

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LEDUP MANUFACTURING GROUP LTD.,
Petitioner,

v.

SEASONAL SPECIALTIES, LLC,
Patent Owner.

Case IPR2024-01259
U.S. Patent No. 11,533,794

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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PETITIONER’S UPDATED EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 11,533,794 to Altamura, issued December 20, 2022
1002	U.S. Patent No. 11,533,794 File History
1003	U.S. Patent Application Publication No. 2005/0168162 to Inoue, published August 4, 2005
1004	U.S. Patent No. 1,510,847 to Holler, issued October 7, 1924
1005	U.S. Patent No. 2,072,337 to Kamm, issued March 2, 1937
1006	U.S. Patent No. 1,868,689 to Brander, issued July 26, 1932
1007	U.S. Patent No. 4,675,575 to Smith <i>et al.</i> , issued June 23, 1987
1008	U.S. Patent No. 2,760,120 to Fisherman, issued August 21, 1956
1009	U.S. Patent Application Publication No. 2004/0207341 to Callahan, published October 21, 2004
1010	U.S. Patent Application Publication No. 2008/0025024 to Yu, published January 31, 2008
1011	M. George Craford, <i>LEDs Challenge the Incandescents</i> , IEEE Xplore (1992)
1012	E. Fred Schubert, <i>Light-Emitting Diodes</i> (2nd ed., Cambridge University Press 2006)
1013	Declaration of E. Fred Schubert, Ph.D.
1014	<i>Curriculum Vitae</i> of E. Fred Schubert, Ph.D.
1015	U.S. Patent No. 11,096,252 to Altamura, issued 17, 2021
1016	U.S. Patent No. 11,096,252 File History
1017	Reply Declaration of E. Fred Schubert, Ph.D.
1018	Redline Compare POPR to POR Yu Section
1019	Redline Compare Altamura ‘252 Declaration to ‘794 Declaration
1020	<i>Intentionally Left Blank</i>
1021	Early Packaging

1 Introduction

In its Decision on Institution (“DOI”), the Board rejected PO’s preliminary arguments asserted in the Patent Owner Preliminary Response (POPR). PO had access to Petitioner’s expert (Schubert) declaration and had the opportunity to depose Dr. Schubert, but did not do so. Nor did PO attempt to develop the record to support or modify the POPR’s failed arguments. Therefore, the POR is nearly a verbatim copy of the POPR, failing to present any new arguments or evidence rebutting the Petition’s grounds. Accordingly, the Board should maintain its position that the claims are unpatentable on the challenges presented for Grounds 1-4, 6, and 7.

Additionally, PO did not argue any of the dependent claims in the POR. Thus, PO has waived its right to make arguments regarding the dependent claims.

2 Petitioner’s Response to PO and Board’s Comments

2.1 Ground 1 – Claim 1 - Inoue

PO asserts “Inoue’s bypass is not a resistor bypass that continues to conduct electricity and keeps the remaining lights lit, even when one or more individual lighting elements in the series are out, loose, broken, missing/removed or defective.” (Emphasis has been added throughout).

The Board stated “we determine Petitioner establishes sufficiently... that Inoue discloses each of the limitations of claim 1.” DOI, 13.

PO argues unclaimed subject matter. In POR, 15, PO argues the lights in the string will *not remain lit* if LED 1 burns out. These arguments are based upon limitations *not set forth in claims 1-6, 8-14*. Claims 1, 9 and 10, the independent claims, simply state “said *bypass resistor* ... conducting current at all times when current is flowing through the circuit regardless of whether the light sources are conducting current there-through...” This does not require that the circuit “keep the remaining lights lit,” as argued by PO. POR, 15-16.

As noted by the Board, PO’s argument is based upon an attempt to impermissibly read limitations from the Specification into the claims. DOI, 14.

Functional statements in ‘794 patent apparatus claims are not distinguishing limitations since they *do not import additional structure*. DOI, 7. The claims in the ‘252 patent are apparatus claims. The Board agreed that these functional statements do not distinguish over the prior art. DOI, 8-11. The Board stated, “apparatus claims must still be distinguished from the prior art in terms of structure rather than function. See *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).” DOI, 8. Additionally, PO did not dispute claim 15 being a product-by-process claim wherein patentability is based on the product itself (Pet. 31; DOI, 16).

Regardless, Inoue performs these related functions. *Dr. Schubert states the current continues to flow in the bypass resistors of Inoue which is elementary circuit theory, regardless of the status of the LEDs*. EX1017, ¶¶31-33, 35, 70.

