

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAVANT TECHNOLOGIES LLC d/b/a GE LIGHTING,
ELONG INTERNATIONAL USA INC., and
XIAMEN LONGSTAR LIGHTING CO. LTD.,
Petitioners,

v.

FEIT ELECTRIC COMPANY, INC.,
Patent Owner.

Case IPR2025-00698
U.S. Patent No. 8,614,539

**PATENT OWNER'S SUR-REPLY IN SUPPORT OF ITS
PATENT OWNER RESPONSE**

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Xerox Corp. v. Bytemark, Inc.,

IPR2022-00624, Paper 9 (P.T.A.B. Aug. 24, 2022)6, 7

EXHIBITS

Exhibit	Description
2001	Declaration of E. Fred Schubert, Ph.D.
2002	<i>Curriculum vitae</i> for E. Fred Schubert, Ph.D.
2003	U.S. Patent Publication 2002/0180351 (“McNulty”)
2004	U.S. Patent Publication 2001/0000622 (“Reeh”)
2005-2012	RESERVED
2013	Mike Krames, <i>Light-Emitting Diode Technology for Solid-State Lighting</i> , in <i>Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2009 Symposium</i> , 67 (2009)
2014	E. Fred Schubert, <i>Light-Emitting Diodes</i> (2nd ed. 2006)
2015	Matthew G. Bevan & Bruce M. Romenesko, <i>Modern Electronic Packaging Technology</i> , 20 JOHNS HOPKINS APL TECH. DIGEST 22 (1999)
2016	X. A. Cao & S. D. Arthur, <i>High-power and reliable operation of vertical light-emitting diodes on bulk GaN</i> , 85 <i>Applied Physics Letters</i> 3971 (2004).
2017	Michael R. Krames et al., <i>Status and Future of High-Power Light-Emitting Diodes for Solid-State Lighting</i> , 3 <i>J. Display Tech.</i> 160 (2007)
2018	Mehmet Arik et al., <i>Thermal Management of LEDs: Package to System</i> , 5187 <i>Proc. SPIE</i> 64 (2004)
2019	U.S. Dep’t Energy, <i>Critical Materials Strategy</i> (Dec. 2010)
2020	Zongyuan Liu et al., <i>Measurement and numerical studies of optical properties of YAG:Ce phosphor for white light-emitting diode packaging</i> , 49 <i>Applied Optics</i> 247 (2010)
2021-2028	RESERVED
2029	Home Depot - Feit Electric White Filament LED Light Bulbs listing
2030	Candle Power Forums article: Feit LED filament bulb with white filaments
2031	The Home Depot Announces 2024 Innovation Award Winners
2032	Feit Electric Lighting Instagram consumer comments regarding filaments
2033	Feit Electric Lighting Instagram consumer comments regarding yellow filaments

Exhibit	Description
2034	Feit Electric Lighting Instagram consumer comments: Regular Yellow Filament vs. White Filament
2035	Home Depot White Filament price point of \$29.97
2036	Home Depot Yellow Filament price point of \$21.97
2037	Reddit: Do white filament LED edison bulbs exist?
2038	<i>Feit Electric Company, Inc. v. Savant Techs. LLC d/b/a GE Lighting</i> , N.D. Ohio Case No. 1:24-cv-00473-BMB, Defendant Savant Technologies LLC's Final Identification of '539 Patent Claim Terms to be Construed dated January 17, 2025
2039	<i>Feit Electric Company, Inc. v. Savant Techs. LLC d/b/a GE Lighting</i> , N.D. Ohio Case No. 1:24-cv-00473-BMB, Defendant Savant Technologies LLC's Final Proposed Constructions and Evidence dated February 25, 2025
2040	<i>Feit Electric Company, Inc. v. Savant Techs. LLC d/b/a GE Lighting</i> , N.D. Ohio Case No. 1:24-cv-00473-BMB, Defendant Savant Technologies LLC's Opening Claim Construction Brief dated March 13, 2025
2041	<i>Feit Electric Company, Inc. v. Elong Int'l USA, Inc.</i> , N.D. Tex Case No. 3:24-cv-1089-x, Memorandum Opinion and Order dated July 2, 2025, ECF No. 81.

