the alleged motor isolation cavity, including the confusing presence of a hidden, unknown structure represented by a dotted line, or the unexpected "kink" in the drawing. *See* Ex. 2005 at ¶¶ 143, 144. These issues underscore why it is impossible to definitively tell whether a motor isolation cavity is present in Poertzgen. When a prior art reference is ambiguous regarding a limitation, it does not, by itself, render that limitation unpatentable. *See Wasica Fin. GmbH v. Cont'l Auto. Sys.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017) (upholding the Board's finding that a claim was patentable when it was "unclear" whether or not the cited reference disclosed the pertinent feature because "[a]mbiguous references do not, as a matter of law, anticipate a claim"); *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1315 (Fed. Cir. 2019) (affirming jury finding of nonobviousness when challenger relied solely on a prior art photograph "of limited clarity" to establish a claim limitation and "offer[ed] nothing to fill this gap in its obviousness analysis."). In this vein, the Federal Circuit has consistently held in the context of inherency that an alleged teaching of the prior art "may not be established by probabilities or possibilities." *Par Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir.

2014). Rather, "in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis – the limitation at issue necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art." *Id.* at 1195-1196. In summary, the principles of law regarding ambiguous disclosures and inherency, which are rooted in anticipation case law, apply equally to an obviousness analysis, especially where, as here, the obviousness ground is based on an allegation that a particular limitation is taught or disclosed in a single reference. *Id.* at 1194-95.

B. The Claimed Invention

A main theme of the Reply is to focus on what is not said in the claims of the '415 Patent. Specifically, Petitioners complain that the '415 Patent does not disclose the isolator materials or location. Reply at page 2. However, Patent Owner has never contended that an isolator is itself inventive. At this point, it is useful to back up and revisit the claimed invention of the '415 Patent, as doing so sets the needed framework regarding a POSA's understanding of the prior art and whether there would have been a motivation to combine elements of the references. The claimed invention is patentable because it combines specific locations for isolators in a specific context—namely, with respect to a sub-frame of an actuator for an electronic parking brake. *See, e.g.*, Figure 7 of the '415 Patent.

Petitioners point to *Axonics, Inc. v. Medtronic, Inc.*, 73 F.4th 950, 953-56 (Fed. Cir. 2023) to support their position that one would essentially ignore Patent Owner's and Dr. Stein's evidence and arguments as to the implications of Petitioners' proposed modifications to the EPBAs of Poertzgen and Weiler. In *Axonics*, the patentee submitted arguments that it was improper to combine a base reference, which taught a medical lead for stimulating trigeminal nerves (in the face), with a secondary reference, which taught a medical lead for a sacral nerve (near the pelvis). The Board held that modifying the base reference (again, related to facial nerves) to include the structures of a medical lead for use near the pelvis would not be feasible. *Id.* at 956. The Federal Circuit reversed and remanded for two reasons. First, the Federal Circuit faulted the Board because the Medtronic patents were not limited to leads for sacral nerves. *Id.* at 957. Second, the Federal Circuit faulted the Board for confining the relevant art to sacral nerves, rather than also considering the broader facial nerve context. *Id.* Important to the Federal Circuit's reasoning was that Medtronic's claimed invention was broader than the Board's characterization of the claimed invention. The Federal Circuit's rationale would not lead to the same result in this case (viewing the relevant art and motivation quite broadly, as Petitioners argue), as the present facts are nearly opposite to those of *Axonics*.

Specifically, in *Axonics*, the scope of the patentee's claimed invention, for purposes of evaluating the prior art in an obviousness analysis, was determined by looking to (1) the title, (2) the field of the invention, (3) the summary of the invention, and (4) to the claims themselves. The *Axonics* court, in reviewing the patents-in-suit, found that none of the title, field of the invention, summary of the invention, nor claims were limited to leads for use with sacral nerves. *Id.* at 953. Rather, the patents-in-suit related to more generic leads, and merely listed sacral nerve stimulation as "one preferred embodiment." *Id.* at 952.

By way of contrast, in the '415 Patent:

- The title is "Electro-Mechanical Actuator for an Electrically Actuated Parking Brake."

- The Field of the Invention states "The present invention relates generally to electrically actuated parking brake systems for passenger vehicles, and, in particular, to an actuator assembly for controlling the parking brake function within passenger vehicles." *See* '415 Patent at 1:18-22.

