

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REVVO TECHNOLOGIES, INC.

Petitioner,

v.

TIRE STICKERS LLC.

Patent Owner.

IPR2025-00631

Patent 11,124,027

**PATENT OWNER'S RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,124,027**

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LIST OF EXHIBITS

Exhibit No.	Description
2025	Declaration of Keith Ferry
2026	Mr. Tim Donley Email Thread
2027	Declaration of Mark Mineur
2028	Mark Mineur CV
2029	https://agtiretalk.com/optimum-tire-deflection-best-yield/
2030	https://www.fleetequipmentmag.com/truck-tire-balance-fuel-economy/
2031	https://chemtrend.com/chem-trend-release-agents/
2032	https://www.lugwrenchheroes.com/blog/how-long-can-you-drive-on-a-repaired-tire-?
2033	https://www.triumphrat.net/threads/painted-lettering-on-tires-thoughts.212149/
2034	https://www.jalopyjournal.com/forum/threads/smoothing-tire-sidewalls-removing-lettering.848043/
2035	https://www.moderntiredealer.com/industry-news/commercial-business/article/11534183/commercial-dealers-change-with-their-markets-2014-10-21
2036	Declaration of Thomas Bielicki
2037	District Court Proposed Agreed Schedule
2038	Joint Claim Construction Chart
2039	Effect of the crosslink density and sulfur-length on wet-traction and rolling resistance performance indicators for passenger car tire tread materials
2040	Tech 101 - Patching a Radial Tire
2041	Basic Automotive Tire Service
2042	Truck Tire Repair

Patent Owner Tire Stickers LLC (“Patent Owner” or “Tire Stickers”) respectfully submits this Response to the Petition for *inter partes* review (Paper 1, “Petition”) filed by Revvo Technologies, Inc. (“Revvo” or “Petitioner”) against claims 1-3, 5, 7-9, 11-13, and 15-22 (“the challenged claims”) of U.S. Patent No. 11,124,027 B2 (“’027 patent”) (EX1001).

I. Introduction

At the time of the ’027 Patent in 2015, the tire patch market consisted of traditional technology that sought to attach a rubber patch to the tire—typically inside the tire along the inner liner—using conventional means of a rubber patch constructed from materials with a similar composition to the tire itself – durable and rigid. The tire patch was essentially a two-layer composition—the patch itself and an adhesive for attaching the patch to the tire. This was the long-known solution for patching a tire and stopping leaks.

Here, Petitioner oversimplifies the claimed invention to overlook the features recited in the challenged claims and equates them with traditional tire patch technology. In contrast, the ’027 patent expressly recites technical improvements to tire assembly attachments that ensure adhesion in rigorous conditions such as the exterior sidewall of the tire and are designed to prevent bleed-through of harsh chemicals that would compromise the structural integrity and/or aesthetic appearance of the attachment, especially where the attachment may include lighting

elements or other elements. The '027 patent teaches and claims a multi-layer construction, including an adhesive layer for attaching the assembly to the tire, an outer layer, and a portion for structural and/or aesthetic integrity. The prior art lacks such a portion.

The Petition fails on multiple fronts. First, the Petition engages in improper gamesmanship regarding claim construction, asserting claim constructions contrary to Petitioner's claim constructions in co-pending district court litigation that is moving toward a claim construction by the district court. Second, the Petition fails to set forth a *prima facie* case to meet its burden. The Petition asserts obviousness for all grounds, explicitly conceding that the references do not anticipate the claims. Yet despite admitting the references are deficient, the Petition does not articulate what the references lack, much less what would have motivated a person of ordinary skill in the art at the time of the '027 patent ("POSITA") to change those references, how a POSITA would have done so, or any reasonable expectation of success in modifying the references. Third, the Donley Declaration provides little meaningful evidence, but instead parrots the attorney arguments from the Petition. Finally, even if the Petition had set forth a *prima facie* case, the references still fail to disclose the claimed features of the '027 patent; thus, the claims' patentability should be affirmed.

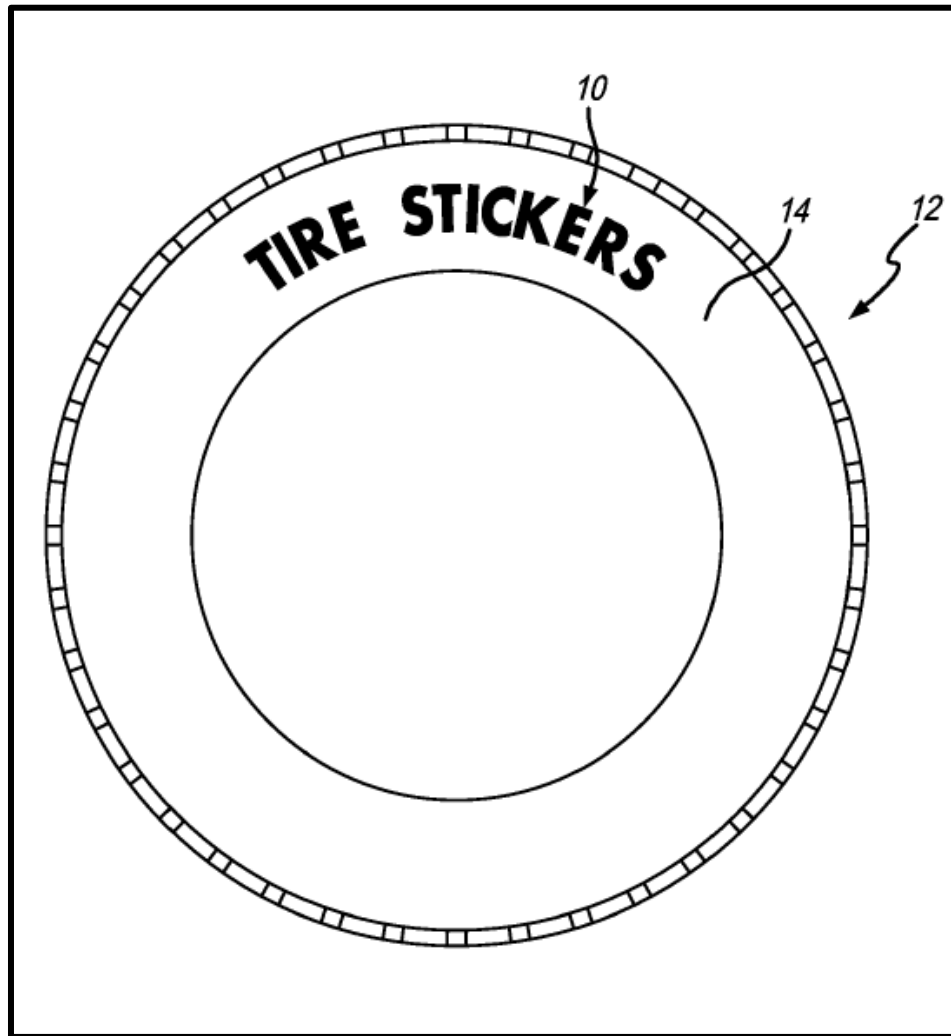
As set forth in this Response, and as explained by Mr. Mineur, the Board should reject the Petition's incorrect, unsupported attorney arguments. Mr. Mineur clearly explains—from the perspective of an expert with copious experience in the relevant art—the actual teachings of the cited documents, their intended objectives, and why a POSITA would not have modified or combined the references in the way alleged in the Petition.

II. The '027 Patent

A. Overview of the Patent

The '027 patent discloses innovative display assemblies configured for attachment with a vulcanized rubber article (*e.g.*, a tire) and provided in the form of different material layers, including an outer layer with a display and an adhesive layer for bonding with the vulcanized rubber article. EX1001 at Abstract, 1:62-2:2,

2:10-12, 2:25-32, 4:56-59, Fig. 1.



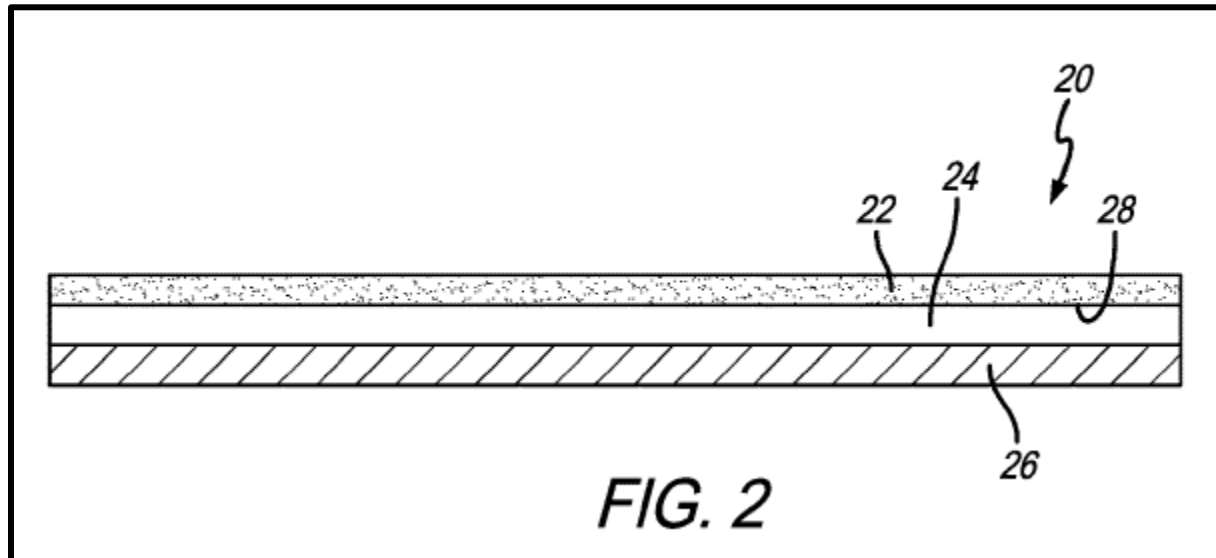
The '027 Patent explains that a problem in the art is that “decals known in the art adapted for such uses are constructed in a manner that is either intended for temporary rather than permanent service, and/or that is adapted for application at a point of manufacture of the vulcanized articles.” EX1001 at 1:27-31. Accordingly, lacking in the art were “display assemblies for use with a vulcanized article [] constructed in a manner that permits ... variation in the method of applying the same

so as to facilitate application as part of or subsequent to the manufacture of the vulcanized article.” *Id.* at 1:45-52. Further, the patent explains that the “display assemblies as disclosed herein are constructed in a manner that facilitates use of the same once applied for a long duration, e.g., the life of the vulcanized article, without sacrificing the integrity ***and/or*** aesthetic appearance of the display assembly.” *Id.* at 2:39-45 (emphasis added).

To achieve such “integrity and/or aesthetic appearance,” the ’027 patent discloses a “barrier layer 24 is formed from a material capable of providing properties of ***shock absorbance, elastomeric expansion and/or contraction properties compatible with the vulcanized rubber article that the display assembly is to be attached therewith***, and a desired degree of conformity between the adjacent surfaces of the display layer and the outer surface of a vulcanized rubber article (so as to maximize the surface contact area between the display assembl[y] and vulcanized rubber article).” *Id.* at 6:19-28 (emphasis added). The assembly can be constructed of “one or more elastomeric display layers providing the desired display image or function, an intermediate or barrier layer formed of an elastomeric material, and a layer of curable adhesive that is formed from a material capable of forming a strong adhesion bond with a surface of the vulcanized article.” *Id.* at 4:3-9.

For example, “Fig. 2 is a cross-section side view of a single display layer embodiment three-layer assembly ‘20’ as disclosed herein, wherein layer ‘22’ is

defined as the outermost aesthetic layer which is vulcanized for a permanent bond along underside surface '28' to a shock absorbing barrier layer '24' layered with an adhesive layer '26' for permanently bonding to the vulcanized rubber article." *Id.* at 2:58-64.



Id. at Fig. 2.

