

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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HIRSCH GLASS CORP., d/b/a/ SPECTRUM QUARTZ,  
Petitioner,

v.

CAMBRIA COMPANY LLC,  
Patent Owner.

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IPR2022-00582  
Patent 9,718,303 B2

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Before, KRISTINA M. KALAN, CHRISTOPHER M. KAISER, and  
AVELYN M. ROSS, *Administrative Patent Judges*.

ROSS, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Hirsch Glass Corp., d/b/a Spectrum Quartz, (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–20 of U.S. Patent No. 9,718,303 B2 (Ex. 1001, “the ’303 patent”). Cambria Company LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”

For the reasons set forth below, upon considering the Petition and evidence of record, we determine that Petitioner has not established a reasonable likelihood of prevailing with respect to at least one challenged claim. Accordingly, we deny the Petition, and do not institute an *inter partes* review.

### A. *Real Parties-in-Interest*

Petitioner identifies “Hirsch Glass Corp.” as the real party-in-interest. Pet. 3. Patent Owner identifies “Cambria Company LLC” as the real party-in-interest. Paper 4 (Patent Owner’s Mandatory Notices).

### B. *Related Proceedings*

Petitioner and Patent Owner identify as related proceedings the pending district court litigation styled *Cambria Company LLC v. Hirsch Glass Corp., d/b/a Spectrum Quartz*, No. 3:21-cv-10092-MAS-LHG

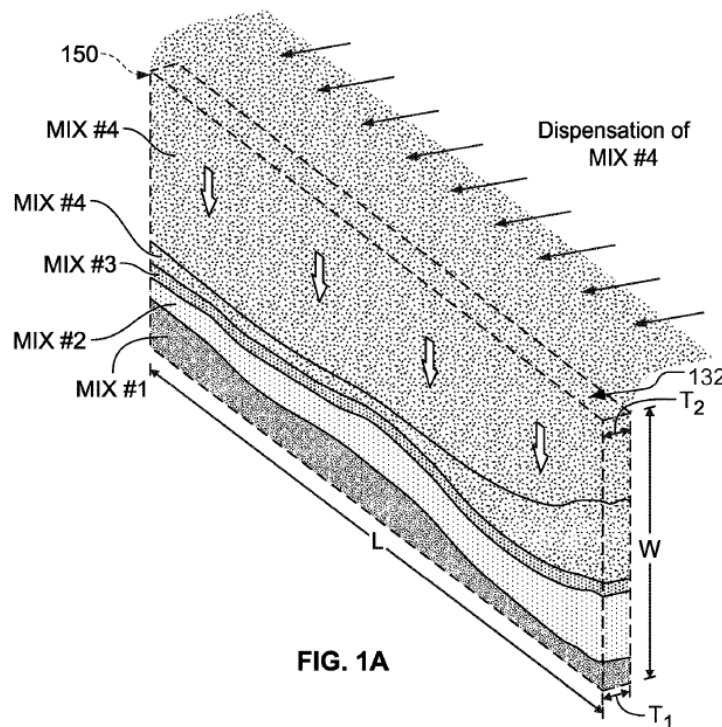
(D.N.J.) (originally filed as No. 1:21-cv-143 (E.D. Va.)). Pet. 3–4; Paper 4. Petitioner and Patent Owner identify as related to the '303 patent the following U.S. patents: Nos. 9,186,819; 9,993,942; 9,993,943; 10,300,626; and 10,981,346. Pet. 3; Paper 4. Petitioner and Patent Owner also identify as related matters the following proceedings: IPR2022-00583 (U.S. Patent No. 10,300,626) and IPR2022-00589 (U.S. Patent No. 9,993,942). *Id.*