I. INTRODUCTION

In its Response to the Petition, Patent Owner identified the flaws in Petitioners' arguments and the reasons Petitioners have failed to meet their burden of proving the challenged claims unpatentable. In short, Petitioners use hindsight to reconstruct the claimed invention from combinations of three and even four references, and they do so based exclusively on the conclusory testimony of Prof. Doolittle. For example, Patent Owner noted that Petitioners failed to explain how or why a POSITA allegedly would have incorporated the blue LED from Stokes or Shimizu into the optoelectronic device of Krummacher, which teaches a different type of LED, for a different application, and using a different type of packaging. In reply, Petitioners now change their story, asserting that "no one is 'importing' an LED chip." Reply at 7. On the contrary, that is exactly what Petitioners argued in the Petition. Pet. at 31.

Petitioners also try to flip the burden of proof, criticizing Patent Owner for allegedly ignoring the Board's reasoning in the Decision Granting Institution ("Institution Decision"). Patent Owner did no such thing. It is Petitioners who ignore that the Institution Decision is neither the end of the trial nor binding on the Board, that the trial is still ongoing, and that Petitioners still bear the burden of proving unpatentability by a higher standard than the Board applied in the Institution Decision.

Beyond the patentability arguments, Petitioners try but fail to justify their contradictory claim construction positions, and they lodge a baseless attack on the credibility of Dr. Schubert. The contradictory claim constructions, presented both here and in two federal district courts, are indefensible, violate Board policy, and undermine the credibility of both Petitioners and Prof. Doolittle. By contrast, Petitioners' attack on Dr. Schubert rests on mischaracterizations of two unrelated proceedings, neither one of which found any evidence of misconduct. Patent Owner addresses all of these issues in more detail below.

Ultimately, Petitioners' arguments rest on conclusory expert testimony and hindsight reconsideration. Such arguments are both legally impermissible and undermined by Patent Owner's evidence of secondary considerations of non-obviousness. For all of these reasons, Patent Owner respectfully submits that Petitioners have failed to meet their burden of proving unpatentability of any challenged claim.

II. ARGUMENT

Petitioners repeatedly and falsely accuse Patent Owner of ignoring the Board's reasoning in the Institution Decision. *See Reply* at 1-12. Petitioners are wrong for two reasons. First, Patent Owner's Response properly criticized the deficiencies *in the Petition*. To the extent the Board preliminarily adopted Petitioners' reasoning in granting institution, Patent Owner equally addressed the

Board's reasoning. Second, Petitioners seem to assume that the Board's Decision at the institution stage is final and binding for the remainder of the proceeding.

Petitioners are wrong. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (“Contrary to [petitioner’s] assertions, the Board is not bound by any findings it makes in its Institution Decision.”) Petitioners “fail[] to appreciate that that there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial.” *Id.*

Petitioners also take liberties in ascribing findings and conclusions to the Board. For example, Petitioners assert that “[t]he Board credited the Petition’s showing that TiO₂ particles within Krummacher’s range “generally scatter more blue light (e.g., excitation light) than red or green light.” Reply at 4-5 (citing Institution Decision at 18 (quoting Pet. at 26)). The portion of the Institution Decision Petitioners cite was merely *reciting* “Petitioners’ Contentions,” not crediting them. Institution Decision at 18.

If the Institution Decision were binding, as Petitioners seem to suggest, then there would be no need for a trial. But there is a need for a trial, and Patent Owner is entitled to present its evidence and arguments showing that Petitioners have failed to meet their burden of proving the challenged claims unpatentable by a preponderance of the evidence.