The '027 patent explains that “the intermediate or barrier layer 24 is formed from a material capable of providing properties of shock absorbance, elastomeric expansion and/or contraction properties compatible with the vulcanized rubber article that the display assembly is to be attached therewith” *Id.* at 6:19-28. In another example, the '027 patent explains that it is “also desired that the intermediate or barrier layer 24 be formed from a material capable of acting as a barrier to or minimize or prevent the migration of any unwanted constituents of the adhesive layer 26 and/or the vulcanized rubber article may otherwise operate to damage or

degrade the design image and/or feature provided by the display layer 22.” *Id.* at 6:33-39.

In one example, the “[d]isplay assemblies comprise one or more display layers of elastomeric material configured to provide a desired display indicia, an intermediate layer formed from *an elastomeric material different from that of the one or more display layers*, and an adhesive layer” EX1001 at 2:2-9 (emphasis added). “It is also desired that the intermediate or barrier layer 24 be formed from a material capable of acting as a barrier to minimize or prevent the migration of any unwanted constituents of the adhesive layer 26 and/or the vulcanized rubber article may otherwise operate to damage or degrade the design image and/or feature provided by the display layer 22.” *Id.* at 6:33-39. More particularly, “depending on the particular size and configuration of the display assembly 20, it is desired that the intermediate layer 24 thickness be that which is sufficient to enable the intermediate layer to function in the above described manner” and the “thickness of the intermediate layer is understood to vary depending on the particular type of material selected for the intermediate layer as well as the particular end-use application.” *Id.* at 6:47-54.

Regarding the adhesive layer, the '027 patent discloses that it is desired that it be “formed from a material capable of forming a chemically, heat-activated or otherwise permanent bonded attachment with the vulcanized rubber article.” *Id.* at

6:59-62.

The '027 patent describes a further embodiment (e.g., Figure 7 below) wherein the assembly has “a cavity 78 that is formed in the display assembly 70 for the purpose of accommodating placement of an element or object 79 therein.” *Id.* at 11:30-33. “Examples of the types of objects or elements that may be disposed in the cavity include RFID elements, GPS elements, lighting elements such as LEDs or the like,” and in an embodiment the “cavity is configured within the construction to provide an area capable of accommodating such an element or object without damaging the element or object” *Id.* at 11:57-62. For example, in one embodiment, the “cavity is positioned beneath the first display layer 80, and if desired the first display layer may comprise one or more opening for the purpose of displaying a portion of the object or element disposed within the cavity.” *Id.* at 11:63-67, Fig. 7.

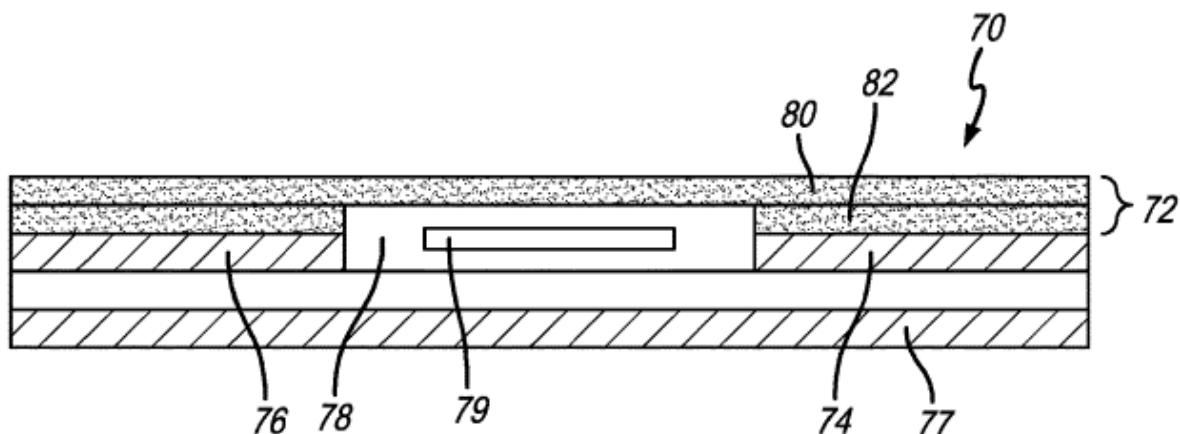


FIG. 7

The '027 patent contains 23 claims, including independent Claim 1 and its dependent challenged Claims 2-3, 5, and 7-9; independent Claim 11 and its dependent challenged Claims 12-13; independent Claim 15 and its dependent challenged Claims 16-18; and independent Claim 19 and its dependent challenged Claims 20-22.

B. The Challenged Claims

Ground	Claim(s)	Basis for Challenge
1	1, 5, 7-9, 11-13, 15-22	Obviousness by Wilson
2	12	Obviousness by Wilson in view of DiRocco
3	1-3, 5, and 7	Obviousness by Bielicki
4	1-3, 5, 7, 11-13, 15, and 16	Obviousness by Bielicki in view of the Patch Rubber Brochure and/or the Tire-Track Brochure
5	7-9, 14, 16-23	Obviousness by Bielicki in view of the Patch Rubber Brochure and/or the Tire-Track Brochure, and Brown

III. Claim Construction: Petitioner Engages In Impermissible Gamesmanship

Petitioner failed to propose its own claim constructions for terms in the Petition. Instead, Petitioner engages in gamesmanship by allegedly adopting Patent Owner's claim constructions from the district court litigation, and avoids defending

its proposed claim constructions or explaining the validity of the patent under those constructions. Paper 2 at 8. Petitioner submits that “[f]or purposes of this Petition only, with the single exception described below, Petitioner adopts PO’s proposed constructions from the underlying district court litigation for purposes of this proceeding.” *Id.* Petitioner made no attempt to argue why it adopted different claim constructions for purposes of the Petition in the two paragraphs dedicated to claim construction in the Petition, nor does Petitioner explain why such different constructions were warranted when Petitioner is making directly contradictory arguments in other forums. *Id.*

Petitioner’s gamesmanship is an attempt to apply one set of constructions for validity purposes and another set of constructions in district court where infringement will be determined. The Director recently held in a similar petition filed by Petitioner that “when a petitioner takes alternative positions before the Board and a district court, that petitioner should, at a minimum, explain why alternative positions are warranted.” IPR2025-00632 Paper 20 at 3-4 (vacating institution decision). As the Director explained, the “[t]he Board’s claim construction rules are designed to ensure that the Board correctly construes claim terms and to minimize inconsistency in claim construction between forums.” *Id.* “Simply noting that the petitioner is adopting a patent owner’s claim construction proposals from district court, however, is not a sufficient reason for advancing

different positions in the two forums.” *Id.* at 5.

Here, the Petitioner errs for the same reasons explained by the Director in IPR2025-00632. Petitioner’s two paragraphs relating to claim construction provide no explanation why an alternative position is warranted in this IPR. Paper 2 at 8. Petitioner’s approach runs the risk warned by the Director that inconsistency will arise between the district court and the PTAB. Indeed, according to the district court litigation schedule, the parties are briefing their respective claim construction positions in from December 2025 to February 2026, with a claim construction order expected in the Spring of 2026. EX2037. The parties are proposing competing constructions in the district court litigation. EX2038.

For example, with regard to the term “layer,” a limitation in every claim, Petitioner advances the construction “at least one material disposed over” in its Petition, but in the District Court the Petitioner proposes “a single thickness of separate and distinct material with a sheetlike structure.” *Id.* at 1. The Petition fails to explain whether the prior art discloses “a single thickness of separate and distinct material with a sheetlike structure.” For example, Petitioner fails to show that the alleged layers in Wilson or Bielicki are of a “single thickness”, or that each layer is a “separate and distinct material” or “sheetlike.”

Similarly, in this IPR, Petitioner argues that a “barrier material composition” is a “material composition that has properties of shock absorbance, elastomeric

expansion and/or contraction” but in the District Court Petitioner argues that this claim means: “a material composition that blocks or is intended to block passage of discoloring chemicals, particularly antioxidants, within vulcanized rubber articles such as vulcanized rubber tires.” *Id.* at 3. Again, Petitioner has failed to explain whether the prior art discloses its construction and does not attempt to point to how the alleged prior art in the Petition teaches blocking antioxidants or discoloring chemicals.

The inconsistencies in Petitioner's approaches between this IPR and the district court litigation does not stop at explicit claim constructions. Petitioner has taken the position in the district court litigation that “(an) outer layer” in the challenged claims is indefinite. *Id.* at 1; *see also id.* at 21 (Petitioner contending in that terms labeled RR11 and RR12 are indefinite). Here, Petitioner is attempting to apply that term to the alleged prior art, in contravention of Director guidance. IPR2025-00340, Paper 18 at 3 (“Allowing a petitioner to advance a claim construction before the Board when that petitioner has made inconsistent indefiniteness arguments in district court fails to further, but instead detracts from, the Office's goal of ‘providing greater predictability and certainty in the patent system.’ *Revvo Techs.*, IPR2025-00632, Paper 20 at 4–5 (quoting 83 Fed. Reg. at 51,342–43). Thus, denial of institution is appropriate in this case.”) (informational).

In sum, the Petition's claim construction fails to follow the standard set forth

by the Director in IPR2025-00340 and IPR2025-00632, and Petitioner cannot cure that defect now by arguing entirely new theories. For this reason alone, Petitioner's proposed grounds should be denied.

IV. Level of Ordinary Skill in the Art

Revvo asserts that a "a person of ordinary skill in the art ("POSITA") as of April 2015 would have possessed an undergraduate degree in chemistry, polymers, materials science, chemical engineering (or related field) and one to two years of experience with constructing and manufacturing tires, tire patches, tire decals/stickers and/or the like. Additional education could compensate for less practical experience. Conversely, additional practical experience could compensate for less education."

For purposes of this response only, Patent Owner has applied the same level of skill in the art.

V. Scope and Content of the Asserted Prior Art

A. U.S. Patent No. 7,009,506 (Wilson) [EX1009]

Wilson is directed to a monitoring device and patch assembly that includes a patch that removably and re-attachably holds the monitoring device, using a variety of mechanisms, such as pins, screws, or an interference fit. EX1009 at Abstract, 1:19-28, 2:2-15, 3:35-41, 5:25-36, 7:28-47.

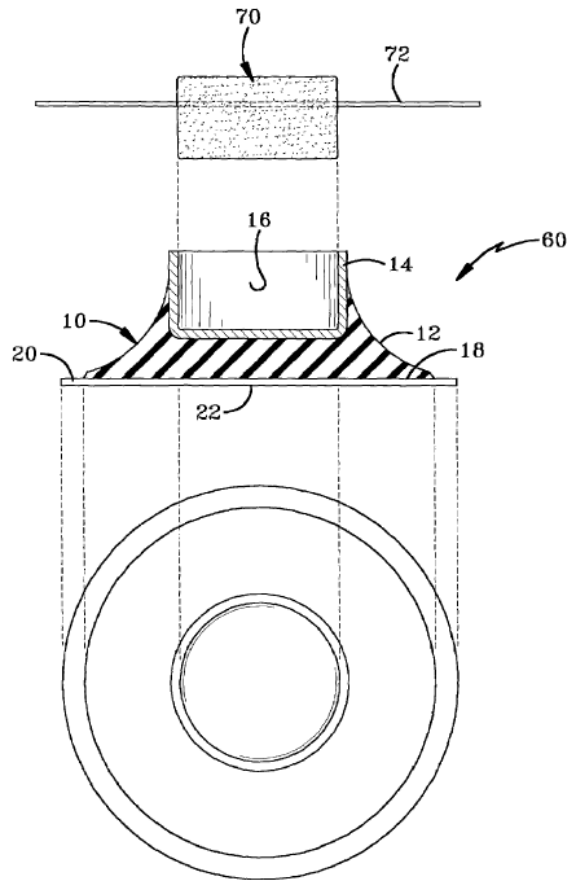


FIG-1

Id. at Fig. 1.

The patch includes, among other things, a housing for holding the monitoring device and a patch base, the patch base being the portion of interest for this dispute based on Revvo's arguments. *Id.* at 3:35-41 and 7:13-15. "In a preferred embodiment, the rubber patch is vulcanized and then assembled to the vulcanized tire." (EX1009 at 3:42-44.)