2.2 Ground 2: Claims 1, 10, 15 were obvious over Inoue and Holler

The Petition demonstrates claims 1, 10 and 15 were obvious over Inoue and Holler. Pet. 26-34. PO argues scenarios of combining that are not applicable to modified Inoue. POR, 17-22. This is the same argument PO raised in the POPR, which the Board rejected as being “misplaced.” DOI, 18. Inoue discloses the limitations of claims 1, 10, 15 and Holler merely teaches resistive values applied to Inoue. *Id.* Accordingly, claims 1, 10, 15 are obvious over Inoue and Holler, and PO’s misplaced arguments fail to show otherwise.

2.3 Grounds 3, 4 and 6 render claims 1, 5-7, 9-14, 15 obvious

The Petition demonstrates that claims 1, 10-11, 15 (Ground 3), claims 1, 5-7, 9 (Ground 4), and claims 10-14 (Ground 6) were obvious. Specifically Holler in view of Smith for Ground 3 (Pet. 34-41), Fisherman in view of Callahan for Ground 4 (Pet. 41-48), and Holler in view of Callahan for Ground 6 (Pet. 58-66).

PO argues claims 1, 10, 15 for Ground 3, and claim 10 for Ground 6. Specifically, that a POSITA would not have been motivated to modify Holler with Smith or Callahan because Holler lacks “current-limiting features” (Ground 3) and lack of “current regulation” (Ground 6) that PO contends will cause current surges LEDs are unable to handle, and a POSITA would unlikely be able to overcome (POR 24, 30). PO fails to point out what “current-limiting features” and “current regulation” elements are presented in the claims that are absent in the references

that render the '794 Patent operable vs modified Holler lacking necessary "current-limiting features", and "current regulation." Holler meets all claim limitations for claims 1, 10, 15 including "the resistance of the bypass resistor is equal to or greater than the inherent resistance of the light source" recited in claim 10, and "a resistance greater than or equal to the predetermined resistance of said LED," recited in claim 15. Holler is silent regarding LEDs (Pet. 35-39, 60-62, 40-41). However, Smith and Callahan clearly teach the advantages of LEDs (Pet. 34-35, 58-59). Accordingly, if the claimed resistive values are satisfactory for LEDs in the '794 patent as claimed, then they are satisfactory for modified Holler since the same resistive values are applied to the same claimed circuit EX1017, ¶¶50, 61, 74. Furthermore, applying LEDs to Holler as taught by Smith, and Callahan would be simple and predictable (EX1013, 68, 110).

Regarding Ground 4, PO argues that a POSITA would not have been able to successfully modify Fisherman by using Callahan's teachings of using LEDs without redesign of the circuit due to LEDs not having an inherent resistance and therefore requiring "precise current regulation" and rendering Fisherman "unsuitable for protecting LEDs from overcurrent" POR, 26-27. PO fails to point out what "current regulation" elements are claimed in the challenged claims, but are absent in the references that would render modified Fisherman unsuitable for LEDs. Fisherman meets all limitations, as claimed (Pet. 42-44) and is merely silent

regarding the use of LEDs, which is clearly taught by Callahan EX1013, 83-84.

The definition of inherent resistance was undisputed by PO (POR, 7) and is calculated using Ohm's law EX1017, ¶48, 66, which a POSITA would use to calculate resistive values of the bypass resistor applied to Fisherman to avoid overcurrent EX1017, ¶¶50-53. Furthermore, applying LEDs to Fisherman, as taught by Callahan is simple and predictable (EX1013, 84; EX1017, ¶53).

Regardless, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; rather, the test is what the combined teachings of the references would have suggested to a POSITA. See *In re Keller*, 642 F.2d 413 (CCPA 1981).

The Board concluded that (i) PO failed to meaningfully address whether each modification would have been beyond a POSITA, (ii) the definition of a POSITA was not disputed, and (iii) “[a] person of ordinary skill is also a person of ordinary creativity, not an automation.” KSR, 550 U.S. at 421. DOI, 33, 25, 37.

The Board also concluded that PO failed to overcome Petitioner's assertion that LEDs have several advantages over incandescent bulbs. DOI, 33, 25, 37. The POR offers no new arguments or evidence to rebut the Petition's showing.

Regarding dependent claims 11 (Ground 3), 5-7 (Ground 4), and 11-14 (Ground 6), PO failed to address these claim limitations in its POPR and in the POR. DOI, 34, 26, 38. Accordingly, the Board should conclude the claims were

obvious over the references applied in Grounds 3, 4, 6. The POR fails to show otherwise.