- The Summary of the Invention recites a specific actuator having a sub-frame used with an isolator. *See* '415 Patent at 1:56-2:10.

- Perhaps most importantly, each and every claim before the Board specifically requires an actuator, if not an "electrically actuated parking brake system," having a sub-frame, and an isolator used in connection with the sub-frame.

The last point in particular exemplifies a marked divergence between *Axonics* and the '415 Patent. In *Axonics*, not one of Medtronic's claims between the two patents-in-suit recited a sacral nerve lead, whereas in the present case a number of claims expressly recite an EPBA. *Cf.* '415 Patent at Claims 5, 7, 8, and 17-19 ("An electrically actuated parking brake system") *and Axonics*, 73 F.4th at 953 ("No claim of the two patents either mentions or is limited to sacral nerves."). So, the claimed invention for the '415 Patent is properly understood as EPBAs and actuators therefor.

Petitioners have been arguing for a broader definition of that claimed invention, namely, mechanical devices generally (like facial nerves), rather than EPBAs specifically (like sacral nerves). Because of this, Petitioners have essentially argued (1) the art of EPBAs is not relevant[3] and does not need to be considered, (2) one can solve the problem of NVH by looking outside of the EPBA art, and without regard to the teachings of the base references (which are EPBAs) or the teaching reference (which is not an EPBA), and (3) Petitioners' expert in electrical

[3] Petitioners rely on prior art that is not confined to EPBAs. Patent Owner has not objected to the use of any of the prior art as non-analogous, but rather objects to Petitioners' refusal to consider all prior art references in their entirety for what those references teach to a POSA.

engineering is a POSA. Put together, this explains why Petitioners conclude that a POSA would automatically place an isolator anywhere in a path that NVH might occur. They did not consider the references in their entirety and they failed to approach the problem from the perspective of a true POSA—like Dr. Stein.

Given the stark differences between the facts of *Axonics* and the present case, *Axonics* does not give Petitioners the leeway to ignore the teachings of the references. In this regard, Petitioners also seek to support their approach by citing to an off-handed statement by the Federal Circuit in *Muniauction*. *See, e.g., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1327 (Fed. Cir. 2008). According to Petitioners, this case stands for the proposition that a patentee's argument against a combination is undermined when the patent itself is lacking certain details as to how the combination works. *See* Reply at pages 4, 5. However, the Federal Circuit's obviousness decision did not employ such a theory, and the statement Petitioners lean on was a reference to the Federal Circuit indicating that the patent-in-suit may have an enablement issue. *Muniauction*, 532 F.3d 1318 at fn.3 ("Because the '099 patent is itself silent regarding how to actually implement the methods claimed therein with a web browser, Muniauction's argument therefore might suggest that the claims present an enablement issue, rather than support a conclusion of nonobviousness.").

1. References Must Be Considered in their Entirety

The ’415 Patent is not unpatentable *per se* because it is drawn to a combination of mechanical components. Petitioners are in what the Federal Circuit has dubbed a “hindsight trap,” in which the Petitioners have unfairly discounted Patent Owner’s invention as technologically simple and improperly relied on “prior art statements that in the abstract appear[] to suggest the claimed limitation.” *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (faulting Board for falling into a “hindsight trap” and dismissing the invention as “technologically simple,” and then reversing the Board’s obviousness decision because the Board did not consider the prior art “in the context of the teaching of the entire reference” nor did the Board make a “finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed.”).

A main theme of Petitioners’ Reply is to embed the ’415 Patent itself into the question of whether it would have been obvious to add the claimed isolators to Poertzgen and Weiler. Petitioners essentially argue that if the ’415 Patent has isolators, then certainly it must be okay to add these isolators somewhere in the prior art. *See* Reply at page 5 (“that is a shortcoming of the alleged invention itself, not a reason that the claims are patentable.”); Ex. 1021 at ¶ 7 (“[n]or does [Dr. Stein]

explain how or why the ’415 Patent, also an electric parking brake system, would still work properly after adding isolators.”). This is quintessential hindsight.

There are several problems with Petitioners’ arguments. First, in Dr. Stein’s original Declaration, he did point out that the ’415 Patent discloses a system that is mechanically different than either Poertzgen or Weiler. *See* Ex. 2005. Dr. Stein also testified at his deposition that the combination of elements in the ’415 Patent provides benefits of a subassembly that can be easily removed and assembled, while isolating vibrations to that subassembly as opposed to letting those vibrations radiate to the outer housing of the EPBA. *See* Ex. 1022 at 76:24-78:10. Essentially, the use of the sub-frame allows the introduction of the isolators to reduce noise by preventing propagation to the outer actuator housing and/or the brake caliper, which are larger surfaces that would otherwise radiate noise, while achieving the benefits of providing a modular subassembly.