The patch also includes, among other things, a patch base side "approximating the contour of an innerliner of a tire (not shown)." *Id.* at 3:41-42, 3:60-61. The

patch base thus is designed in a fixed shape and maintains the contour of the innerliner of the tire. “In a preferred embodiment, the rubber patch is vulcanized and then assembled to the vulcanized tire.” (EX1009 at 3:42-44.)

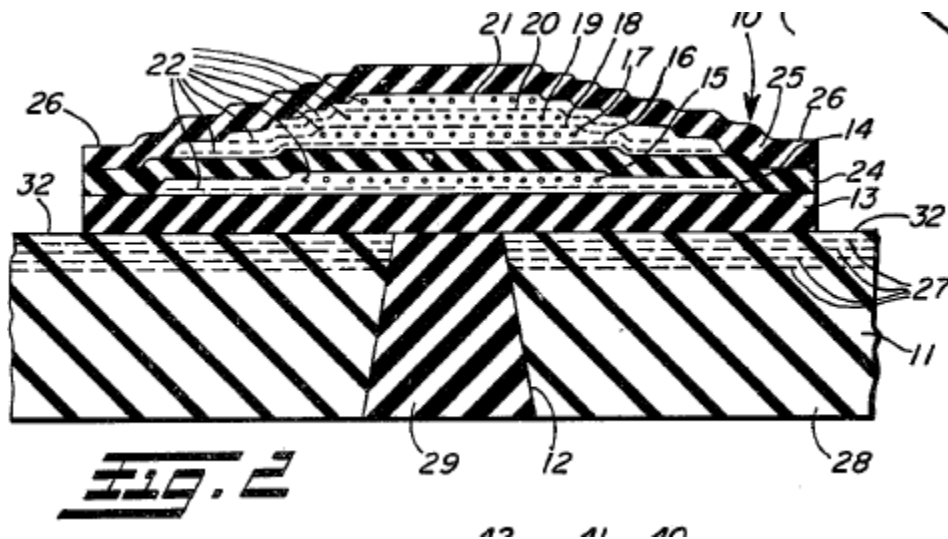
To compensate for the rigidity of the patch base, in an embodiment where an interference fit is used for seating the monitoring device in the patch, tube walls with “sufficient elasticity and extensibility” may be used. (*Id.* at 7:36-42); *see also* Abstract (mentioning “resilient tube”). Such walls may also be capable of “absorb[ing] vibrational forces.”¹ (*Id.* at 8:26-30.) Nowhere does Wilson describe the patch base as having “elasticity” or “extensibility.”

As was discussed in Section II above, the '027 patent uses a “barrier material composition” for the portion of the outer layer of interest, rather than a rigid portion as in Wilson.

¹ Revvo only acknowledges the mention in Wilson column 8:26-27 of “Patch 202 has rounded and curved walls and surfaces.” Paper 2 at 37. Revvo completely ignores the rest of Wilson column 8:26-30, which describes the tube section, but not the patch base (the portion of interest here according to Revvo), as absorbing vibrational forces. (EX1009.)

B. U.S. Patent No. 4,285,382 (DiRocco) [EX1010]

DiRocco is directed to a traditional tire patch. More specifically, DiRocco discusses a “tire repair patch having overlapping plies of reinforcing cords, a base cushion gum layer and an intermediate cushion gum layer positioned between at least two of the plies.” EX1010 at Abstract.



Id. at Fig. 2.

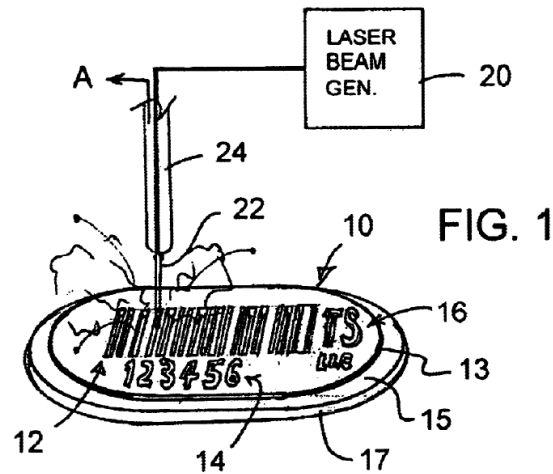
DiRocco's patch is designed to have substantial strength via “plies 16 through 21 which overlie the intermediate cushion gum layer 24 are designated as the body plies and provide a substantial amount of the reinforcing strength of the patch 10.”

Id. at 3:8-12. DiRocco teaches away from '027 through the emphasis and use of reinforcing cords to increase strength and rigidity, contradictory to the '027 patent barrier material composition. And nowhere does Revvo argue that DiRocco

discloses a “barrier material composition.” Paper 2 at 45-46. DiRocco thus fails to supplement the deficiencies identified above for Wilson.

C. U.S. Patent No. 6,726,012 (Bielicki) [EX1004]

Bielicki is directed to a method of manufacturing a tire tracking unit with an outer layer and an inner layer, which method includes, among other things, using a laser to “to ablate the outer layer in the form of the selected pattern to expose an inner layer of the unit which has a contrasting color.” EX1004 at Abstract. The outer layer has “a lower ablation rate (i.e. is more difficult to ablate) than the inner layer for ensuring durability and wear and tear protection for the resulting pattern for maintaining accuracy and recognition.” *Id.* at 2:17-23. “The method starts by providing the multi-layered rubber ID unit 10 which has an outer layer 13 of one color, e.g. white, and at least one inner layer 15 of a contrasting color, e.g. black.” *Id.* at 3:30-34. The “ID unit is thus Scanned with the laser beam 22 to ablate the outer layer 13 in the form of the selected pattern 12,14,16, to expose the inner layer 15 of contrasting color.” *Id.* at 3:43-45.



Id. at Fig. 1.

To achieve the above method step of laser ablation, Bielicki teaches that “[t]he inner layer 15 is also a rubber material with a lower durometer than the outer layer 13. Therefore, in the preferred embodiment, the ablation rate of the outer layer is lower.” *Id.* at 4:58-61. “An outer layer with an ablation rate that is higher than that of the inner layer would result in the easy wearing away of the outer layer. An outer layer with a lower ablation rate than the inner layer has the advantages of providing durability for the engraved pattern.” *Id.* at 5:15-20.

Bielicki does not disclose or relate to a barrier material composition nor a cavity for containing an element such as an RFID chip. *See also* EX2036 ¶ 7.

D. Patch Rubber Brochure [EX1005]

The Patch Rubber Brochure is an online document that relates to a tire barcode product advertised by Tracking Systems LLC. EX1005. The brochure discloses that “The Tire-Track ID is applied to the sidewall of each tire casing, and contains

an engraved barcode with corresponding eye-readable backup information.” *Id.* at 3. In describing the construction of the unit, the brochure explains that “[t]he barcode is cut deeply into the rubber for permanent identification, so it cannot wear off.” *Id.*

Nowhere does Revvo argue that the Patch Rubber Brochure discloses a “barrier material composition” nor a cavity for containing an element such as an RFID chip. Paper 2 at 77, 80 and 85. The Patch Rubber Brochure thus fails to supplement the deficiencies identified above for Bielicki.

E. Tire-Track Brochure [EX1007]

The Tire Track Brochure is an online document that relates to a tire barcode product advertised by Tracking Systems LLC. EX1005. The Tire Track Brochure discloses that it is formed by “engrav[ing] through the white rubber to expose the contrasting black rubber.” EX1007 at 2. As such, it teaches away from needing the claimed improvements of a barrier material and protective layer to prevent degradation of the display layer.

The brochure also mentions that “For those customers who are interested in RFID technology, TIRE-TRACK, LLC offers the option of including an industry approved RFID chip in either ID Unit. The RFID chip is Gen2 compliant.” *Id.* at 3. However, the brochure fails to teach how the RFID chip would be implemented in the device, fails to disclose a cavity, and the device fails to teach the claimed barrier

material composition. The developer of the Tire Track Brochure has acknowledged that Tire-Track, LLC had not been able to develop such implementation of an RFID chip, notwithstanding what the brochure says without explanation. EX2036 ¶¶ 7-8, 10. A POSITA would further understand that the brochure and Bielicki teach away from adding an RFID chip due to the danger of damage or exposure of the RFID chip when the laser cuts the barcode in the product. EX2027 ¶ 97; *see also* EX1005 (confirming a POSITA would not be motivated to add an RFID chip as the brochure explains that “[t]he barcode is cut deeply into the rubber for permanent identification, so it cannot wear off” thereby risking damage to the internal RFID chip).

Further nowhere does Revvo argue that the Tire-Track Brochure discloses a “barrier material composition.” Paper 2 at 77, 80 and 85. The Tire-Track Brochure thus fails to supplement the deficiencies identified above for Bielicki.

F. U.S. Patent No. 6,546,982 (Brown) [EX1008]

Brown is directed to a “method and apparatus for mounting a transponder module and an antenna in a pneumatic tire, and for coupling or connecting the antenna to the transponder module.” EX1008 at abstract. Brown discloses that “[t]he patch includes a second opposite side, the second side approximating the contour of the inner liner of the tire” and states that “[t]he patch is tapered from the first side toward the second side, with the second side flaring out into a relatively

thin configuration, but having a radius approaching the radius of the tire inner liner.” *Id.* at 2:51-55. Brown also teaches away from Bielicki’s disclosure of using a laser and heat during manufacturing of the tag because it would cause “the delicate electronic components of the active tag [to be] exposed to high vulcanizing temperatures which may adversely affect their performance or shorten their life.” *Id.* at 1:65-2:2. Nowhere does Revvo argue that Brown (EX1008) discloses a “barrier material composition” or explain why a POSITA would be motivated to make this combination with Bielicki in view of Brown’s warning regarding the danger of high temperatures that would be caused by Bielicki’s laser. Paper 2 at 77, 80 and 85. Brown thus fails to supplement the deficiencies identified above for Bielicki.

VI. Summary of Argument

Petitioner has the burden of proving a proposition of unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016). Petitioner cannot employ mere conclusory statements and must instead articulate specific reasoning based on evidence of record. *Id.* at 1380. The Petition consistently fails to meet its burden.

VII. Ground 1: Claims 1, 5, 7-9, 11-13, 15-22 Would Not Have Been Obvious Over Wilson

A. Wilson Does Not Disclose Or Render Obvious The Claimed Barrier Material Composition

1. The Barrier Material Composition Limitations²

The '027 patent teaches and claims a multi-layer construction, including an adhesive layer for attaching the assembly to the tire, an outer layer, and a portion for structural and/or aesthetic integrity, recited as a “barrier material composition.” Wilson omits a barrier material composition altogether. EX2027 ¶¶ 64-70.

Wilson does not disclose, much less render obvious, the claimed “barrier material composition” that has “a material composition that has properties of shock absorbance, elastomeric expansion and/or contraction.” Paper 2 at 26. Rather than focus on the requirements of the claim, Petitioner focuses solely on the disclosure of rubber in the prior art and wrongfully assumes that all rubber products will “have properties of shock absorbance, elastomeric expansion and/or contraction” and are by default a “barrier material composition.” Paper 2 at 26-27 (“Any of these rubbers

² The barrier material composition limitations include:

- Limitation 1[b]: “[i] an adhesive layer adhered to an interface surface of the outer layer, [ii] wherein at least a portion of the outer layer adjacent the interface surface comprises a barrier material composition, and”
- Limitation 11[d]: “wherein the outer layer comprises a barrier material composition to mitigate migration of material from the vulcanized rubber article.”
- Limitation 15[e]: “wherein at least a portion of the outer layer comprises a barrier material composition to mitigate migration of material from the rubber tire.”
- Limitation 19[d]: “wherein the outer layer comprises a material composition that acts as a barrier to material migrating from the vulcanized rubber tire.”

disclosed by Wilson would satisfy the claimed 'barrier material composition' because they are elastomeric materials and, as such, have the properties of shock absorbance, elastomeric contraction and/or expansion.”). This assumption is inconsistent with the plain language of the claims, the specification, and a POSITA's understanding.