*C. The '303 Patent*

The '303 patent, titled “Processed Slabs, and Systems and Methods Related Thereto,” issued on August 1, 2017. Ex. 1021, codes (45), (54). The '303 patent “describes systems and processes for forming synthetic mold slab products” such as “a synthetic mold slab that is thermoformed or otherwise compacted to a selected slab shape from a mixture including particulate mineral material, resin binder, and pigments so that the synthetic molded slab is suitable for use in living or working spaces.” *Id.* at 1:13–19. Such living or working spaces include “a countertop, table, floor, or the like.” *Id.* at 1:19. The '303 patent explains that granite, marble, soapstone, and other quarried stones have been used for “countertops due to their aesthetic properties” but “such quarried stone slabs can be quite expensive to obtain and are generally limited to naturally occurring color schemes.” *Id.* at 1:24–29. Engineered stone slabs, however, have been formed, which are “typically a combination of particulate mineral material and a binder, such as a polymer resin or cement,” but some “can fall noticeably short of the complicated look and texture of quarried stone slabs.” *Id.* at 1:30–38. The '303 patent purports to resolve such drawbacks by providing synthetic molded slabs that “can be manufactured so as to have a similar appearance to one another that, unlike quarried stone slabs taken from a quarry,” in that

the appearance “is generally repeatable and predefined as part of the manufacturing process” and “can provide complex striations or other veining patterns that emulate a quarried stone slab.” *Id.* at 1:46–52. Each slab “can be formed from a combination of differently pigmented particulate mineral mixes” to facilitate “the selected striations or other veining patterns.” *Id.* at 1:53–57. A synthetic molded slab can comprise a quartz material and “may have a major surface at least 2 feet wide by at least 6 feet long and extending perpendicularly to a slab thickness.” *Id.* at 1:63–67. The major surface may have “a first pigmented vein extending generally lengthwise from edge-to-edge that separates at least two other veins extending generally lengthwise and positioned on opposing edges of the first pigmented vein,” and the first pigmented vein may have “a vein thickness equal to and parallel to the slab thickness.” *Id.* at 1:67–2:6.

Figures 1A and 1B are illustrative and are reproduced below.



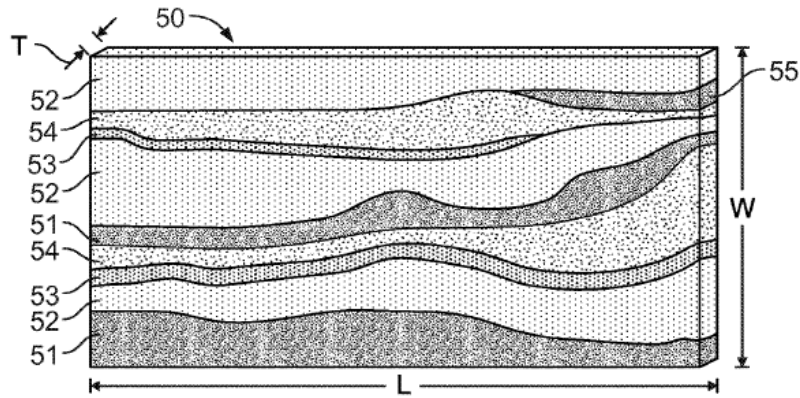


**FIG. 1B**

Figures 1A and 1B “are perspective views of a synthetic molded slab during and after formation,” respectively. *Id.* at 3:37–38. Synthetic molded slab 50 as shown in Figure 1B has “a number of striations or veins according to a predefined pattern.” *Id.* at 3:63–65. The predefined pattern can be formed by “a quartz material and/or other particulate mineral material that, when mixed with pigments and a resin binder and subsequently compressed and cured, provides a hardened slab product.” *Id.* at 3:65–4:1. A mold having length L, width W, and thickness T is used to form the slab having the equivalent dimensions depicted in Figure 1B, and the width can be 2 feet whereas the length can be 6 feet. *Id.* at 4:25–31, 5:57–59, 6:12–21. Slab 50 can have “differently pigmented veins 51, 52, 53, and 54 extend across the full length of the slab product” which “can also extend through the thickness of the slab 50” in order to provide “a natural vein appearance even when the slab is cut and edged to specific shapes.” *Id.* at 4:31–37. According to the ’303 patent, a system can be used to form a set of synthetic molded slab products such as slab 50 depicted in Figure 1B. *Id.* at 6:31–48.

*D. Illustrative Claims*

Petitioner challenges claims 1–20 of the '303 patent. Independent claims 1 and 14 are the independent claims challenged, and are reproduced below.