A. Ground 1: Petitioners Still Have Not Explained How a POSITA Would Have Combined the Teachings of Krummacher, Stokes, and Shimizu

When it comes to the motivation to combine Krummacher, Stokes, and Shimizu, Petitioners are now changing their story. Patent Owner criticized the Petition because “Petitioners fail to explain why a POSITA would want to import a blue-light LED chip from Stokes or Shimizu into Krummacher.” Response at 33 (citing EX1102, ¶ 135). In reply, Petitioners now assert that “no one is ‘importing’ an LED chip” from Stokes or Shimizu into Krummacher. Reply at 7. On the contrary, that is *exactly* what Petitioners argued in the Petition:

A POSA would have been motivated to use a blue-light LED chip like that disclosed by Stokes and Shimizu in a conventional white-light LED light source called for by Krummacher. (EX1102, ¶ 135.)

Pet. at 31. The Petition cites to the testimony of Prof. Doolittle, who made exactly the same assertion, EX1102, ¶ 135. Petitioners and Prof. Doolittle both described it as a “simple substitution.” Pet. at 31; EX1102, ¶ 135. It is not a simple substitution, as Patent Owner and Dr. Schubert have explained. Response at 34-36; EX2001, ¶¶ 104-106.

It was Petitioners’ burden to show *how* and *why* a POSITA would have made the combination they propose. “The proper question was whether a [] designer of ordinary skill in the art, facing the wide range of needs created by developments in the field, would have seen an obvious benefit to upgrading [Krummacher] with

[the teachings of Stokes or Shimizu].” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Conclusory testimony and hindsight reconstruction are not enough. *Id.*; *Metalcraft of Mayville, Inc. v. Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (“[W]e cannot allow hindsight bias to be the thread that stitches together prior art patches into something that is the claimed invention.”).

How. Having argued that a POSITA “would have been motivated to use a blue-light LED chip like that disclosed by Stokes and Shimizu in a conventional white-light LED light source called for by Krummacher,” it was incumbent on Petitioners to address **how** those teachings would be combined. At a minimum, this requires considering how the Stokes or Shimizu LED would be incorporated into Krummacher’s optoelectronic component. Here, the particular LED applications and packaging details matter. *See* Response at 32-36. Petitioners and Prof. Doolittle failed to address this question, much less provide a satisfactory answer.

Why. Other than offering Prof. Doolittle’s conclusory testimony and hindsight reconstruction, Petitioners also failed to explain **why** a POSITA would have combined the teachings of Stokes and Shimizu with Krummacher. Prof. Doolittle offers no explanation other than to repeat, *verbatim*, the conclusory assertion for which Petitioners rely on him. *Compare* Pet. at 27 with EX1102, ¶ 128 (“Thus, a POSA would have been motivated to apply this principle to

Krummacher, because it would increase the conversion of blue light to yellow light and improve the uniformity of the light source.”). The Board rejected exactly this approach in *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (precedential) (“*Xerox*”) (Rejecting the petitioner’s obvious argument because “[w]e have reviewed this excerpt from Dr. Jones’ declaration and note that it merely repeats, verbatim, the conclusory assertion for which it is offered to support.”) Prof. Doolittle fails to offer any evidence or analysis to support his conclusion.

For example, Prof. Doolittle does not explain why a POSITA considering Krummacher—which focuses on light scattering material only to obscure the underlying electronics when the LED is *off*—would care about increasing the uniformity of the light source when the LED is *on*. See EX1107 at [0008] (explaining Krummacher’s objective that the luminescence conversion layer and additional elements of the optoelectronics component “can be perceived at most hazily or not at all” “when the optoelectronic device is *off*”) (emphasis added); see also EX1107 at [0004], [0009], [0028], [0029], [0031], [0041], Figs. 2, 3. There is nothing in Krummacher to suggest a need for improved uniformity when the LED is *on*, and the conclusory assertions from Petitioners and Prof. Doolittle are nothing more than impermissible hindsight reconstruction. See Response at 33-38; see also *Metalcraft*, 48 F.3d at 1367 (“hindsight bias cannot be the thread that

stitches together prior art patches into something that is the claimed invention”); *Xerox*, Paper 9 at 15 (conclusory expert testimony is insufficient).