For example, the petitioner argues that:

Wilson's rubber patch 10 is a 'barrier material composition.' (EX1003, ¶¶114-119.) Wilson expressly discloses that its patch may be constructed from natural rubber (NR), a preferred mixture of chlorobutyl rubber and natural rubber (CR/NR), or a preferred mixture of SBR and natural rubber (SBR/NR). (Wilson, 3:49-55.) Any of these rubbers disclosed by Wilson would satisfy the claimed 'barrier material composition' because they are elastomeric materials and, as such, have the properties of shock absorbance, elastomeric contraction and/or expansion. (EX1003, ¶117.)

Paper 2 at 26-27. Merely pointing to the fact that rubber is an elastomeric material does not demonstrate a barrier material composition, especially where claim 1 already requires that the “outer layer” be composed of an “elastomeric material,” and Petitioner fails to explain how Ground 1 discloses the additional requirement of a “barrier material composition.” *See* Ex. 1001 at Cl. 1; *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1120 (Fed. Cir. 2004) (“[W]hen an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.”). As for Mr. Donley's proposal to modify Wilson to utilize one of the

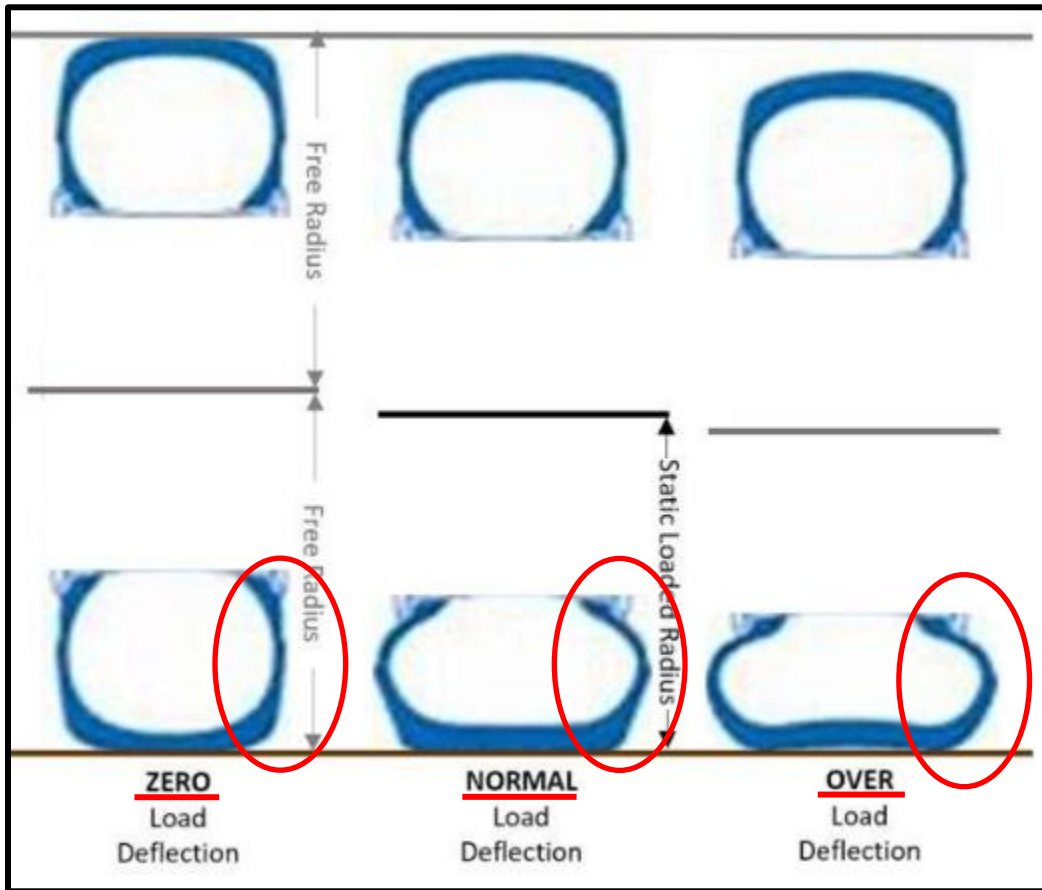
disclosed rubber compositions to create a barrier material composition, it merely speaks to what a skilled artisan purportedly “could have made,” not to the critical question of what the artisan “would have been motivated to make.” *Compare Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *with* EX1003 at ¶¶ 113-117 (failing to explain why a POSITA would have been motivated to make a barrier material composition and merely concluding “a POSA applying PO’s proposed construction, as I do here, would have understood that any rubber material (as an elastomeric material) would necessarily have some properties of shock absorption, elastomeric expansion and/or contraction”); *see also* EX2027 ¶¶ 69-70; EX2025 ¶¶ 4-5 (“As of April 27, 2015, neither Patch Rubber Company nor other suppliers offered samples, products, or the capability to produce a barrier composition and / or cavity feature as it relates to U.S. Patent No. 11,124,027 B2.”).

According to the Petitioner, “Wilson expressly discloses that its patch may be constructed from natural rubber (NR), a preferred mixture of chlorobutyl rubber and natural rubber (CR/NR), or a preferred mixture of SBR and natural rubber (SBR/NR).” Paper 2 at 26-27. Petitioner thus admits that Wilson identifies any natural rubber as an acceptable alternative to other rubber mixtures. *Id.* But, as Mr. Mineur has explained, a “a POSITA would consider all of the patent, including the portion explaining the properties that a barrier material layer or intermediate layer should have” and therefore a POSITA would have understood that a barrier material

composition is not merely any disclosed prior art rubber formulation discussed in Wilson, but rather a “composition of an elastomeric material to ensure that the barrier material layer acts as a barrier, as the claim states, and provides the shock absorption, elastomeric expansion and/or contraction necessary to allow for a durable connection with the vulcanized item the assembly is designed to attach to.” EX2027 ¶¶ 66; *see also id.* ¶¶ 64-70. Indeed, Wilson’s disclosure of any natural rubber as acceptable is contrary to the teaching of the ’027 Patent for the barrier material composition. *E.g.*, EX1001 at 6:40-47 (“Elastomeric materials useful for forming the intermediate layer 24 include and are not limited to gum rubber, vulcanized natural rubber SBR, nitrile rubber, polyurethane, or comparable materials having properties of high elongation, conformity and chemical resistance to notable mold release agents and other common staining chemicals and oils in the vulcanized rubber of pneumatic tires, and combinations thereof.”).

A POSITA reading the ’027 patent would read the barrier material composition in context of the claims and the specification. EX2027 ¶¶ 65-67. The specification explains that the design is intended to allow “display assemblies [to] be attached to a surface of a vulcanized rubber article, e.g., a sidewall surface of a pneumatic tire ... capable of withstanding the tire manufacturer recommended life cycle.” Ex. 1001 at 12:66-13:8. A POSITA would have understood that the ’027 patent’s directive to utilize a barrier material that allows for “properties of shock

absorbance, elastomeric contraction and/or expansion” relates to the ability of the assembly to be attached to the tire or vulcanized article permanently in harsh conditions such as the tire sidewall which is subject to more intense flexing and inconsistent contours due to changes in tire pressure and road conditions:



EX2029 (showing the variable flexing and contours that occur based on tire load conditions); EX2027 ¶¶ 36-38, 47-51. Petitioner fails to provide any motivation, teaching, or suggestion for how Wilson discloses a barrier material layer, or why a POSITA would be motivated to develop a barrier material layer to make a more resistant assembly as disclosed by the '027 patent. EX2027 ¶¶ 66, 70.

Furthermore, Petitioner disregards that Wilson's teaching of full vulcanization without regard to maintaining shock absorbance or damping characteristics directly teaches away from the invention. EX at 3:42-44 ("In a preferred embodiment, the rubber patch is Vulcanized and then assembled to the Vulcanized tire."). As rubber is more vulcanized it begins to lose its qualities of shock absorbance, elastomeric contraction and/or expansion. EX2039 (explaining loss of damping effects during vulcanization process). Conventional wisdom teaches a POSITA to sacrifice those properties in favor of vulcanization for increased durability. *Id.* (explaining that increasing cross links in the rubber through vulcanization "creates a stronger and more durable rubber compound"); *see also* EX2027 ¶¶ 33, 38 (explaining the conventional knowledge that traditional patches were to be constructed with high rigidity). Petitioner fails to provide any justification, motivation, or likelihood of success in modifying Wilson to utilize a rubber that maintains shock absorbance, elastomeric contraction and/or expansion, especially where a POSITA would have known that such a modification would sacrifice durability. *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360 (Fed. Cir. 2017) (prior art teaches away if a POSITA, "upon reading the reference, would be discouraged from following the path set out in the reference" and "known disadvantages in old devices which would naturally discourage") (citing *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994), *U.S. v. Adams*, 383 U.S. 39, 52 (1966)).

Wilson also confirms it does not disclose the use of a rubber that forms a barrier material with shock absorbance, elastomeric contraction and/or expansion because it discloses a patch construction that is more rigidly designed along the lines of traditional patch materials. Traditional patch materials attach only to the inside of a tire along the tread, not the sidewall. EX2027 ¶¶ 32-38. Because the tread area is reinforced by steel belts, and a thick tire tread, it is not subject to the same flexing forces as the sidewall and is far more rigid. *Id.*; *see also* EX2040 (Tech 101 - Patching a Radial Tire) (“Because of the flexibility of the sidewall on a radial tire, no original tire manufacturers recommend using any kind of repair system on a tire’s sidewall.”). Here, Wilson fails to disclose the flexible barrier material design of “shock absorbance, elastomeric contraction and/or expansion” because Wilson describes the patch as having a pre-formed “contour” to match the tire:

FIG. 1 shows a rubber patch 10 of the present invention ... The *patch* has a second opposite side 18 *approximating the contour* of an innerliner of a tire (not shown). In a preferred embodiment, the rubber patch is vulcanized and then assembled to the vulcanized tire ... The second side 18 of the *patch* 10 approximates the contour of an innerliner of a tire. The *contour* of the second side 18 preferably is radiused to have about the same radius as the tire to which it is assembled, the radius being larger for larger tires. For very large tires, such as for off-the-road tires, the radius may be eliminated altogether, so that there is no contour and the opposite side is flat, having no contour.

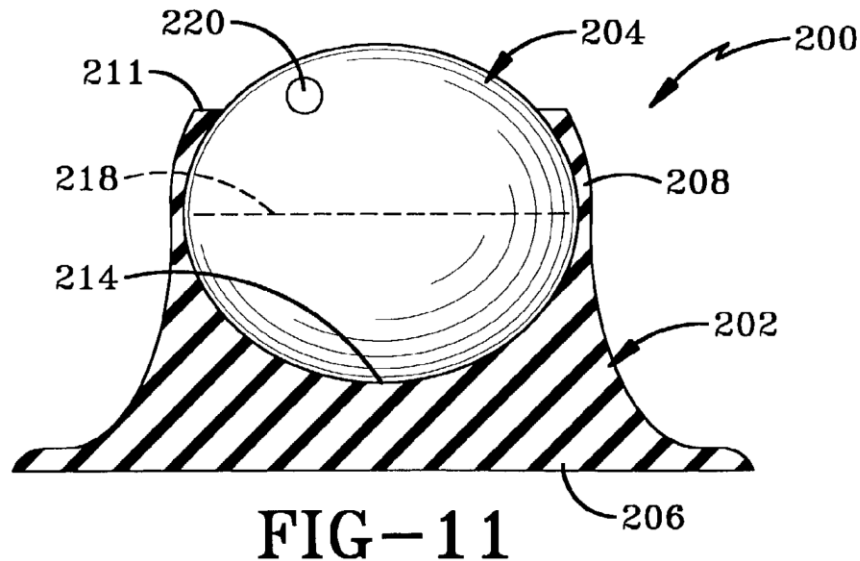
EX1009 at 3:35-67 (emphasis added). The ordinary meaning of “contour” is, among other things, the “shape” or “form” of something. EX2021 at 3. Thus, the Wilson

patch is both “rigid” and has a “contour” to match the tire; neither of which are discussed by Revvo. That rigid contour of the Wilson patch teaches away from a “barrier material composition” with the desired properties of shock absorbance, elastomeric contraction and/or expansion. EX2020 at 3; EX2027 ¶ 45 (explaining why a POSITA would desire a traditional rigid patch).