2. Tight Tolerances and Other EPBA Design Considerations Would be Evaluated by a POSA

The context of the prior art matters to a POSA. As set forth in Dr. Stein’s Declaration and the Patent Owner Response, both Poertzgen and Weiler are hard mounted systems that rely on precision mounting and tight tolerances. In order to distance themselves from Dr. Stein’s explanation of how a POSA would interpret the references, Petitioners argue that the ’415 Patent claims do not recite any

particular tolerances. Reply at page 4. But this is of no moment. What is in the '415 Patent claims has required Petitioners to attempt to modify Poertzgen and Weiler. To support this combination, the entire disclosure of the prior art must support the combination. *Panduit Corp. v. Dennison MFG., Co*., 810 F.2d 1561, 1577-78 (Fed. Cir. 1987) ("The district court … treated no claim, nor the entire prior art, nor any prior patent 'as a whole,' but selected bits and pieces from prior patents that might be modified to fit its legally incorrect interpretation of each claim as consisting of one word.").

On a similar note, Petitioners and Dr. Lequesne argue that Poertzgen's motor rotation sensor is disclosed as being in a preferred embodiment, but is not claimed in all of the claims. Reply at page 7; Ex. 1021 at ¶ 11. From this, Petitioners argue that Poertzgen's sensor is optional. However, the sensor is disclosed as part of the "preferred embodiment." There is no reason to move away from something that would ruin a preferred feature of Poertzgen. Thus, adding isolators, which would make the sensor's readings less accurate, cause the motor to lose a ground frame of reference, along with potentially adding noise to the system, among other potential issues, would not have been obvious. *W.L. Gore & Associates, Inc. v. Garlock, Inc*., 721 F.2d 1540, 1550 (Fed. Cir. 1983) ("a prior patent must be considered in its entirety, i.e. as a whole"); *Panduit*, 810 F.2d at 1577-78. It would be error to not

consider the entirety of the references, as Petitioners urge. *In re Enhanced Security Research*, LLC, 739 F.3d 1347, 1360 (Fed. Cir. 2014) (citing *Panduit*, the Federal Circuit held that "[t]hus *Panduit* explains that section 103 does not permit a court to stitch together an obviousness finding from discrete portions of prior art references without considering the references as a whole.").

Petitioners repeat essentially the same argument, slightly modifying it when alleging that various other features are not recited in the '415 Patent claims. *See, e.g.*, Ex. 1021 ¶ 17. This is irrelevant because what the references disclose must be taken in their entirety. What Patent Owner's claims require has caused Petitioners to try to combine references to meet them. Having proposed to do so, Petitioners are left with considering the entirety of the references.

3. Differences Between an EPBA and a Fan

Petitioners continue to try to stretch the prior art to reach Petitioners' desired result. In one section, Petitioners argue that a POSA would look to prior art for an automotive fan when considering an EPBA. But Petitioners do this without support. This is no surprise because a fan and an EPBA are different creatures.

Patent Owner has shown this through its expert. In Dr. Stein's Original Declaration, he discusses that a fan operates in a different manner from that of an EPBA. *See* Ex. 2005 at ¶¶ 69, 89-92, 119. Also, during his deposition, Dr. Stein explained his understanding of the functionality of Boucheret as follows: "It's a fan.

Fans run at constant speed over long periods of time relative to electric parking brake actuators, which are on for a second or two." Ex. 1022 at 151:1-8.

There is no meaningful dispute that automobile HVAC fans operate at a set speed for long periods, especially when compared to EPBAs, which only operate for a second or two. Dr. Stein was merely explaining what the references fairly teach to a POSA.

While all fans in the described location in Boucheret (air conditioning motors for a vehicle) may operate at several speeds, they are designed to operate at a constant speed for long periods of time. There is no showing that Boucheret's concern for vibration would extend over into Poertzgen or Weiler.

Further, Petitioners argue that Dr. Stein has taken the position that "tolerances don't matter." Reply at page 9. But this is not what Dr. Stein said. Dr. Stein said that the tolerances in a fan such as Boucheret do not require precision positioning to the extent that Poertzgen or Weiler would. Ex. 2005 at ¶¶ 89-99.