Under Petitioners’ conclusory reasoning, it would be obvious for *any* LED designer to adopt *any* feature from *any* other LED reference—regardless of application—so long as the petitioner offers an expert opinion that the feature is beneficial. Such is not the law. A petitioner must explain the how and the why, and Petitioners have failed to do that here.

B. Ground 2: Petitioners Still Have Not Explained How a POSITA Would Have Combined the Teachings of Hussell, Krummacher, Stokes, and Van Woudenberg

Petitioners’ failure to explain the alleged motivation to combine is even more acute in Ground 2, which stitches together teachings from four different references. Petitioners explain their case as follows:

The combination supplies what Hussell does not spell out: Krummacher provides the TiO₂ scattering solution for off-state appearance (EX1107 ¶¶ 3-4, 39-41; EX1102 ¶¶ 219-230), Stokes provides the particle size teaching, and Van Woudenberg discloses the wavelength range of blue LEDs like those in Hussell (EX1120, 5:15-19).

Reply at 11. This is nothing more than a recitation of the claimed features as they appeared in four different references, which is legally insufficient. It is not enough to simply identify each claimed feature in some prior art reference. *Virtek Vision Int’l ULC v. Assembly Guidance Sys., Inc.*, 97 F.4th 882, 888 (Fed. Cir. 2024)

(concluding that substantial evidence did not support the Board’s motivation to combine findings even though each claimed feature was known in the art).

Petitioners now assert that they have met their burden because *Patent Owner* has not identified a limitation missing from the teachings of these four disparate references. Even assuming Petitioners’ statement is true, this misses the point. It is not enough that each feature may be found in the prior art. Petitioners bear the burden of proving—based on more than just conclusory expert testimony and hindsight reconstruction—that a POSITA would have been motivated to combine the teachings. *Virtek Vision*, 97 F.4th at 888 (“It does not suffice to simply be known. A reason for combining must exist.”) That burden is inevitably more difficult to meet when combining features from *four* different references. Having failed to explain any motivation for combining the cited features from four references into a single embodiment of the claimed invention, Petitioners have fallen short of meeting their burden. *See* Response at 39-40.

C. Grounds 1-2: Petitioners’ Arguments About Average Particle Size Remain Inconsistent and Incomplete

Petitioners have generally chosen not to address Patent Owner’s arguments about average particle size on the merits. Instead, Petitioners simply embrace the Institution Decision as if it is set in stone. For example, Petitioners do not address Patent Owner’s argument that the Petition fails to elucidate its alternative theories

on the disclosure of the claimed average particle size. As the Federal Circuit has explained, “it is the petitioner’s burden to make clear when alternative arguments are being presented and to sufficiently expound on each one.” *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1380 (Fed. Cir. 2023). The disclosures of particle sizes Petitioners cite in Krummacher and Stokes are different, and the Petition fails to explain its alternative theories or how they fit into the alleged combination of prior art teachings.

For Krummacher, the Petition cites to a single sentence: “Particularly suitable for use as light-scattering particles are particles of TiO₂ or Al₂O₃, preferably having a radius of between 50 nm and 1000 nm.” Pet. at 26 (citing EX1107 at [0039]). This single sentence indisputably does not disclose an *average* particle size. *See* EX2001, ¶ 98. Nor does this one sentence express *any* preferred particle size within the broad range of 50 nm to 1000 nm. *See id.* Nor does this one sentence provide any basis for *selecting* one particle size over another within the broad range of 50 nm to 1000 nm. *See id.* Nor does this one sentence say anything about preferential scattering of blue light. *See id.* On the contrary, *most* of the particle sizes in Krummacher’s range (*i.e.*, particles between 400 nm and 1000 nm) do *not* scatter more blue light. *See* Pet. at 26; EX1113 at 8. In effect, Krummacher expresses *no preference* for scattering blue light. With all of these claimed details absent from the single Krummacher sentence Petitioners cited,

Petitioners have failed to meet their burden of proving that Krummacher teaches the claimed average particle size.