Nowhere in the Petition does Revvo acknowledge or explain why a POSITA would be motivated to redesign the Wilson patch that is pre-formed in a contoured shape to match the rigid body of an internal tire tread to instead have properties of shock absorbance, elastomeric contraction and/or expansion, especially where these properties are inconsistent with matching the material makeup of the tire tread that the Wilson patch is designed to stick to. EX2027 ¶¶ 32-38, 69-70 (“[A] POSITA would not view Wilson’s mere disclosure of a rubber patch as disclosing or motivating the use of a specific material with these properties, nor would a POSITA be motivated to modify Wilson to include these properties as this added functionality is unnecessary to solve the problems that a rubber patch disclosed by Wilson was foreseen to solve.”); *see also id.* ¶ 107.

Other portions of Wilson ignored by Revvo also teach away from the base of the Wilson patch being a “barrier material composition.” For example, Wilson only teaches that the upright walls may have sufficient elasticity, not the patch base that Petitioner relies on to teach the claimed barrier material composition limitation:

The *walls* of tube section 208 have sufficient elasticity and extensibility such that opening 212 may be stretched open to accommodate monitoring device 204 to seat monitoring device 204 within patch 202 as depicted in FIG. 11. The elasticity of the *walls* allows them to return to their resting position to trap monitoring device 204 with an interference fit within patch 202 ... Tube section 208 may also be configured to absorb vibrational forces.



EX1009 at 7:36-42, 8:26-30, and Figure 11.

Finally, Petitioner summarily argues that “POSA would have known that the CR/NR mixture disclosed in Wilson was well-known within the art as a barrier material. For instance, DeTrano notes that ‘one preferred barrier layer 22 is composed of a blend of halobutyl rubber such as chlorobutyl rubber and natural rubber.’” Paper 2 at 27. But Petitioner provides no teaching, suggestion, or motivation to combine Wilson with DeTrano for this limitation, nor does Petitioner provide any basis for its summary conclusion that “DeTrano” discloses this

limitation and a POSITA would be motivated to use DeTrano's teaching with Wilson. *Id.* Because Petitioner has failed to put forth an obviousness combination for this limitation based on Wilson and DeTrano, it can be disregarded and Petitioner should not be allowed to supplement its theories on reply. *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1329 (Fed. Cir. 2019) (quoting the Board's holding that "[a]ll arguments for the relief requested in a motion must be made in the motion" and "Because of the apparent differences between the obviousness theories presented in HPC's petition and reply ... the Board disregarded HPC's arguments.>").

Petitioner appears to hang its hat on the fact that DeTrano uses the term "barrier layer" that is composed of a "blend of halobutyl rubber such as chlorobutyl rubber and natural rubber" and summarily concludes that this teaches the barrier material composition in Wilson. Paper 2 at 27. But Petitioner fails to meet the threshold burden of presenting this combination as a Ground in the Petition for this claim limitation, much less presenting any motivation to make the combination or expectation of success. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (it is necessary to explain "why the references would be combined"). And Petitioner further fails to explain how DeTrano teaches a barrier material composition merely by using the word "barrier." Paper 2 at 27. During prosecution, the applicant distinguished DeTrano as not disclosing the "barrier material

composition” of the claims, and the Examiner correctly allowed the claims following that argument. EX1002 at 8-9, 37-39; *see also* EX2027 ¶ 69.

Mr. Donley and Petitioner also fail to explain why a POSITA would combine Wilson and DeTrano's teachings. As Mr. Mineur explained, “a POSITA would not be motivated to make this combination as the DeTrano reference relates to white walled tires that are molded with white walls from the factory, where the mold is designed to form a balanced tire. On the other hand, a POSITA looking to Wilson would minimize weight and height of the tire sticker to avoid imbalance in the tire and to avoid too high of a projection from the tire that would be at risk of catching on obstacles.” EX2027 ¶ 69. Accordingly, the teachings in DeTrano relate to molded white wall tires where considerations like durability of attachment are of less concern as the molding is integrated in the tire from the factory. *Id.* Thus a POSITA would not look to combine these teachings with Wilson as they would lead to increased weight and thickness in the Wilson patch that would cause “imbalance” issues and “too high of a projection from the tire that would be at risk of catching on obstacles.” *Id.* Mr. Donley and Petitioner do not provide any explanation or justification for combining these teachings to add a barrier material construction or layer, nor would a POSITA be motivated to make the combination where Wilson lacks any teaching, suggestion, or motivation to need a barrier material layer as it is directed to a traditional style patch assembly.

In sum, the Petitioner has failed to show that Wilson teaches this limitation, nor has Petitioner shown any motivation or expectation of success in modifying Wilson away from accepted industry norms for patches and towards the claimed invention of the '027 patent. Accordingly, Petitioner has not met their burden for this limitation that appears in all claims of Ground 1, and Ground 1 should be rejected.

B. Wilson Does Not Disclose Or Render Obvious The Claimed Barrier Material Composition That Mitigates Or Impairs Migration of Material³

Wilson does not disclose, much less render obvious, the claimed “barrier material composition” to “mitigate migration of material from the vulcanized rubber article.” EX2027 ¶¶ 71-80. As discussed above, Wilson fails to disclose the “barrier material composition” that has “a material composition that has properties of shock

³ The barrier material composition that mitigates or impairs migration of material limitations include:

- Dependent Limitation 5: “The assembly as recited in claim 1 wherein the barrier material composition impairs migration of a material constituent within the assembly when the assembly is attached to a vulcanized rubber article”
- Limitation 11[d]: “wherein the outer layer comprises a barrier material composition to mitigate migration of material from the vulcanized rubber article.”
- Limitation 15[e]: “wherein at least a portion of the outer layer comprises a barrier material composition to mitigate migration of material from the rubber tire.”
- Limitation 19[d]: “wherein the outer layer comprises a material composition that acts as a barrier to material migrating from the vulcanized rubber tire.”

absorbance, elastomeric expansion and/or contraction.” Paper 2 at 26. These claims further require that the barrier material composition is designed to “mitigate migration of material from the vulcanized rubber article.” *See* EX1001 at Cls. 5, 11, 15, 19. The ’027 patent explains that this prevents passing of harmful chemicals that exist in a vulcanized rubber article like a tire into the outer layer or anything contained in the outer layer. *Id.* at 6:33-39 (“It is also desired that the intermediate or barrier layer 24 be formed from a material capable of acting as a barrier to minimize or prevent the migration of any unwanted constituents of the adhesive layer 26 and/or the vulcanized rubber article may otherwise operate to damage or degrade the design image and/or feature provided by the display layer 22.”).

To show this feature, Petitioner relies exclusively on Wilson. Petitioner argues that “a POSA would have understood and found obvious that the rubber material of Wilson’s rubber patch, which may be NR, CR/NR, or SBR/NR as discussed for limitation 1[b][ii] above, would necessarily impede (to at least some degree) the free flow of materials within Wilson’s patch assembly and thereby impair the migration of such materials when the patch is bonded to a vulcanized tire.” Paper 2 at 30. But Petitioner’s argument is based on unfounded speculation regarding what a POSITA would have known without any supporting argument, teaching, or explanation. And the expert’s parroting of Petitioner’s argument does not suffice to meet Petitioner’s burden of proof where such arguments are at best the

assertion that a POSITA would have tried various choices until arriving at a successful result. *See* EX1003 ¶¶ 126-133; *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1365 (Fed. Cir. 2007) (quoting *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“[T]o have a reasonable expectation of success, one must be motivated to do more than merely to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result.”)); *see also Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15 (conclusory expert support is entitled little weight). Merely pointing to the disclosure of using rubber in the Wilson patch does not teach or motivate a POSITA to modify the patch to add a barrier material composition to the outer layer that mitigates migration from the vulcanized rubber article. EX2027 ¶¶ 65-66, 70, 73 (“Mr. Donley’s arguments ignore the experience and ability of a POSITA to determine whether or not the barrier material layer acts as the claimed barrier and thereby mitigates or impairs migrations of material through the tire or patch. A POSITA would have looked at the patent’s explanation of desired “properties of high elongation, conformity and chemical resistance to notable mold release agents common in the vulcanized rubber of pneumatic tires, and combinations thereof” and would have been capable of designing the patch to impair or mitigate the effects of those mold release agents or other harmful chemicals from the tire, in order to protect the claimed assembly.”).

Petitioner ignores that a POSITA at the time of the invention would have been motivated to minimize the thickness of a patch, rather than increase it by adding a barrier material composition to mitigate migration of material. EX2027 ¶¶ 42, 65-66, 70, 75-77, 80. This is due to the inherent requirement of symmetry in wheels and tires in order to ensure balance. *Id.* ¶¶ 40-42. By adding a tire patch in one location of a tire, that throws off the balance of the tire leading to shaking and jolting as the tire spins. *Id.*; EX2032 (“After fixing a tire, how the vehicle drives may change. Plugging a tire can make the steering feel off because it affects the tire’s balance.”). These weight imbalances are exacerbated as a vehicle travels at speed, leading to extreme vibration and shaking felt by the vehicle and driver, thereby decreasing the lifespan of both the tire and the vehicle components and leading to other negative consequences like decreased fuel efficiency. *Id.*; *see also* EX2030 (“Historically, the goal has been to use balancing to prevent or solve complaints of truck ride, vibration and even wheel hop. ... balancing all wheel positions on over-the-road rigs can save up to 2.2% fuel compared to non-balanced assemblies.”). A POSITA would thus be motivated to minimize thickness and weight of the overall patch, teaching away from a barrier material thick enough to prevent migration of contaminants. EX2027 ¶ 76.

As the '027 patent explains: “it is desired the intermediate layer 24 thickness be that which is sufficient to enable the intermediate layer to function in the above

described manner” and the “exact thickness of the intermediate layer is understood to vary depending on the particular type of material selected for the intermediate layer as well as the particular end-use application.” Ex. 1001 at 6:47-54. The '027 patent also provides various examples of thickness, with certain examples greater than .008 mm. *Id.* at 6:54-58.

Nowhere does Petitioner point to a teaching that would motivate a POSITA to design or modify Wilson in this way. Merely pointing to Wilson's teaching of constructing the patch using rubber materials is not enough to motivate a POSITA to construct the patch of sufficient thickness to stop migration of material, especially where a POSITA would have been motivated to minimize the overall thickness and weight of the patch assembly. EX2027 ¶¶ 37-42, 76, 80; *see also Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068 (Fed. Cir. 2018) (“We have observed that the prejudice of hindsight bias often overlooks that the genius of invention is often a combination of known elements which in hindsight seems preordained.”) (internal quotations and citations omitted); *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) (“[S]imply retrac[ing] the path of the inventor” is not how obviousness works) (internal quotations and citations omitted).

Mr. Donley, Petitioner's expert, has even admitted the thickness of the barrier material layer relates to preventing bleed-through and that traditional outer layers

will not sufficiently stop such bleed-through, confirming a POSITA would not have been motivated to construct a barrier material composition prior to the '027 patent. EX2025; EX2026. Prior to this litigation and IPR, Mr. Donley communicated with Tire Stickers' CEO that "[t]he barrier layer is going to be impacted by the AO from the tire and will change color" and that if the "intermediate layer is too thin then the AO will start to impact the WWW on its surface," thereby confirming the necessity of utilizing a barrier layer of proper thickness to prevent bleed-through. EX2026; *see also* EX2025. Mr. Donley even explained that he was unaware of "any specific studies about this subject," rebutting his new position in this litigation that any prior art rubber patch would serve as a barrier material. EX2026; *see also* EX2036 ¶ 9.