2.4 Ground 5: Claims 2-6, 8 and 9 were obvious over Inoue and Smith

2.4.1 Institution Decision

The Board was not persuaded Petitioner established sufficiently that Inoue in view of Smith teaches or suggests all the limitations in claim 9 and dependent claims 2-6 and 8, and *why* a POSA would make this combination. DOI, 28.

2.4.2 Statements of Motivation in Petition

Petitioner explained in the Petition “[t]he numerous record-supported advantages, set forth in Smith provide a clear motivation for use of the teachings of Smith as applied to Inoue, so as to enjoy the advantages set forth in Smith.” Pet. 49. This is a clear articulation of motivation, which, for the reasons explained below in Section 2.4.3 and 2.4.4, is further permissibly expanded.

2.4.2.1 Claim 2

Claim 2 relates to the circuit being “series-parallel connected.” As set forth in the petition, Smith teaches the claimed series-parallel circuit. Pet. 50, 51.

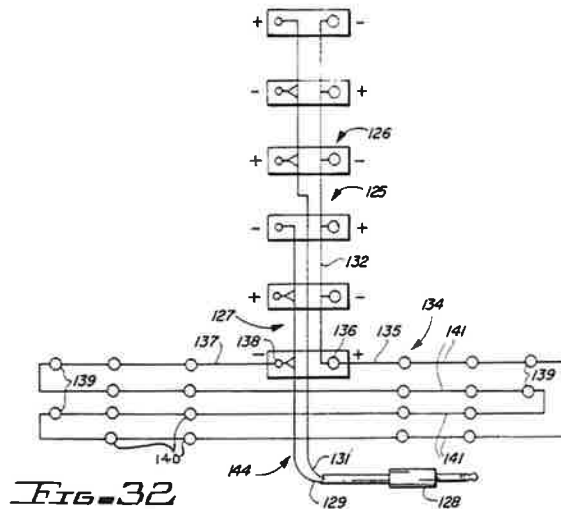
Smith discloses that an advantage of using the series-parallel circuit will result in “enabling *more lights* to be illuminated with *less power*, for increasing the *uniformity of illumination* along the length of the string and for minimizing light outage due to bulb burnout.” (Smith Abstract). EX1017, 68. These statements

comprise one of the “numerous record supported advantages,” set forth in Smith that provide a clear reason to use Smith’s teachings as applied to Inoue “so as to enjoy the advantages set forth in Smith.” Pet. 50.

A POSA would have been motivated to use Smith’s teachings regarding series-parallel circuits to Inoue because series-parallel circuits provide uniform illumination and improve the length of the string, EX1013, 98-99 which allows the enjoyment of the advantages of Smith. Pet. 49. A POSA would be motivated to add Smith’s advanced functionality into Inoue’s lighting circuits. EX1013, 98-99. A POSA, familiar with the Inoue prior art, would be motivated to adopt Smith’s series-parallel lighting circuit configuration to increase “uniformity of illumination” and minimize “light outage due to bulb burnout.” EX1017, ¶68.

Uniformity of illumination, allowing more lights to be lit and minimizing light outage is identified in the Smith Abstract *as a reason for using a series-parallel configuration* and as such are a motivating advantage for using Smith’s advanced functionality in Inoue. The Smith Abstract, accordingly, provides a clear nexus to Dr. Schubert’s testimony regarding the reason for including a series-parallel circuit, which is recited in claim 2. For the reasons explained below, this is a proper expansion, and fair extension of previously raised arguments of uniform illumination and improving the length of the string.

Further, as stated in the Pet. 50, series/parallel circuits have been well known as evidenced by the filing date of Smith, July 1984.



Smith shows in Fig. 32, series light circuits hooked in parallel to *a single power source 128*. A single power source then provides *uniformity of illumination* of the multiple, parallel connected, series circuits. EX1017, ¶68. Certainly, a POSA would know to connect series light strings in parallel to a single power source to obtain uniformity of illumination, because a POSA would want the LEDs to have the same illumination. Smith shows an example of connecting light circuits in parallel in July of 1984, in order to allow multiple parallel light strings to stretch across branches on a tree. EX1007, 7:20-23. Extensive use and notoriety of light strings being connected in parallel would certainly motivate a POSA to use a series-parallel connection of light strings, such as taught by Smith, for the purpose of creating uniform illumination and enabling more lights to be illuminated, as argued in EX1013, 98-99 and EX1007, Abstract and EX1007, 7:50-55. In the

present situation, series parallel circuits are prevalent in, and have been in commercial use, for decades.