4. Isolators at Axial Ends of Motor

Even if a POSA were to modify the base references in view of Boucheret, they would not place an isolator at the claimed location. Specifically, Boucheret discloses isolators at radially outer surfaces of its motor. However, the '415 Patent claims require an isolator between the motor and the sub-frame. Adding an isolator between

the motor and alleged sub-frames of Poertzgen and Weiler would necessarily locate the isolator at the axial end of the motor. *See* Ex. 1022 at 169:10-171:23.

In response, Petitioners and Dr. Lequesne pose an argument that the claims do not require isolators at axial ends of the motors. Reply at page 12; Ex. 1021 at ¶ 17. But again, because of the references Petitioners chose, and because of how Petitioners interpret those references, one would have to place an isolator at the axial end of the Poertzgen and Weiler motors to meet the claims. This is yet another example of Petitioners' unwillingness to appreciate the effect of their modifications on the references they chose.

5. Petitioners' New Arguments

Petitioners have improperly updated their alleged motivation to combine via their Reply. The Petition argues that it would have been obvious to place an isolator at certain locations if a design was analyzed, and if that analysis showed certain noise/vibration paths existed in those certain locations. *See* Petition at page 41. But neither the Petition nor the original Declaration of Dr. Lequesne (Ex. 1002) states that the base references to Poertzgen and Weiler would place NVH at the claimed locations. *See* Patent Owner Response at pages 30-38. This is unsurprising as Dr. Lequesne admitted that he did not do any vibration modeling or analysis. *See* Ex. 2007 at 62:11-16.

As Patent Owner has argued, Petitioners set forth a conditional motivation (i.e., if a design was analyzed, and if that analysis returned a certain result…), but Petitioners have not even attempted (until their Reply) to address their own conditions. *See* Patent Owner's Response at pages 30, 31. The conditional motivation is not enough to support an obviousness ground. Petitioners seemingly now concede this point, because Petitioners on Reply attempt to bridge the conditional gaps left open in the Petition. As an example, Dr. Lequesne now states "[a] POSA is familiar with electromechanical systems such as actuators, and is certainly aware that moving parts, such as motors and gears can generate NVH." Ex. 1021 at ¶ 18. Similar arguments are made in the Petitioners' Reply at pages 10 and 11, as examples.

Apparently, it is now Petitioners' position that any location adjacent a motor or gears would be a location to place an isolator with no further evaluation needed. While this is not true, it is also a different argument from the ones proffered in the Petition. The Petition said that that if one analyzed Poertzgen/Weiler for NVH, and that analysis revealed noise paths in the claimed locations, then one would have added isolators in the claimed locations. Petitioners have now dropped the conditions on Reply and seemingly argue that there will be vibration that requires damping at the locations in question, which is improper. *Henny Penny Corp. v. Frymaster LLC*,

938 F.3d 1324, 1329-31 (Fed. Cir. 2019) (rejecting a new theory of unpatentability where petitioner argued for the first time in its reply that a reference disclosed a limitation).

6. Level of Ordinary Skill

Patent Owner reiterates its point that Dr. Lequesne's field of expertise—electrical engineering—is not directly relevant to the questions presented in this case. That said, Patent Owner and Dr. Stein have commended Dr. Lequesne for his career and achievements. *See* Ex. 2005 at ¶ 55 ("I commend Dr. Lequesne for his career accolades and his accomplishments" and "I have no reason to doubt Dr. Lequesne's expertise in his particular field."). Patent Owner's point takes on particular relevance when one considers whether Dr. Lequesne and Petitioners actually considered the teachings of the references they chose, and the effect their proposed modifications would have on them. Indeed, Patent Owner submits that Dr. Lequesne's lack of experience with vibration systems of the type at issue in this case is a potential reason why Petitioners have glossed over these relevant questions.

Patent Owner maintains that Dr. Lequesne's testimony should be weighted according to his experience with vibration damping for actuators, which is minimal. This explains Dr. Lequesne's inability to appreciate the consequences of the proposed modification on an EPBA of the type described in the references, thus resorting to the incorrect and overly simplistic argument that a POSA would

automatically place an isolator in a path that NVH might occur in any mechanical device.

On Reply and in Dr. Lequesne's Supplemental Declaration, both Petitioners and Dr. Lequesne repeatedly argue that a worker skilled in this art could overcome the challenges Dr. Stein has mentioned with regard to adding isolators into the tight tolerance systems of Poertzgen or Weiler. *See, e.g.*, Ex. 1021 at ¶ 9.