Petitioner also fails to explain why a POSITA would be motivated to modify Wilson when a POSITA at the time of the '027 patent would have known that the traditional method in the industry was to utilize rigid patches of a similar rubber composition used in the tire, thereby leading to the same bleed-through of chemicals that the '027 patent seeks to solve. EX2027 ¶¶ 44-45, 73-75. As the '027 patent inventors realized and taught, these chemicals place at risk the longevity of a display or element included in or on the outer layer of the assembly. Ex. 1001 at 6:33-39 ("It is also desired that the intermediate or barrier layer 24 be formed from a material capable of acting as a barrier to minimize or prevent the migration of any unwanted constituents of adhesive layer 26 and/or the vulcanized rubber article may otherwise

operate to damage or degrade the design and/or feature provided by the display layer 22.”). Accordingly, Petitioner fails to meet its burden to explain why a POSITA would have been motivated to design a barrier material that mitigates bleed through of contaminants, rather than use traditional patch materials, especially where Wilson does not teach or motivate a need for preventing bleed through of contaminants. EX2027 ¶¶ 73-75.

In sum, the Petitioner has failed to show that Wilson teaches this limitation, nor has Petitioner shown any motivation or expectation of success in modifying Wilson away from accepted patch industry norms and towards the claimed invention of the '027 patent. Petitioner has not met their burden for these limitations, and Ground 1 should be rejected at least for claims 5, 7-9, 11-13, 15-22.

VIII. Ground 2: Claim 12 Would Not Have Been Rendered Obvious Over Wilson in view of DiRocco

Petitioner fails to meet its burden to prove that Wilson in view of DiRocco discloses this limitation because Petitioner fails to show that Wilson teaches the claimed barrier material composition and mitigate/impair limitations discussed above for Ground 1. Because Petitioner provides no additional arguments regarding the barrier material composition limitations, this Ground must also fail.

IX. Ground 3: Claims 1-3, 5, and 7 Would Not Have Been Obviousness Over Bielicki

A. Bielicki Does Not Disclose Or Render Obvious The Claimed Barrier Material Composition

1. The Barrier Material Composition Limitations⁴

Bielicki does not disclose, much less render obvious, the claimed “barrier material composition.” As Revvo admits, a “barrier material composition” is “a material composition that has properties of shock absorbance, elastomeric expansion and/or contraction.” Paper 2 at 26.

Rather than focus on the requirements of the claim, namely material properties of shock absorbance, elastomeric expansion and/or contraction, Petitioner focuses solely on the disclosure of rubber in the prior art and wrongfully assumes that all rubber products will “have properties of shock absorbance, elastomeric expansion and/or contraction” and are by default a “barrier material composition.” *Id.* at 59.

⁴ The barrier material composition limitations include:

- Limitation 1[b]: “[i] an adhesive layer adhered to an interface surface of the outer layer, [ii] wherein at least a portion of the outer layer adjacent the interface surface comprises a barrier material composition, and”
- Limitation 11[d]: “wherein the outer layer comprises a barrier material composition to mitigate migration of material from the vulcanized rubber article.”
- Limitation 15[e]: “wherein at least a portion of the outer layer comprises a barrier material composition to mitigate migration of material from the rubber tire.”
- Limitation 19[d]: “wherein the outer layer comprises a material composition that acts as a barrier to material migrating from the vulcanized rubber tire.”

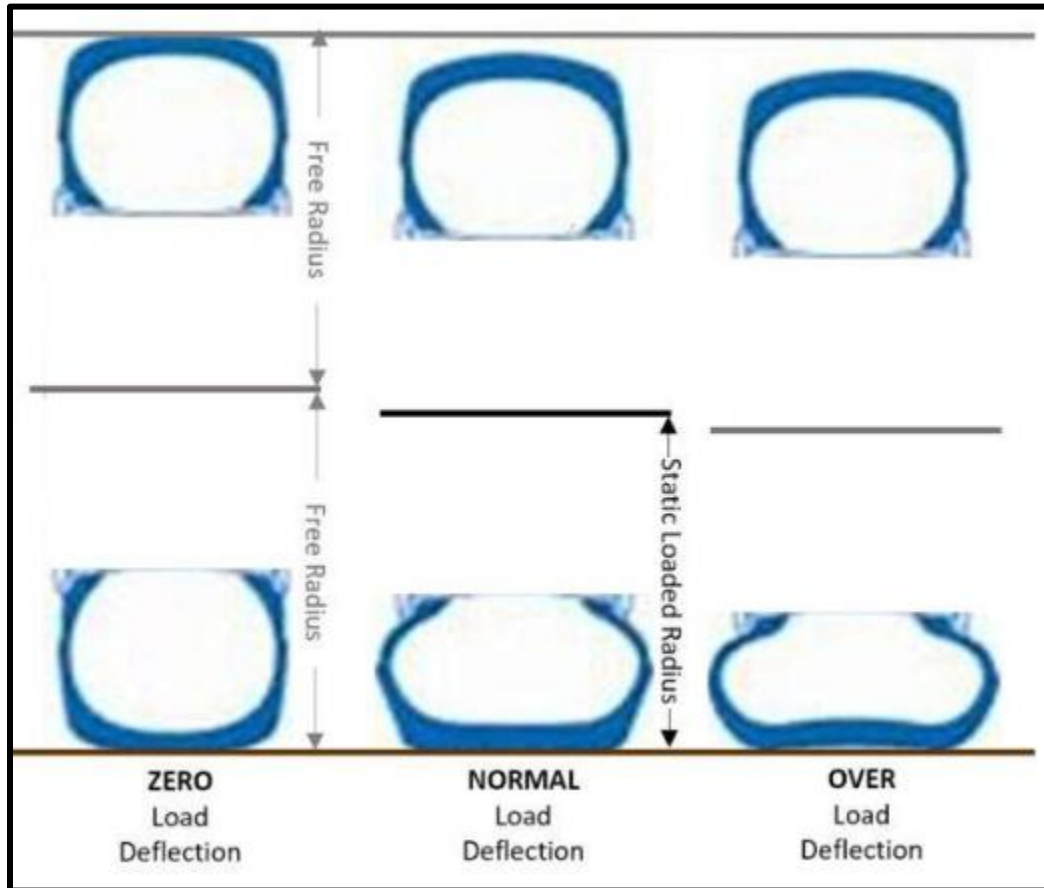
This assumption is inconsistent with the plain language of the claims, the specification, and a POSITA's understanding. *E.g.*, EX2025 ¶¶ 4-5 (confirming, “[a]s of April 27, 2015, neither Patch Rubber Company nor other suppliers offered samples, products, or the capability to produce a barrier composition and / or cavity feature as it relates to U.S. Patent No. 11,124,027 B2.”); EX2027 ¶¶ 82-90.

For example, the petitioner argues that:

Any rubber, as an elastomeric material, would have “properties of shock absorbance, elastomeric expansion and/or contraction,” including specifically the white and black rubber in outer layer 13 and inner layer 15, respectively, of Bielicki's disclosed ID unit/patch.

Paper 2 at 59. But merely pointing to a rubber construction does not demonstrate a barrier material composition. A POSITA reading the '027 patent would read the barrier material composition in context of the claims and the specification. EX2027 ¶¶ 84-86. The specification explains that the design is intended to allow “display assemblies [to] be attached to a surface of a vulcanized rubber article, e.g., a sidewall surface of a pneumatic tire ... capable of withstanding the tire manufacturer recommended life cycle.” Ex. 1001 at 12:66-13:8. A POSITA would have understood that the '027 patent's directive to utilize a barrier material that allows for “properties of shock absorbance, elastomeric contraction and/or expansion” relate to the ability of the assembly to be attached to the tire or vulcanized article permanently

in harsh conditions such as the tire sidewall which is subject to more intense flexing and inconsistent contours due to changes in tire pressure and road conditions:



EX2029; EX2027 ¶¶ 36, 47-48, 51.

Petitioner fails to point to any teaching in Bielicki that discloses or motivates a POSITA to construct a patch to have the properties of shock absorbance, elastomeric expansion and/or contraction. Rather, a POSITA looking at Bielicki would have been motivated to use traditional rubber compositions to create a rigid patch much like traditional patches. EX2027 ¶¶ 87. Traditional patch materials are designed to mimic the composition of the tire—being rigid and holding form to

attach to a rigid tire construction. *Id.* ¶¶ 32-35, 87-89. Petitioner fails to explain why or how Bielicki teaches a different composition.

The Petitioner also argues that a barrier material composition is taught by Bielicki's disclosure that "[t]he inner layer 15 is [] a rubber material with a lower durometer than the outer layer 13." Paper 2 at 59. Petitioner cites the following lines of Bielicki which state:⁵

The term durometer is used in the art to signify a measurement of the hardness of a rubber material ... The inner layer 15 is [] a rubber material with a lower durometer than the outer layer 13 ...

Paper 2 at 59 (citing EX1004 at 4:44-55 and 4:56-5:2 (emphasis added)). The durometer teachings in Bielicki all relate to the relative hardness of the rubber which relates to how difficult the rubber will be to cut with a laser. EX1004 at 4:50-53 ("A higher durometer will be more durable than a lower durometer product."). In other words, Bielicki's teachings are limited to teachings of durability of the layers and the ability to use a laser to cut designs through the layers. And a POSITA would have been motivated to maximize durability of the layers while balancing the ability to cut a design into the layers according to Bielicki and conventional wisdom.

⁵ Revvo's entire application of "barrier material composition" is at pages 59-60 of the Petition with regard to Bielicki. The rest of the Petition relies on that 2-page discussion. Paper 2 at 77, 80, and 85.

EX2027 ¶¶ 87. As Bielicki teaches, a durometer reading that is too low will both lead to durability issues and issues with a laser cutting too deep through the layers when adding designs. EX1004 at 4:50-53; *id.* at 5:3-7 (“the second pass cut a depth into the ID unit that was on an average more than twice the depth cut by the first pass. In particular the average depth in millimeters for the first pass was 0.63 and the average depth for the second pass was 1.39.”). Petitioner fails to explain how a POSITA would look to Bielicki’s teachings of maximizing the balance between durability (hardness) and preventing the lasers from cutting too far into a second layer, and thereby be motivated to design a barrier material composition with shock absorbance, elastomeric expansion and/or contraction. A POSITA would be taught away from a barrier material composition because Bielicki discloses that such properties would create softness that would be susceptible to deep burns from the laser for engraving, negating the purpose of having the barrier material in the first place. EX2027 ¶¶ 87.

Petitioner further fails to provide any teaching or motivation to modify Bielicki to create a barrier material composition with shock absorbance, elastomeric expansion and/or contraction. Paper 2 at 59-60. For example, Petitioner fails to explain any teaching, motivation or suggestion that would lead a POSITA to add a barrier material composition rather than traditional rubber patch compositions similar to those used in the tire or vulcanized article which are known to be rigid and

highly durable. EX2027 ¶¶ 89-90. Petitioner's summary 4 paragraph, 1.5 page argument, points to no teaching in Bielicki or motivation to abandon this known principle of optimizing durability, especially when a POSITA would be motivated to maximize durability and rigidity pursuant to industry norms (and therefore sacrifice principles like shock absorbance, elastomeric expansion and/or contraction) to the extent allowable by the manufacturing and laser cutting process. Paper 2 at 59-60; EX2027 ¶¶ 87, 89-90. Bielicki thus omits a barrier material composition altogether, disclosing only an outer harder rubber durometer which will be cut through by the laser and inner lower durometer rubber for attachment to the tire and partially exposed through the outer layer. *Id.*

In sum, the Petitioner has failed to show that Bielicki teaches this limitation, nor has Petitioner shown any motivation or expectation of success in modifying Bielicki away from accepted patch industry norms and towards the claimed invention of the '027 patent. Accordingly, Petitioner has not met their burden for this limitation that appears in all claims of Ground 3, and Ground 3 should be rejected.