1. A processed slab, comprising: a major surface at least 2 feet wide by at least 6 feet long and extending perpendicularly to a slab thickness, the major surface having at least a first pigmented vein extending generally lengthwise from edge-to-edge that separates at least second and third pigmented veins extending generally lengthwise and positioned on opposing sides of the first pigmented vein, wherein the first pigmented vein is defined by a first particulate mineral mix and at least the first particulate mineral mix is separated from and forms a substantially unmixed layer with respect to a second particulate mineral mix defining the second pigmented vein according to a predefined layer pattern such that each of the first and second pigmented veins has a vein thickness equal to and parallel to the slab thickness, the second particulate mineral mix being different than the first particulate mineral mix.

Ex. 1001, 12:34–49.

14. A set of separately molded processed slabs, each respective slab of the set comprising a major surface at least 2 feet wide by at least 6 feet long and extending perpendicularly to a slab thickness, the major surface having at least a first pigmented vein extending generally lengthwise that separates at least second and third pigmented veins extending generally lengthwise and positioned on opposing sides of the first pigmented vein, wherein the first pigmented vein is defined by a first particulate mineral mix and at least the first particulate mineral mix is separated from and forms a substantially unmixed layer with respect to a second particulate mineral mix defining the second pigmented vein according to a predefined layer pattern such that each of the first and second pigmented veins has a vein thickness equal to and parallel to the slab thickness, the second particulate mineral mix being different than the first particulate mineral mix, and wherein the first, second and third

pigmented veins extend substantially lengthwise on each respective slab such that the major surface of each respective slab in the set has similarly positioned and colored substantially lengthwise veins.

*Id.* at 13:36–14:13.

*E. The Asserted Unpatentability Challenges*

Petitioner asserts that claims 1–20 would have been unpatentable on the following grounds:

| Claim(s) Challenged     | 35 U.S.C. § <sup>1</sup> | Reference(s)/Basis                           |
|-------------------------|--------------------------|----------------------------------------------|
| 1–4, 8–11, 13–15, 18–20 | 103                      | Bigi, <sup>2</sup> Benito Lopez <sup>3</sup> |
| 5–7, 12, 16, 17         | 103                      | Bigi, Benito Lopez, Toncelli <sup>4</sup>    |

Pet. 23, 61. Petitioner also relies on declaration testimony of Pierpaolo Tassone (Ex. 1031).

## II. ANALYSIS

*A. Principles of Law*

“In an IPR [(*inter partes* review)], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes*

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<sup>1</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the ’582 patent has an effective filing date after the effective date of the applicable AIA amendments, we refer to the AIA version of § 103.

<sup>2</sup> Bigi, WO 2005/097447 A2, published October 20, 2005 (Ex. 1025).

<sup>3</sup> Benito Lopez et al., US 2015/0360507 A1, published December 17, 2015 (Ex. 1005, “Benito Lopez”).

<sup>4</sup> Toncelli, US 2004/0032044 A1, published February 19, 2004 (Ex. 1011, “Toncelli”).

review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review). Furthermore, a petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Obviousness is a question of law based on underlying determinations of fact. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). A claim is unpatentable as obvious, under 35 U.S.C. § 103, if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness.<sup>5</sup> *Graham*, 383 U.S. at 17–18. Consideration of the *Graham* factors “helps inform the ultimate obviousness determination.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc), *cert. denied*, 138 S. Ct. 420 (2017). To prevail in an *inter partes* review, Petitioner must explain how the proposed combinations of prior art would have rendered the challenged claims unpatentable. Subsumed within

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<sup>5</sup> At this stage of the proceeding, the parties have not asserted or otherwise directed our attention to any objective evidence of nonobviousness.

the *Graham* factors are the requirements that all claim limitations be found in the prior art references and that the skilled artisan would have had a reasonable expectation of success in combining the prior art references to achieve the claimed invention. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007). “Obviousness does not require absolute predictability of success . . . all that is required is a reasonable expectation of success.” *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988) (citations omitted).

At this preliminary stage, we determine whether the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims would have been obvious over the proposed prior art.

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

*B. Level of Ordinary Skill in the Art*

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 17.

Petitioner contends that a person of ordinary skill in the art “would have an educational background, such as a bachelor’s of science degree, in chemistry, chemical engineering and/or material science or a related field, as well as some understanding of mechanics or manufacturing” and “would have at least two to four years of practical experience in manufacturing or designing composite materials, such as engineered stone or ceramic tiles” but that “[a]dditional practical or work experience can result in a lower level of education being necessary, and vice versa.” Pet. 10 (citing Ex. 1031

¶¶ 41–44). Patent Owner does not, at this time, dispute Petitioner’s proposed definition. *See* Prelim. Resp., *passim*.