These arguments are a permissible expansion of the statement in the Petition because they provide more clarity with the reasons stated for motivation in the Petition, i.e., providing the numerous *record-supported advantages* provided by Smith *to enjoy the advantages of Smith*, and include the arguments of Dr. Schubert regarding uniformity of illumination and the statements in Smith, Abstract that uniformity of illumination is achieved by series-parallel circuits. See 2.4.3 and 2.4.4 below.

2.4.2.2 Claim 3

A POSA would have been motivated to use Smith's teachings to modify Inoue because Smith provides advanced circuitry creating a blinking effect. Blinking effects draw attention to potentially important instruments. Blinking to draw attention is common sense. Blinking can also provide decoration. Blinking can be provided as sequencing between multiple colors, Smith, Abstract; EX1013, 101-102; EX1017, ¶71, which adds additional motivation to use the advanced functionalities of Smith because decorativeness can be appealing to a user who would be motivated to modify the lighting circuit of Inoue. This is supported by Smith, col.7, 59-61 and Dr. Schubert EX1013, 98-99, 101-102. Thus, blinking inherently provides attention and decorative value to the lighting circuit.

Dr. Schubert equates blinking, flashing and twinkling, which was not opposed by PO. EX1013, 99 notes 37, 38. Dr. Schubert refers to Smith, which states that various AC and DC control circuits are provided in Smith for blinking effects. Dr. Schubert also refers to Smith as disclosing “a variable duty cycle controller means for selectively controlling the pulse duration during each of said first and second switching signals.” EX1013, 101-102. The advanced circuitry taught by Smith to create blinking and control pulse duration is a permissible expansion of the advantages provided by Smith.

2.4.2.3 Claim 5

The motivation for claim 5 is the same as claim 3.

Claim 5 is similar to claim 3, except that claim 5 is broader and does not require “electronic circuits that control the flashing rate.” The documentary evidence for claim 5 is identified in Pet. 54-55; EX1013, 104. It is well known that LEDs are semiconductor light sources.

2.4.2.4 Claim 6

The motivation for claim 6 is the same as claim 3.

The documentary evidence of obviousness of claim 6 is identified in Pet. 55-56 and EX1013, 105-107. Dr. Schubert states it would be apparent to a POSA that Smith’s teachings regarding blinking would be applicable to *individual LEDs*, a group of LEDs, multiple groups of LEDs or the entire string of LEDs. As in claim

3, flashing rate is controlled by pulse duration controllers. EX1013, 101-102. Dr. Schubert states since Smith disclosed multiple control circuits, this further supports the notion that LEDs or groups of LEDs can be controlled independently. EX1013, 105.

2.4.2.5 Claim 9

The motivation for claim 9 is the same as claim 3.

Documentary evidence of obviousness for claim 9 is identified in Pet. 57; EX1013, 108-109. Dr. Schubert explains Smith discloses multiple controllers and a POSA can use these controllers to cause an entire light circuit to flash. EX1013, 109.

2.4.2.6 Claim 4

A POSA would be motivated to use LEDs that are .2 watts or less because LEDs of .2 watts or less have “extremely low energy consumption.” EX1013, 102.

Documentary evidence of obviousness for claim 4 is identified in Pet. 52-54 and EX1013, 102-104. The Pet. 50 stated that .2 watts or less is a matter of *design choice* and that there is nothing in the record that .2 watts or less yields any previously unexpected results. Further, Smith teaches the use of LEDs having 0.08 watts which falls within the range of .2 watts or less of claim 4. Dr. Schubert states .2 watts or less was a typical wattage for LEDs in 2006. EX1013, 102-103.

2.4.2.7 Claim 8

Claim 8 recites limitations in a Markush group listing various power sources including AC power and batteries. Smith discloses various power supplies for light circuits including AC and DC circuits, Smith, 16:20-44. Pet. 56-57. A POSA would have been motivated to modify Inoue's battery power with Smith's AC power, e.g., to obtain continuous power. Moreover, modifying Inoue's battery with Smith's AC power would have been a simple substitution of one known element for another. *KSR*, 417. It is common sense that these power sources are interchangeable.

2.4.3 Permissible Expansion of Statements of Motivation in Petition Based on Arguments Presented in Expert Declaration

The Federal Circuit decision in *Rembrandt Diagnostics LP v. Alere, Inc.*, 76 F.4th 1376 (Fed. Cir. 2023) has a very similar fact pattern and is informative here as it provides a legal analysis for consideration of the requirements of 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 42.22(b). Also, see *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1381-1382 (Fed. Cir. 2023). *Rembrandt* addressed the issues of *new theories* and *new arguments*. *Id.* *Rembrandt* stated that in its reply, a Petitioner may “only respond to arguments raised in a corresponding opposition, patent owner preliminary response, patent owner response, or *decision on institution*.” *Id.*, 1383. 37 C.F.R. Sec. 42.23(b).