B. Bielicki Does Not Disclose Or Render Obvious Claim 7, Including the Recited "Cavity"

Bielicki does not disclose, much less render obvious, the claimed "assembly as recited in claim 1 further comprising a cavity disposed therein." Ex. 1001 at Cl.

7. Petitioner summarily argues in a single paragraph that Bielicki discloses a “series of cutouts or grooves that form a barcode pattern 12, created by using a laser to cut through (ablate) the white outer layer 13 and expose the black inner layer 15.” Paper 2 at 64. Petitioner concludes without support that “[e]ach cutout or groove satisfies the plain meaning of “cavity” (i.e., an unfilled or hollowed-out space within a mass) and is disposed in Bielicki’s multi-layered rubber patch.” *Id.* Summary conclusions that are divorced from the claim language and inconsistent with the specification are not sufficient, especially where supported only by conclusory declaration testimony. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15 (“Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”).

The '027 Patent explains that “[t]he display assembly may comprise a cavity disposed therein that may include an element disposed therein.” EX1001 at 2:22-24. In an example, the '027 patent provides that “the cavity is formed within the second display layer 82 and the intermediate adhesive layer 74 and is configured to accommodate a desired element or object therein, wherein such element or object may be any type of rigid or non-rigid element, passive or non-passive element, functional or nonfunctional element that may be useful for including in the display assembly.” *Id.* at 11:48-53. In sum, nowhere does the '027 patent describe a cavity

with the expansive interpretation proposed by Petitioner wherein a laser cut bar code display serves as a cavity. EX2027 ¶¶ 91-93.

Further, the '027 patent confirms that a laser cut groove does not serve as a cavity because the patent uses distinct language when referring to a cavity, as compared to “openings cut into” the “display layer.” EX1001 at 8:14-18 (“[T]he first display layer may be of one color and have one or more opening cut into it, and the second display layer is of another color so such color is displayed through the openings to provide a desired visual indicia on the surface of the display assembly.”). Accordingly, the patent specification specifically discusses a “cavity” when discussing a space for holding an element or object like an RFID chip, and discusses “openings cut into” the layer when discussing bar codes cut into the assembly. “[W]hen an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.” *Innova/Pure Water*, 381 F.3d at 1119.

Petitioner has failed to support its butchered interpretation of “cavity,” and failed to show that Bielicki either discloses or renders obvious the “cavity” limitation. And further, Mr. Bielicki's declaration confirms that the Bielicki reference lacks a cavity. EX2036 ¶ 7; *see also* EX2025 ¶ 5 (“Patch Rubber Company confirmed to us that manufacturing of a label assembly featuring a cavity was not

within their manufacturing capability, and expressed skepticism as to the success and feasibility of such a design.”).

X. Ground 4: Claims 1-3, 5, 7, 11-13, 15, and 16 Would Not Have Been Obvious Over Bielicki in view of the Patch Rubber Brochure and/or the Tire-Track Brochure

Petitioner fails to meet its burden to prove that Bielicki discloses this limitation because Petitioner fails to show that Bielicki teaches the claimed barrier material composition as discussed above for Ground 3, and incorporated herein by reference. Because Petitioner provides no additional arguments regarding the barrier material composition limitations, this Ground must fail.

Further, as to claims 7 and 16, Petitioner merely incorporates by reference its argument relating to claim 7 in Ground 3 above. Accordingly, for the same reasons explained above and incorporated herein by reference, Ground 4 must fail for this additional reason.

XI. Ground 5: Claims 7-9, 14, 16-23 Would Not Have Been Obvious Over Bielicki in view of the Patch Rubber Brochure and/or the Tire-Track Brochure, and Brown

Petitioner fails to meet its burden to prove that a POSITA would make this combination to create the claimed invention. Petitioner admits that Ground 5 is its attempt to add additional teachings to provide an admitted missing element from Ground 4: a cavity in which to store an element within the assembly. Paper 2 at 80. Petitioner alleges that it is extending Ground 4 to add “the Tire-Track Brochure’s

teaching of the inclusion of an RFID chip within an ID unit/patch and Brown's description for implementing a tire patch containing a transponder." Paper 2 at 80. Petitioner's summary reasoning is that it would have been obvious to include an RFID chip because it would "further enhance the functionality of Bielicki's ID unit/patch." Paper 2 at 81-82. Petitioner provides no basis for why a POSITA would look to Brown for how or why to include an element like an RFID device or transponder within a cavity of Bielicki. *Id.*; *see also* EX2025 ¶ 5("Patch Rubber Company confirmed to us that manufacturing of a label assembly featuring a cavity was not within their manufacturing capability, and expressed skepticism as to the success and feasibility of such a design."). Petitioner has failed to meet its burden for Ground 5. *See* EX2027 ¶¶ 95-98.

Claims 7-9, 14, and 16-23 each require a cavity and/or an element placed within the cavity, as part of the overall assembly. *See also* EX1001 at 11:38-41 (disclosing one feature of the invention is "the presence of a cavity 78 that is formed in the display assembly 70 for the purpose of accommodating placement of an element or object 79 therein."). Placement of a cavity which can hold an element within the innovative tire display provides the added benefit of potential tire tracking, identification, and other uses, while the cavity and element are protected by the barrier material composition and overall flexibility of the tire attachment assembly. *See* EX2027 ¶¶ 95-98.

A. Dependent Claims 7, 8, 16 and 17

Petitioner's reasoning fails as it is entirely based on hindsight justifications and lacks a motivation to combine. Petitioner argues that "[t]he same motivations to combine the teachings of Bielicki, Patch Rubber Brochure, and Tire-Track Brochure with a reasonable expectation of success discussed under Ground 4 apply here." Paper 2 at 82. But the motivations to combine in Ground 4 are merely arguments that a POSITA would combine Bielicki and the Tire-Track Brochure/ Patch Rubber Brochure because they look similar and come from a similar company. The mere existence of two references in one field does not explain why a skilled artisan would have combined them. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (it is necessary to explain "why the references would be combined"). And merely retracing the inventors' steps based on hindsight reasoning that the teachings across various references would compliment one another is not enough to meet Petitioner's burden of showing a motivation to combine and expectation of success between these different references and embodiments. *Ortho-McNeil*, 520 F.3d 1358, 1364 ("[S]imply retrac[ing] the path of the inventor" is not how obviousness works).

Magnifying Petitioner's failure of proof, the Petitioner assumes without any reasoning that a POSITA would further combine Bielicki and the Patch Rubber/ Tire Track Brochures with Brown. The only justification is that "[a] POSA would have

been motivated to look to Brown because it is a complimentary tire patch reference” and that “this teaching from Brown would have been well-suited for mounting the RFID tag in the Bielicki/Tire-Track ID unit/patch because it likewise has a multi-layered configuration and could readily be applied to form a ‘sandwiched’ RFID between Bielicki’s black inner layer and bottom rubber gum bonding layer.” Paper 2 at 82-83. This reasoning is insufficient. Merely pointing out that the proposed prior art references are in a complimentary technology relating to tire patches does not provide any justification for creating a four way combination between the references, while Petitioner ignores the limitations of tire patches as discussed above. *See TriVascular*, 812 F.3d 1056.

More specifically, Petitioner fails to provide a reasonable expectation of success or motivation to create a cavity within Bielicki, add an element within the cavity, and protect this cavity with a barrier material composition. Bielicki is directed to create bar code displays, and provides no teaching that motivates the addition of a cavity and element within. EX1004 at Abstract. While the brochure Petitioner points to may discuss an element like an RFID chip and Brown may disclose a cavity, those references likewise do not motivate a POSITA to pick and choose disparate teachings from each reference and then merge the teachings with a barrier material composition that is missing from all references. EX2027 ¶¶ 96-98. Petitioners attempt to merely point to disparate teachings without providing a

motivation to combine or expectation of success of the specific embodiments is a foundational failure. *Id.*

To be sure, Mr. Bielicki's declaration confirms that a POSITA would not have been motivated to add an RFID element or cavity to the Bielicki tag. EX2036 ¶¶ 7-8. As Mr. Bielicki explains, the Tire Track Brochure's discussion of an optional RFID chip was never sold or successfully implemented. *Id.* Because the addition of an RFID chip left open many practical constraints such as placement, protection of the chip in the assembly, and ensuring performance on the dynamic environment of a tire, the idea was abandoned and never brought to market. EX2036 ¶¶ 7, 10.

For example, Petitioner ignores that Bielicki is not compatible with and teaches away from the addition of a cavity or element within the assembly. Bielicki teaches using two layers in a tire patch such that a laser can cut a design *through* the layers to display a bar code. EX1004 at 4:62-67 ("This has been confirmed by experiments that used the same laser 20 in a *first and second pass* to cut a first and second trough or groove into the ID unit. If the outer layer 13 had a greater ablation rate than the inner layer 15, *the depth of the first pass would have been slightly less than that of the second pass.*") (emphasis added). One of the drawbacks of this design is that the laser must cut entirely through the first layer, and will cut sometimes varying depths into the second layer of the patch, using high heat to do so. *Id.* Accordingly, the manufacturing method in Bielicki is incompatible with

including a cavity because the process of cutting a design in the patch would lead to cutting through the outer layer and into the cavity where the element would allegedly be stored. EX2027 ¶¶ 97-98; EX1008 at 4:12-15 (“The apparatus (10) is encased in any Suitable elastic material (40) Such as natural rubber or the like....”). Similarly, the high heat and abrasiveness of the laser cutting process would risk damage to the sensitive components in the RFID tag taught by the Tire Track Brochure or the Brown transponder, rendering the teaching incompatible. EX2027 ¶¶ 97-98; EX1008 at 1:65-2:2 (Brown also teaches away from Bielicki’s disclosure of using a laser and heat during manufacturing of the tag because it would cause “the delicate electronic components of the active tag [to be] exposed to high vulcanizing temperatures which may adversely affect their performance or shorten their life.”); EX1005 (Patch Rubber Brochure) (confirming a POSITA would not be motivated to combine with Brown as “[t]he barcode is cut deeply into the rubber for permanent identification, so it cannot wear off” thereby risking damage to the Brown chip).

Petitioner also fails to show that the Tire Track Brochure in view of Bielicki discloses the claimed cavity, or would motivate a POSITA to modify the references to add a cavity, especially when the Tire Track Brochure is directed to permanently sandwiching an RFID chip between layers of a patch during manufacturing rather than forming a cavity therein. EX1007 at 3; EX2027 ¶ 98; Paper 2 at 82-83 (Petitioner referring to a “sandwiched” RFID).

Further, Petitioner fails to show why a POSITA would be motivated to modify or utilize Brown when it teaches away from the invention. EX2027 ¶¶ 95-98. Brown discloses a transponder in a traditional patch that lacks any barrier material or multi-layer construction. EX1008 at Fig. 1. The Brown assembly teaches minimizing layers and thickness via a simple patch with a transponder. Petitioner points to no motivation for a POSITA to modify Bielicki with Brown when the Bielicki assembly would put the Brown transponder at risk of damage due to the high heat of laser engraving and vulcanizing multiple layers, and Petitioner points to nothing in Brown that would direct a POSITA to add additional layers, including a barrier material layer, to protect the Brown transponder in any cavity.

In sum, the Petitioner has failed to show that Bielicki teaches this limitation, nor has Petitioner shown any motivation or expectation of success in modifying Bielicki, Brown, and the Tire-Track Brochure away from accepted patch industry norms and towards the claimed invention of the '027 patent. Accordingly, Petitioner has not met their burden for this limitation that appears in all claims of Ground 5, and Ground 5 should be rejected.