For Stokes, Petitioners fail to explain their assertion that “Stokes *explicitly* discloses the selection of an average particle size.” Pet. at 27 (emphasis added). Nor can they; Petitioners are plainly wrong on this point. Nowhere in Stokes, much less the two paragraphs Petitioners cite, is there any discussion of *average* particle size. But even if Petitioners are right that Stokes teaches the claimed “average particle size” *without* addressing the average and *without* actually identifying any particular particle sizes, Petitioners still have failed to show how or why a POSITA would have combined Stokes with Krummacher to arrive at the claimed invention, as explained above.

D. Petitioners Have Not and Cannot Explain Their Inconsistent Claim Constructions

Petitioners do not dispute that they argued contradictory claim constructions on four different claim terms before the Board and two federal district courts, which the Director has made clear should not be done without providing an explanation for the contradiction. *Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR2025-00632, Paper 20 at 3–5 (Director Nov. 3, 2025) (precedential); *Tesla, Inc., v. Intellectual Ventures II LLC*, IPR2025-00340, Paper 18 (Director Nov. 5, 2025) (informative) (“*Tesla*”). Rather, Petitioners assert that they fall

within the *Tesla* “safe harbor.” Reply at 22. This argument fails for two reasons. First, the Reply addresses, at best, only one of the four claim limitations on which they took contradictory positions. *Id.* Second, the Tesla safe harbor requires a petitioner to explain any contradictory claim constructions *in the petition*. *Tesla*, Paper 18 at 3-4. Petitioners did no such thing. Instead, Petitioners waited to see what would happen before trying to explain their contradictions. The Director has specifically criticized this “wait and see” approach. *Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, Paper 36 at 4 (Director Jan. 26, 2026) (“*Revvo Techs. II*”) (“My precedential decision does not provide for conditional future outcomes, and while petitioner would no doubt like to ‘wait and see,’ we cannot and will not. The appropriate course of action under these circumstances is to deny institution.”).

Petitioner Savant now cites its belated stipulation to the district court that it will no longer argue indefiniteness in that proceeding. Reply at 23 (citing EX1196). Notably, Savant filed this stipulation on March 3, 2026, almost a full year *after* filing the petition in this proceeding. EX1196. Savant also waited until *after* a different district court expressly rejected all of Petitioners’ indefiniteness arguments on identical language appearing in a related patent. EX2041 at 6-16. Again, this timing is exactly the “wait and see” approach that the Director indicated the Board will not tolerate. *Revvo Techs. II*, Paper 36 at 4.

The problem does not end with Petitioners. Their expert, Prof. Doolittle, also took contradictory claim construction positions, and he did so under oath. EX2039 at Exhibit A; EX2040; EX1102, ¶ 32; *see also* Paper 14 at Appendix A. He testified in the district court that the claims could not be understood by a POSITA and therefore are indefinite, and he testified here that (1) like Petitioners, he “applied the plain and ordinary meaning . . . unless otherwise specifically indicated” (EX1102, ¶ 32), and (2) unlike Petitioners, he provided specific claim construction opinions as to three terms (EX1102, ¶¶ 92-95). Having claimed in the Petition that they were applying only the plain and ordinary meaning to all terms, Petitioners now dismiss Prof. Doolittle’s opinions as not being claim constructions, but Prof. Doolittle expressly called them his “OPINIONS ON CLAIM CONSTRUCTION.” EX1102, ¶¶ 92-95.

E. Secondary Indicia

Contrary to Petitioners’ assertions, Patent Owner has demonstrated a nexus between the claimed invention and the extensive commercial success and industry praise Patent Owner’s white filament light bulbs have found in the market. Patent Owner’s commercial success and industry praise are the “direct result of the unique characteristics of the claimed invention.” *Nested Bean, Inc. v. Big Beings USA Pty Ltd*, IPR2020-01234, Paper 34 at 46-47 (P.T.A.B. Jan. 24, 2022) (“*Nested*

Bean”); (quoting *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) and *In re Huang*, 100 F.3d 125, 140 (Fed. Cir. 1996)).