Here, Petitioner is replying to the statements of the Board that Petitioner has not adequately described *why* Smith’s teachings could be used by a POSA to modify Inoue. Although the reasons why Smith’s teachings should be used to modify Inoue are articulated in the Petition, it is permissible to expand the arguments of the Petition, to provide more clarity, with the statements and arguments set forth in the Expert Declaration and the teachings of the references, and Petitioner “does not point to any new embodiments not previously identified to advance a meaningful distinct contention from what it [Petitioner] first asserted in its petition.” Rembrandt, 1385.

In *Rembrandt*, Alere (Petitioner) made a reply argument that refuted Rembrandt’s assertions that there is *no motivation* to add multiple test strips or an expectation of success. Rembrandt, 1383. Alere had *broadly argued* in its Petition that the combination of references would be “more efficient.” Later, arguments about cost savings were made. *Id.*

The Board found previously that the Petition did “*not explain sufficiently* why modifying Tydings to remove the wicking material would have been understood to be beneficial.” Rembrandt, 1385. In response, Alere argued a skilled artisan would have been motivated to make the proposed modifications by removing the wicking material since Alere cited *previously unidentified disclosures*

in Mackay and Lee-Own, the cited references, for teaching the *benefits of removing wicking materials*. Id.

The Court held that Alere's argument regarding costs savings was *a form of efficiency* (not a new argument), but rather, was a valid argument for motivation to combine the references. Id. Additionally, the use of previously unidentified portions of the cited references that taught the benefits of removing wicking materials was not new evidence. Id.

In that regard, the Court stated Alere relied on credible evidence from its Expert in the form of testimony, and documentary evidence (disclosures of Mackay and Lee-Own) of *advantages* set forth in the cited patent references. Id. Alere merely expanded upon its arguments of advantages of the combination of the prior art in its reply by pointing out advantages achieved by the combination of references based upon the listing of advantages by its Expert. Id. *Rembrandt* held that *pointing out advantages* is “*responsive and simply expands on previously raised arguments.*” Id., at 1384.

The Federal Circuit stated with regard to new evidence, that Alere cited previously unidentified *benefits* of removing wicking materials disclosed in the cited references but that Alere stated in its Petition “that there were benefits known in the art for removing wicking material.” Id. The Court stated Alere merely “*elaborates on the motivation-to-combine argument*” that Alere made in the

Petition when referencing these benefits. Id. The Federal Circuit stated *no new embodiments* were argued here, *as they were in Apple*, 949 F.3d 706-707. Id. `

Similarly, Petitioner stated that there were “numerous record supported advantages” provided by Smith which allow Inoue to “enjoy the advantages of Smith.”

The facts here are similar to *Rembrandt*. Here, Petitioner has relied on the listing of advantages set forth in the Schubert Declaration and in the references themselves, to explain and expand its showing motivation. The credible evidence set forth in Dr. Schubert’s Declaration regarding blinking, uniformity of intensity of illumination, DC power sources and operating power of LEDs (0.2 watts) was unrebutted by PO. Dr. Schubert stated the motivation and reasons why a POSA would modify the disclosure of Inoue was to “*broaden the capabilities of the LED lighting circuits disclosed by Inoue*” and to “*include advanced functionality*” of Smith in Inoue. EX1013, 100. Petitioner has not asserted any new legal arguments or relied on new embodiments in Smith or Inoue.

Dr. Schubert clearly explains a POSA would be motivated to include Smith’s *advanced functionalities* in Inoue’s lighting circuit, including blinking, color change, AC and DC powered circuits and uniformity of illumination, to broaden the capabilities of Inoue’s LED circuit. Dr. Schubert further states that a POSA would be familiar with the design of basic electrical circuits and understand that

such electrical circuits work in a *predictable manner*. “The combination of Inoue and Smith would *broaden the capabilities of the LED lighting circuits* disclosed by Inoue *to include the advanced LED functionalities of Smith*.” EX1013, 99-100.