These reply arguments are supported only by Dr. Lequesne's speculation. However, even if Dr. Lequesne's speculation is accurate, neither Petitioners nor Dr. Lequesne provide a reason why a worker skilled in this art would undertake all of the necessary work given that there is nothing on the record showing there would be noise or vibration at the specific locations in Poertzgen and Weiler (other than Petitioners' and Dr. Lequesne's improper new argument, on Reply, that there allegedly would be vibration, and a need for an isolator, at all locations adjacent a motor). Indeed, when it comes to the location of the isolators, Petitioners effectively say that a POSA would know it when they see it, which, again, reveals a lack of understanding of EPBAs. Petitioners' arguments do not support the propriety of the proposed combinations, and do nothing to overcome the failings in them.

C. Multiple Isolators

Claims 19 and 24 require multiple isolators in distinct locations. While Boucheret does teach multiple isolators, it does not teach distinct locations.

Specifically, Petitioners state that it would have been obvious to use multiple isolators in the claimed locations, as evinced by Boucheret. Reply at pages 12, 22-23. Petitioners and Dr. Lequesne also generally argue that one could merely "duplicat[e]" the prior art isolators to reach these claims. Ex. 1002 at ¶¶ 206, 279.

However, as Dr. Stein previously made clear, adding multiple isolators could exacerbate unwanted movements and misalignments in Poertzgen and Weiler. Ex. 2005 at ¶¶ 139, 159. Moreover, and again, Boucheret does not suggest adding plural isolators in distinct locations. Even further, Boucheret specifically teaches that it is eliminating the need to have isolators in distinct locations, because Boucheret developed a single isolator which will damp vibrations in all the directions. Ex. 1010 at 1:65-2:3.

Regardless, Petitioners' and Dr. Lequesne's position that one could merely "duplicate" an isolator and meet the claims is unfounded. Even if one duplicated the isolators in the prior art, there is no evidence that one would place that duplicated structure in a different location than the original isolator, let alone place the duplicated isolator in the claimed locations. The only real evidence on point is Dr. Stein's testimony, which indicates that adding more isolators to Poertzgen and Weiler could exacerbate unwanted misalignments and movements in the base references.

III. EVIDENCE OF NON-OBVIOUSNESS

Patent Owner introduced evidence of copying, praise, and commercial success. *See* Patent Owner Response at pages 60-63.

With respect to copying, Patent Owner has presented evidence that Petitioners' previous EPBA design did not have vibration isolators, then, after attending a presentation (i.e., Ex. 2012) in which Patent Owner demonstrated isolators could be used to reduce noise in EPBAs, Petitioners later introduced isolators into their design. *See* Patent Owner Response at pages 60, 61. The changes to Petitioners' product align closely with the presented reasoning (i.e., Petitioners added isolators) which, at a minimum, raises questions about the origin and inspiration behind Petitioners' modified design.

In response, Petitioners do not claim their employees came up with their design for their brake actuator without reference to Ex. 2012. Nor do Petitioners allege their products included isolators and/or sub-frames before the date of the presentation in question. The only evidence in the record suggests Petitioners copied Patent Owner's design.

Regarding the alleged lack of nexus, Petitioners do not put forth any argument that their electronic parking brake actuator does not infringe. Instead, Petitioners confine their response to an allegation that Dr. Stein has not proven infringement. While Dr. Stein has not conducted a full infringement analysis, Dr. Stein has

evaluated the claim charts of Ex. 2016, and Dr. Stein is in agreement that "the claim charts establish that there is a component in each of the photographed products that corresponds to each one of the claim elements." Ex. 2005 at ¶ 163. On Reply, neither Petitioners nor Dr. Lequesne attempt to argue that any claim features are missing from Petitioners' product.

Since Petitioners have chosen not to provide any evidence, Patent Owner's evidence should be considered for what it teaches. Namely, it would not have been obvious to modify the references as Petitioners have proposed.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(c)(4), the undersigned hereby certifies that the foregoing document contains 5,274 words, excluding a table of contents, a table of authorities, mandatory notices under 37 C.F.R. § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing, as measured by the word-processing system used to prepare this paper.

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CERTIFICATE OF SERVICE

The undersigned certifies that on December 22, 2023, a copy of the foregoing document was served electronically via email in its entirety on the following:

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