The '539 Patent recognized that there was a need for improved LED lighting apparatuses that “maintains the desired color properties of the devices,” “without requiring the large quantities of photoluminescent materials,” “addresses perceptive variations in color of emitted light with emission angle,” and “addresses the non-white color appearance of the LED lighting apparatus while in an OFF state.” EX1101 at 2:42-51. Each of these factors is important to perception of the light in both the ON and OFF states, and the '539 Patent described and claimed its novel combination of components to satisfy those factors.

The evidence Patent Owner has presented goes directly to that perception. Patent Owner developed and has sold a bulb that appears white in the OFF state but also provides uniform light output in the ON state. *See, e.g.*, EX2029 (retailer praise indicating that “These clear glass LED bulbs with exposed white filament offer a sleek aesthetic that easily assimilates into any home décor style. Where traditional clear glass LED bulbs stand out with their yellow filaments, ***these bulbs contain a discreet, white-colored core*** that blends in better, ***while still providing a smooth glow meant for chandeliers, pendants, and lamps without shades***”) (emphasis added); *see also* Response at 42-43. These features have been so important to consumers that retailers have been able to charge a premium for

Patent Owner's white filament bulbs. *Compare* EX2035 (Patent Owner's white-filament product priced at \$29.97) *with* EX2036 (similar yellow-filament product priced at \$21.97); *see also* EX2001, ¶ 120.

Petitioners argue that embodying the claimed invention is not the *only* reason for the success of Patent Owner's products, citing testimony from Dr. Schubert. Reply at 13. As Dr. Schubert testified, the commercial success and industry praise are due "in part" to the claimed invention, and that is enough. EX2001, ¶ 122. There is no requirement that success and praise derive exclusively from the claimed invention. *See Fox Factory*, 944 F.3d at 1374 (the existence of unclaimed features, standing alone, does not preclude a finding of nexus to the claimed invention). Though they criticize Dr. Schubert for attributing the success and praise only "in part" to the claimed invention, Petitioners fail to identify any other, unclaimed features that have driven the success and praise. Reply at 13-14.

Petitioners also argue that a temporal disconnect undermines Patent Owner's evidence of secondary considerations, vaguely asserting that the success of Patent Owner's products is the result of "subsequent advancements in technology." Reply at 14. But Petitioners do not specifically identify any such subsequent advancements that might otherwise explain the success of Patent Owner's products. *Id.* Once again, Petitioners rely on conclusory assertions rather than evidence or analysis.

Finally, Petitioners dismiss Patent Owner's evidence of secondary considerations as "de minimis and anecdotal." Reply at 15. The consumer comments in EX2032-2034 and EX2037 may be anecdotal, but the industry praise and commercial success are not. *See* Response at 42-43. The Board has expressly credited evidence of industry awards as "strong evidence of industry praise and entitled to significant weight." *Nested Bean*, Paper 34 at 46. And the fact that Petitioners and other competitors have followed Patent Owner into the market and copied Patent Owner's products further demonstrates that the claimed invention was not obvious. *See Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186, 1196 (Fed. Cir. 2003). Again, if the claims were obvious as Petitioners claim, then Petitioners would have introduced their competing products years earlier to meet the long-felt need. *See* Response at 43-44.

Taken together, Patent Owner's evidence of secondary considerations strongly indicate that the claimed invention was not obvious. Petitioners argue otherwise, but the Petition could only reconstruct the claimed invention by combining teachings from three or four different references, and Petitioners offer only conclusory expert testimony and hindsight reconstruction as motivation for combining those teachings. The secondary considerations of non-obviousness reaffirm that there was no such motivation.

F. Petitioners Grossly Mischaracterize the Facts in Their Attack on Dr. Schubert’s Credibility

Petitioners purport to attack Dr. Schubert’s credibility collaterally by selectively presenting facts and testimony from two unrelated proceedings.

Neither proceeding involved the patent at issue here or even the same technology.