The Petition states there are numerous “*record-supported advantages* set forth in Smith that *provide a clear motivation* for use of the teachings of Smith as applied to Inoue, so as to *enjoy the advantages set forth in Smith*.” Pet.49. Dr. Schubert has further explained and clearly articulated these advantages and the *motivation and reasons why* a POSA would modify Inoue, i.e., to “*broaden the capabilities* of the lighting circuits disclosed by Inoue” to “include the *advanced functionality*” of Smith in Inoue. A POSA would have understood these advantages, taught in Smith, would broaden the capabilities of the LED circuit taught in Inoue to enjoy the advantages of Smith. EX1013, 99.

Further, the Petition explained Inoue and Smith are *in the same field of endeavor*. Pet. 49; EX1013, 31. Prior Art must be analogous art to the claimed invention to be a proper § 103 references. If the prior art is in the same field of endeavor, it is analogous art. In re Bigio, 381 F.3d 1320, 1325, (Fed. Cir. 2004).

Additionally, blinking LEDs are notoriously well known as evidenced by Smith, which was filed in 1984. The use of a well-known technique (blinking) to improve the light string of Inoue, by adding flashing light sources, constitutes a simple substitution of one known element for another to obtain predictable results.

EX1013,99. KSR v. Teleflex, 550 U.S. 398 (2007). Thus, there are clear reasons for using Smith's teachings regarding flashing light sources which are based upon a desire to use Smith's *advanced functionality* in Inoue's light circuit.

2.4.4 POSAs Understood Benefits and Advantages of Combining Inoue and Smith

In the present case, Dr. Schubert has identified portions of Smith that *support* the reasons why a POSA would be motivated to use the advanced functionalities. These are the same legal grounds identified in the Petition and in the Expert Declaration that further *explain* Petitioner's legal argument. These reasons are based on the same references, that simply identify the advantages of the advanced functionalities of Smith. No new embodiments in the references were identified. These advantages were specifically identified in EX1013, 98-99.

Petitioner's arguments of using the advanced functionalities and advantages of Smith in Inoue such as, blinking (claims 3, 5, 6, and 9), uniform illumination by employing series parallel circuits (claim 2), AC power sources for continuity (claim 8) and operating power of LEDs (.2 watts or less) (claim 4) are similar to arguments the Court found permissible in the Reply of Alere since Petitioner's arguments reply to the Board as to why a POSA would have motivation to combine and expand on those reasons why, by pointing out advantages already raised by Dr. Schubert.

A POSA would have been motivated to combine the teachings of Inoue and Smith, which Dr. Schubert made clear, EX1013, 98-109 and EX1017, ¶¶67-71 and the cited references, because Inoue can enjoy the advantages set forth in Smith. Pet. 49.

2.5 Ground 7: Claims 1, 2, 10, 15 – Yu (EX1010)

2.5.1 Institution Decision

The Board asserted there is a reasonable likelihood Petitioner would prevail in showing claims 1, 2, 10 and 15 are anticipated by Yu. DOI, 41-42, 44. The Board extensively discussed the prior art status of Yu, ultimately inviting the parties to provide further briefing on the issue. DOI, 43-44.

2.5.2 Yu Anticipates Claims 1, 2, 10, 15

The PO did not address the merits of anticipation of '794 by Yu (POPR, 30-35; POR, 31-35). Petitioner reiterates anticipation arguments from Petition, 66-73, and agrees with the Board that '794 is anticipated by Yu. DOI, 44.

2.5.3 Petitioner's Response

PO maintains its contention the Altamura Declaration submitted on September 14, 2022, during prosecution of the '794 application (EX1002, 99-104), is sufficient itself as evidence of reduction to practice prior to the July 31, 2006, filing date of Yu, claiming, without additional evidence, the '794 Declaration was sufficient under the rule of reason. POR, 34.

The Board asserted inventor testimonial requires independent evidence (Brown v. Barbacid, 276 F.3d 1327, 1335 (Fed. Cir. 2002)) in order to prevent fraud (Kridl v. McCormick, 105 F.3d 1446, 1450 (Fed. Cir. 1997)) and without independent corroboration there would be temptation to perjury where the adverse party would be precluded from rebuttal (Price, v. Symsek, 988 F.2d 1187, 1194–95 (Fed. Cir. 1993)). The Board acknowledged while a rule of reason exists (*Id.* 1195), the rule does not dispense with requirements for some evidence of independent corroboration (Coleman v. Dines, 754 F.2d 353, 360 (Fed. Cir. 1985)). DOI, 43-44. The Board held “aside from Declaration testimony of Mr. Altamura and accompanying exhibits, Patent Owner does not offer any additional evidence to establish reduction to practice.” DOI, 43. The Board ultimately asserted “whether Mr. Altamura’s Declaration testimony is sufficiently corroborated is an issue best left to be developed during the trial. We invite the parties to provide further briefing on this issue.” DOI, 44.