B. Dependent claims 9, 18, and 20

Dependent claims 9, 18, and 20 require the cavity to be disposed beneath the outer layer. Petitioner relies entirely on its arguments for claims 7, 8, 16 and 17 to argue that these limitations are disclosed. Paper 2 at 84. However, for the same

reasons explained above, and incorporated herein by reference, Petitioner fails to explain or provide a motivation to combine or expectation of success that would lead a POSITA to make the asserted combination. For example, Petitioner assumes that it would have been obvious to incorporate the RFID chip of the Tire-Track Brochure into Bielicki's patch as taught by Brown. *Id.* As explained above, the teachings of Bielicki and conventional knowledge would teach away from this combination, confirming there is no motivation to combine. EX2027 ¶¶ 95-98. If an RFID chip was placed below the outer layer of Bielicki, it would be exposed to the elements and subject to damage when Bielicki's outer layer was lasered through to expose the layer underneath. *Id.*; EX1004 at 4:62-67. Furthermore, the laser would come into direct contact with the RFID unit causing damage. *Id.* For these reasons and the reasons explained above, Petitioner fails to carry its burden for dependent claims 9 and 18.

C. Independent claim 19

Independent claim 19 requires, among other things, "a cavity disposed within the assembly for accommodating an element therein." Ex. 1001 at Cl. 19. Petitioner relies exclusively on its arguments for Claims 7 and 8. However, for the same reasons explained above, Petitioner fails to provide a motivation to combine or expectation of success that would lead a POSITA to make the asserted combination.

XII. Objective Indicia of Non-Obviousness

The asserted claims of U.S. Patent No. 11,124,027 are not obvious when evaluated in light of the objective indicia of non-obviousness. These indicia are “safeguards” against hindsight and provide critical, real-world evidence that the claimed invention reflects true innovation rather than routine optimization. *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1079 (Fed. Cir. 2012) (objective indicia “guard as a check against hindsight bias”). The Federal Circuit has consistently recognized that secondary considerations—commercial success, long-felt but unmet need, industry praise, copying, unexpected results, licensing, failure of others, and skepticism—must be considered and can be dispositive where a nexus exists between the evidence and the claimed features. *Id.* at 1075-76 (“Indeed, evidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decisionmaker remains in doubt after reviewing the art.”) (citing *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39 (Fed. Cir. 1983)). Here, there is a tight nexus between the claims of the '027 patent and multiple objective indicia, confirming that a person of ordinary skill would not have found the claimed invention obvious at the time of filing.

A. Failure of Others & Long Felt But Unmet Need

The industry had a long felt need for a durable tire attachment system that provided for flexible placement of decals and elements like RFID chips. For example, Petitioner relies on the Tire Track Brochure which demonstrates a need for this technology dating back to 2012 to assist with tire and vulcanized article tracking. EX1035. Trucking and logistics companies have large fleets of vehicles and tire theft or failure can lead to costly delays and repairs. *Id.* Accordingly, the industry has long had a need to streamline tracking of these vehicles to record their location, distances traveled, and potential theft, allowing logistics companies to identify when inspections and maintenance are required to prevent costly incidents. EX2027 ¶¶ 100-104.

This need was unmet, and those in the industry failed to achieve the solution. As Mr. Bielicki explains in his declaration, the industry recognized a need and his company tried to meet that need. EX2036 ¶¶ 8-10. However, they were unable to successfully implement an assembly with an RFID element stored therein due to issues with damage caused by manufacturing and premature failure due to the lack of a barrier material composition. *Id.* This failure of others to reach the claimed solution confirms non-obviousness. *Extended-Release Capsule*, 676 F.3d 1063 at 1080 (“[W]e find that evidence of a longfelt need for an [the invention] and the

failure of others to formulate one strongly support a conclusion of nonobviousness.”).

Further, contemporaneous evidence points out that at the time of the invention, there was a long felt and unmet need. For example, enthusiasts were consistently looking for reliable alternatives for tire display assemblies, and were resorting to unreliable paint products without a viable, durable alternative on the marketplace. *E.g.*, EX2033 (<https://www.triumphrat.net/threads/painted-lettering-on-tires-thoughts.212149/>) (discussing use of paint pens to customize tires going back decades, but discussing the issue of durability); EX2034 (<https://www.jalopyjournal.com/forum/threads/smoothing-tire-sidewalls-removing-lettering.848043/>) (same); EX2027 ¶¶ 100-104.

The manufacturers and tire installers were also attempting to endeavor in manual methods of tire tracking and identification through fleet surveys and inspections, in an effort to help logistics companies keep track of and maintain their tire fleets. This manual effort further demonstrated the need for a durable, on tire solution that was unmet. EX2027 ¶¶ 100-104; EX2035 (<https://www.moderntiredealer.com/industry-news/commercial-business/article/11534183/commercial-dealers-change-with-their-markets-2014-10-21>) (discussing programs offered by tire dealers to address this long felt problem where “[f]or any size fleet, we offer fleet surveys and inspections to make sure they

are using the correct tire for the specific application and getting the most out of their tires for the budget they have allotted,” and “[f]or both commercial and OTR customers, minimizing downtime is crucial for their bottom line, so we have worked hard to give them the products and service they need as soon as they need it.”).

B. Unexpected Results & Commercial Success

Even if a “a claimed invention falls within a range disclosed in the prior art” the invention may still be patentable if “there are new and unexpected results.” *Extended-Release Capsule*, 676 F.3d 1063 n.7 (citing *Iron Grip Barbell Co. v USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004)); *see also United States v. Adams*, 383 U.S. 39, 52 (1966) (“known disadvantages in old devices which would naturally discourage the search for new inventions may be taken into account in determining obviousness”).

Rubber components were known, but the use of a rubber composition layer that acted as a barrier material composition did not exist in the prior art. EX2027 ¶¶ 105-110. That is because a POSITA would not have expected the use of a barrier material composition to result in a viable tire patch assembly. For example, the '027 Patent discloses that “depending on the particular size and configuration of the display assembly 20, it is desired that the intermediate layer 24 thickness be that which is sufficient to enable the intermediate layer to function in the above described manner” and the “thickness of the intermediate layer is understood to vary depending

on the particular type of material selected for the intermediate layer as well as the particular end-use application.” *Id.* at 6:47-54. However, a POSITA would have expected that adding thickness to the assembly would lead to premature failure because it would increase the likelihood of peeled edges and adhesive failure. EX2027 ¶¶ 107-108.

Moreover, a POSITA would not have expected shock absorbance, elastomeric expansion and/or contraction properties to be successful in the tire patch as such movement would not match the properties of the vulcanized article the assembly is attached to which is stiff in nature, thereby leading to incongruent movement and premature failure of the adhesive layer. *See* EX2027 ¶¶ 107-109; EX2041 (Basic Automotive Tire Service) at 7-18 (2002) (“When installing these units, be sure the arrows are perpendicular to the beads ***so the repair unit will flex at the same rate as the tire.***”); EX2042 (Truck Tire Repair) at 1 (“In order to successfully repair a radial tire, ***the repair unit must flex in the same manner as the tire.***”) (emphasis added). The ’027 patent teaches a layer that has properties that do not match the underlying tire, meaning the results of the invention were unexpected in view of conventional patch wisdom to match the composition of the assembly to the tire. The industry was also skeptical of including a cavity within the assembly, as the inherent temperatures for vulcanization would likely deform or destroy such a cavity, and make manufacturing not feasible. *See also* EX2025 ¶ 5 (“Patch Rubber Company

confirmed to us that manufacturing of a label assembly featuring a cavity was not within their manufacturing capability, and expressed skepticism as to the success and feasibility of such a design.”).

The claimed invention led to unexpected results, whereby adding a barrier material composition to the outer layer of the multi-layer assembly would improve the durability of the assembly, even though it had incongruent properties of shock absorbance, elastomeric expansion and/or contraction properties to that of the tire. EX1001 at 6:19-28; *see also* EX2027 ¶¶ 105-110.

Despite this skepticism, the invention has been met with widespread commercial success and adoption. EX2025 ¶ 9. As Mr. Ferry has explained, “Tire Stickers has become the industry’s primary (and widely the only available) choice for solutions to this need. This is evident from Tire Stickers’ longstanding relationship with nearly every tire company (including but not limited to Goodyear / Cooper / Mickey Thompson / Avon, Michelin / BFGoodrich, Sumitomo / Falken / Dunlop, Toyo / Nitto, Continental, Pirelli, Landsail / Delinte, CEAT, MRF) for use in branding, tire tracking, RFID, digital tire passports, and for custom tires and replacement of OE (original equipment) white-letter tire manufacturing.” *Id.* Mr. Fery explained that his company is “actively working with multiple tire manufacturers to offer custom tires through incorporation of our products related to U.S. Patent No. 11,124,027 B2 and to replace traditional white-letter manufacturing

for over 4,000,000 tires” and that “Tire Stickers’ products related to U.S. Patent No. 11,124,027 B2 are further used by vehicle manufacturers (including but not limited to FCA USA, General Motors, and Ford Motor Company) and licenses have been issued to Tire Stickers for offering trademarked products to the aftermarket.” *Id.*

XIII. The Art and Arguments Regarding the Challenged Claims Are Cumulative Of Those Already Considered During Prosecution

Confirming patentability, Wilson and Bielicki are also cumulative to the references and arguments considered by the Patent Office during prosecution with regard to the challenged claims, including Claim Elements 1[b][ii], 11[d], 15[e], and 19[d]. *See* 35 U.S.C. § 325(d).

During prosecution, the Examiner cited DeTrano (EX1012) before allowing the claims of the '027 patent. EX1002 at 15, 37, 53-54. The examiner pointed to DeTrano's disclosure of an elastomeric rubber configuration and disclosure of a “barrier.” EX1005 at Figure 2, Table II; EX1002 at 53-54.

The Patent Owner distinguished DeTrano by explaining that DeTrano fails to disclose an outer layer with a barrier material composition:

Applicant has amended independent claims 1, 11, and 19 to recite the feature that the outer layer of the assembly comprises a ***barrier material composition*** (to mitigate the unwanted migration of material from the vulcanized rubber article or tire). Applicant submits that DeTrano fails to disclose a decorative applique construction comprising the feature not recited in the above-noted independent claims, and as such fails to properly anticipate the subject matter of such claims. In view thereof, Applicant submits that its assembly as recited in amended independent

claims 1, 11 and 19 is properly novel over DeTrano, and respectfully requests that the rejection of such claims under 35 U.S.C. § 102 based on DeTrano be reconsidered and withdrawn.

EX1002 at 37 (emphasis added).

The Patent Owner explained that “[o]ne having ordinary skill in the art aware of DeTrano would not find suggestion or motivation to make an assembly as recited in Applicant’s independent claims 1 and 11 wherein the outer layer comprises a barrier material composition.” EX1002 at 38-39.

The examiner subsequently allowed the claims. EX1002 at 8-9.

Petitioner now attempts to rely on duplicative, or even the same teachings, that were rejected by the examiner in DeTrano, but fails to prove that the examiner erred and these disclosures are non-cumulative. As the Patent Owner explained during prosecution, DeTrano does not disclose a barrier material in the outer layer of the assembly, thereby protecting the assembly from both the adhesive layer and the tire itself. EX1002 at 38-39. Further, DeTrano’s teaching relate to merely teaching compositions of rubber, but fail to disclose or motivate a composition that form a “barrier material composition” whereby the layer has shock absorbance, elastomeric expansion and/or contraction properties in an assembly for attachment with a vulcanized rubber article (or tire) as in the challenged claims.

Here, the Petitioner relies on duplicative teachings of a rubber composition from DeTrano that has already been considered by the office and are therefore cumulative.

XIV. Conclusion

For the foregoing reasons, Patent Owner respectfully requests a final written decision confirming patentability of the Challenged Claims.

Respectfully submitted,

Dated: November 18, 2025

By: /Christopher D. Bright/
Christopher D. Bright
Reg. No. 46,578

Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Patent Owner's Response contains, as measured by the word-processing system used to prepare this paper, 13,968 words. This word count does not include the items excluded by 37 C.F.R. § 42.24.

Respectfully submitted,

Dated: November 18, 2025

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Counsel for Patent Owner

CERTIFICATE OF SERVICE

I certify that on Nov. 18, 2025, I caused to be served a true and correct copy of the foregoing Patent Owner's Response, and supporting Exhibits, by electronic means at the following addresses of record:

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