More importantly, Petitioners—through both commission and omission—grossly mischaracterize what happened in those proceedings.

Petitioners first assert that Judge Noreika from the U.S. District Court for the District of Delaware discredited Dr. Schubert’s testimony during a 2021 bench trial. Reply at 17. Petitioners base their assertion on a single quote from the transcript which they take entirely out of context. *Id.* (quoting EX1175 at 303:17-304:4). Petitioners omit that the language they quote was part of a much longer exchange between Judge Noreika and Dr. Schubert. EX1175 at 302:22-304:23. Petitioners also omit that the exchange ended with Judge Noreika saying, “Thank you,” clearly satisfied with Dr. Schubert’s testimony. *Id.* at 304:15-23. Contrary to the implication Petitioners present on page 17 of their reply brief, Judge Noreika made no finding that Dr. Schubert was not a credible witness.

Petitioners next identify an investigation conducted in 2009 by the National Science Foundation Office of Inspector General in connection with an NSF grant project. Reply at 17-20. The investigation involved allegations that the project

involved a conflict of interest and misuse of funds. Petitioners bury in a footnote the outcome of that investigation, *which found no misconduct*: “(1) the awardee institution was aware of the PI’s interest in the small business and acted to mitigate any conflict of interests; and (2) there was no evidence indicating that NSF award funds were misused or misappropriated.” EX1169; *see also* Reply at 18 n.3 (quoting EX1169). Just like the Delaware bench trial—and contrary to Petitioners’ implications—the NSF investigation found no wrongdoing by Dr. Schubert or anyone else. EX1169.

Petitioners also cite testimony from IPR2024-01357, where Dr. Schubert testified that he had never been the subject of a formal investigation or proceeding involving accusations of dishonesty or fraud. Reply at 17 (quoting EX1148 at 89:7-13). Petitioners imply that Dr. Schubert should have answered yes to this question based on either the Delaware bench trial or the NSF investigation, but Dr. Schubert’s response is entirely consistent with the record in each case. The question was about “accusations of dishonesty or fraud,” and Dr. Schubert answered honestly and correctly. EX1148 at 89:7-10. The accusations in the NSF investigation—which were ultimately found to be meritless—involved alleged conflicts of interest, *not* dishonesty or fraud. EX1169. As for the Delaware bench trial, Petitioners emphasize Dr. Schubert’s 2021 testimony that he “got accused of fraud on the Patent Office.” Reply at 17 (quoting EX1175 at 179). As the Board

knows, “fraud on the Patent Office” is a loose and longstanding synonym for “inequitable conduct,” but it is not the same thing as common law fraud. Again, based on his reasonable interpretation of the question, Dr. Schubert answered honestly and correctly that he has not been accused of dishonesty or fraud.

Petitioners’ attack appears to be an effort to “balance” the credibility dispute with their own expert, Prof. Doolittle, who has a history of evading questions in cross examination. *See* IPR2024-01357, Paper 26 at 25-29 (Patent Owner response addressing Prof. Doolittle’s lack of credibility). But if Petitioners truly believed Dr. Schubert’s September 2025 testimony in IPR2024-01357 undermined his credibility, then they would have raised the issue in *that* proceeding. They did not. In IPR2024-01357, Petitioners apparently decided that the testimony was not relevant or significant enough to bring to the Board’s attention. Patent Owner respectfully submits that the Board should reach the same conclusion here.

III. CONCLUSION

For the reasons stated above and those in its Patent Owner Response, Feit Electric respectfully asks the Board to find that the challenged claims of the ’539 Patent are not unpatentable.

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(c)(4)

I, the undersigned, do hereby certify that the foregoing Patent Owner Preliminary Response, including footnotes, contains 4,080 words, as measured by the Word Count function of Microsoft Word as specified by 37 C.F.R. § 42.24(c)(4).

/Charles M. McMahon/

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CERTIFICATE OF SERVICE

I hereby certify that on May 13, 2026, a true and correct copy of the foregoing was served by electronic mail upon the following counsel of record for

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