PO has not provided any additional testimony or evidence to corroborate Mr. Altamura’s testimony. Instead, PO submitted the same, deficient, argument in its POR that was submitted in the POPR (EX1018). The Board observed, and Petitioner agrees, there is no *corroborative evidence* of Mr. Altamura’s Declaration beyond mere attorney argument and accompanying exhibits. DOI, 43. Petitioner further agrees with the Board the rule of reason does not dispense with

requirements for some independent evidence of corroboration. DOI, 44. As PO provided no additional corroborative evidence, Petitioner contends the Declaration, on its own fails, to establish a conception date prior to the Yu filing date.

In addition to the rule of reason, PO argues it “has established its burden of production to remove Yu from consideration as prior art.” POR, 35. Petition, 71 asserted, and PO has not contested, PO provided no evidence the Examiner actually considered the ’794 Altamura Declaration. Accordingly, consideration of any Altamura Declaration is necessarily decided *de novo* in these proceedings. PO’s failure to provide any corroborative evidence to support the ’794 Declaration is fatal to PO’s contention Yu is not prior art. Additionally, the ’794 Altamura Declaration is deficient on its own. Beyond stating in the ’794 Declaration Altamura had conceived of bypass circuits for LED light strings, the contention with regard to LEDs is entirely unsupported in the exhibits. The ’794 Declaration fails to meet requirements of 37 C.F.R § 1.131(b) for properly showing facts. Declaration Exhibits A-D are dated, but do not have either creator or witness signature certifications, simply notes next to the date reciting “Seasonal Specialties.” Further, Exhibits A-D show light sources as incandescent mini-bulbs and not LEDs (EX1017, ¶¶78-79). Thus, the Declaration itself fails to describe and support reduction to practice of bypass circuits for LEDs, and, is insufficient evidence to swear behind Yu.

Altamura's Declaration has also transformed over time. The Declaration changed from parent '252 patent prosecution to '794 prosecution. Critically, in addition to including exhibits A-D in the '794 Declaration, the Declaration itself was substantively changed. EX1019. Importantly, ¶5 (¶4 of '252 Declaration (EX1016, 110-11, 122-23)), added the statement "I built LED and incandescent prototype light strings at the same time. It was not known to me, until building the LED prototype, that the LED prototype would function, because it was unknown whether sufficient voltage and current would be applied across the LED if a bypass resistor was in parallel." ¶7 of the '252 Declaration asserts a prototype was built sometime in the early spring (March/April) of 2006 for customer review. ¶8 of the '794 Declaration says a prototype was made by at least January 15, 2006. Neither Declaration says the prototype was an LED string, just saying the prototype was testing the inventive concept, which also included incandescent light strings, meaning there is no definitive declaration an LED string prototype was created. These changes appear to be attempts to address concerns regarding actual reduction to practice expressed in a third-party letter submitted during '794 prosecution. (EX1002, 88-91).

In addition to the above changes, the '794 Declaration also removed from '252 Declaration ¶5 the statement "both LED and incandescent elements have the same failure problem which can benefit similarly with a solution, such as described

in [‘252].” Altamura’s statement supports Petitioner’s obviousness contentions for using similar circuitry for incandescent and LED elements and is an admission against self for similarity/obviousness of bypass circuits applied for incandescent and LED bulbs. EX1017, ¶¶80-81.

The Board notes one reason for corroborative evidence of inventor declarations is to avoid potential for fraud. Petitioner notes the curious circumstances here wherein the Altamura Declaration changed to better accommodate changing circumstances. Both Declarations are over a decade after the alleged conception described by Mr. Altamura, leaving open questions of Mr. Altamura’s memory with regard to exact activity dates. Thus, need for corroboration of the Declaration is especially important here as the Declaration has changed over time and the Declaration date is many years later.

The Altamura Declaration fails both as being uncorroborated and because the submitted exhibits to show conception for LEDs prior to Yu’s filing date fail. Accordingly, Yu is prior art under 35 U.S.C. § 102(e)(pre-AIA), and Yu anticipates claims 1, 2, 10 and 15. Pet., 66-73.

2.6 Objective Indicia Do Not Support Patentability

PO’s objective indicia arguments cannot overcome the strong prima facie case of obviousness. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010). Upon filing the Petition, the burden of production shifted to PO to provide

credible evidence supporting objective indicia. *Dynamic Drinkware, LLC. v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379-1380 (Fed. Cir. 2015). The Board expressly invited the parties “to provide further briefing on this issue during trial.” DOI, 41. The POR, however, offers the same conclusory attorney argument for objective indicia that the Board already rejected at the institution stage. *See* DOI, 39-41. The Federal Circuit has consistently rejected such conclusory testimony. *See e.g., Bosch Auto. Serv. Sols., LLC v. Matal*, 878 F.3d 1027, 1037 (Fed. Cir. 2017). The Board should do the same here.

2.6.1 PO failed to provide evidence establishing commercial success

PO's sole evidentiary offer consists of Interrogatory Response #4 (EX2011, 19), which contains only the bare assertion: “Seasonal's products ... have been commercially successful.” PO provided no factual evidence such as sales figures, market share data, revenue information, or other objective metrics, and thus fails to meet its burden of production. *See In re Huang*, 100 F.3d 135, 139-40 (Fed. Cir. 1996). The Board expressly noted that PO provided no evidence of “unit sales data or sales revenue for the lighting products,” and yet PO still provided no evidence. POR, 39-41.

2.6.1.1 Presumption of nexus is not appropriate here

PO incorrectly states the law, alleging that if PO's product embodies the challenged claims and is coextensive with them, *commercial success is presumed.*”

POR, 40 (citing *Polaris Indus. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018)). This is wrong. *Polaris* holds only that a *nexus* may be presumed—there is no presumption of *commercial success*. *Polaris* at 1072. And here, there is no presumption of nexus because PO’s commercial product combines multiple features beyond those claimed in the patent. See *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373-74 (Fed. Cir. 2019).

For example, PO’s own marketing materials (EX1021) promotes five unclaimed product features, such as “Up to 25,000 hours of bulb life” and “97% energy savings” marketed as major selling points. None of these marketed features is claimed in the challenged patent. Thus, the marketed product features are *not* coextensive with the challenged claims, and there is no presumption of nexus. *Polaris* at 1072.

2.6.1.2 There is no evidence of nexus

Without co-extensiveness, “the patentee must show prima facie a legally sufficient relationship between that which is patented and that which is sold.” *Polaris* at 1072. Ultimately, “[t]he patentee bears the burden of showing that a nexus exists...” *WMS Gaming, Inc. v Int’l Game Tech*, 184 F 3d 1339, 1359 (Fed. Cir. 1999). Despite the Board’s invitation to develop the record, PO has provided no such evidence. Accordingly, PO’s argument regarding commercial success fails to support patentability.

2.6.2 PO failed to demonstrate a long-felt, unmet need

PO's long-felt need argument also fails on the facts and law. First, PO relies solely on EX2011 as supporting evidence of a long-felt need. POR, 41-42. EX2011 is not *evidence of a need*; rather, it is a copy of an interrogatory response filed in district court. Precedent requires that PO “*submit actual evidence of long-felt need, as opposed to argument.*” *In re Kahn*, 441 F.3d 977, 990-91 (Fed. Cir. 2006).

Second, to the extent the Board considers PO's unsupported attorney argument regarding solving “long felt problems remaining with circuit bypasses” (POR, 41), those alleged “problems” were already solved by the prior art. *See* EX1004, 1:38-58; EX1008, 2:22-32; EX1010, ¶0016; *see also*, EX1013, pp. 37-38.

Where prior art addressed the alleged problem, no long-felt need exists. *Geo. M. Martin Co. v. All. Machine Systems Int'l LLC*, 618 F.3d 1294, 1305 (Fed. Cir. 2010). Accordingly, PO fails to establish a long-felt need.

2.6.3 Evidence of simultaneous invention further demonstrates obviousness

Record evidence in Yu demonstrates independent, simultaneous invention, further confirming objective evidence of obviousness.

Yu was filed on July 31, 2006, before the challenged patent's December 22, 2006 priority date. EX1010, face. Yu demonstrates independent simultaneous adoption of the claimed resistor bypass feature. *See e.g.*, EX1010, Abstract.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'William W. Cochran', with a stylized, flowing script.

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**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION,
TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS**

1. This Petitioner's Reply complies with the type-volume limitation of 5,600 words, comprising 5,590 words, excluding the parts exempted by C.F.R. § 42.24(a).
2. This Petitioner's Reply complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 365 Version 2507 in 14-point Times New Roman.

Cochran Freund & Young LLC



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CERTIFICATION OF SERVICE

The undersigned hereby certifies that the foregoing **PETITIONER'S
REPLY TO THE PATENT OWNER RESPONSE** and Exhibits 1017-1019 and
1021 were served via email on August 7, 2025, in their entirety on the following:

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