On this record, we determine that Petitioner’s proposed definition is consistent with the prior art of record, and apply it for this Decision, with the exception of the open-ended phrase “at least,” which expands the range of experience indefinitely without an upper bound. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings on ordinary skill level are not required “where the prior art itself reflects an appropriate level and a need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

### C. Claim Construction

We construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc); 37 C.F.R. § 42.100(b) (2021). Under *Phillips*, we give claim terms “their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Petitioner states that “no terms require express construction because the patent claims encompass the below prior-art mappings under any reasonable construction consistent with the *Phillips* standard.” Pet. 11.

Patent Owner does not, at this time, seek construction of any terms. See Prelim. Resp. 18.

For purposes of this Decision, we need not expressly construe any claim terms. See *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); see also *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

*D. Challenge based on Bigi and Benito Lopez*

Petitioner alleges that the combination of Bigi and Benito Lopez would have rendered obvious claims 1–4, 8–11, 13–15, and 18–20 of the '303 patent. Pet. 23–61. Specifically, Petitioner “proposes the use of *Benito Lopez*’s materials (i.e., quartz, resin, binder, and colouring agent) and methods in combination with the designs and distribution of materials taught by *Bigi*.” Pet. 23; see also *id.* at 40 (same). Petitioner relies on the testimony of Mr. Tassone to support its arguments. See *id.*

*1. Overview of the Prior Art*

*a) Bigi (Ex. 1025)*

Bigi “relates to apparatuses and methods for obtaining decorated products, in particular ceramic products provided with an ornamental pattern.” Ex. 1025, 1:2–4.<sup>6</sup> In particular, Bigi explains that it is known that decorative products are made using “a hopper equipped with a supply opening through which ceramic material is introduced” and “a discharge

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<sup>6</sup> We refer to the original page numbering (at the top, rather than at the bottom, of each page) in Exhibit 1025.

opening through which the ceramic material can exit to enable the feeding of a ceramic press.” *Id.* at 1:5–10. According to Bigi, ceramic tiles can be produced and “decorated with an ornamental pattern having particular patterns, such as veining, streaks or blotches, for example imitating natural stone,” by using ceramic materials that have “different properties from one another such as colour or granulometry, in such a way as to make a soft cushion inside the hopper consisting of ceramic materials distributed according to a desired arrangement.” *Id.* at 1:11–18. To this end, an apparatus is equipped with “a mixer that partially mixes together ceramic materials having, for example, different colours, before inserting them inside the hopper.” *Id.* at 1:19–23. Bigi purports to “improve the known decorating apparatuses” so that they can produce ceramic products “from materials having different properties from one another” but that “undesired mixing of a material intended to define a portion of the product with a further material intended to define a further portion of the product adjacent” to the portion is prevented. *Id.* at 2:15–23. Such an apparatus includes containing means, partition means that defines compartments internally of the containing means, supply opening means through which ceramic materials are introduced into the compartments, discharge opening means through which ceramic materials are delivered from the compartments, and moving means arranged to move partition means in relation to containing means. *Id.* at 2:32–3:4. Bigi’s apparatus thus allows depositing “on a surface arranged downstream” of the supply opening, i.e., on “a soft cushion in which the ceramic material” is delivered by one of the compartments so that “a portion of the soft cushion is not mixed with the ceramic material” of another portion of the soft cushion. *Id.* at 3:5–12. A pattern “of colouring

and/or granulometry” results from a soft cushion having “border zones between the different ceramic materials that are rather clearly defined.” *Id.* at 3:12–18. More particularly, a ceramic product can be produced that has “a decorative pattern comprising a plurality of zones separated by clearly distinct border lines, extending sinuously on a visible face of the product, or through the entire thickness of the product.” *Id.* at 3:23–29. Bigi discloses that thus, “it is possible to obtain a soft cushion in which ceramic materials having different properties are substantially not mixed with one another so as not to adversely affect the clearness of the aforementioned decorative pattern.” *Id.* at 4:10–14.

Figure 2 of Bigi, reproduced below, is a partially sectional schematic view of “a version of the decorating apparatus” like the one in Figure 1. *Id.* at 6:4–7.

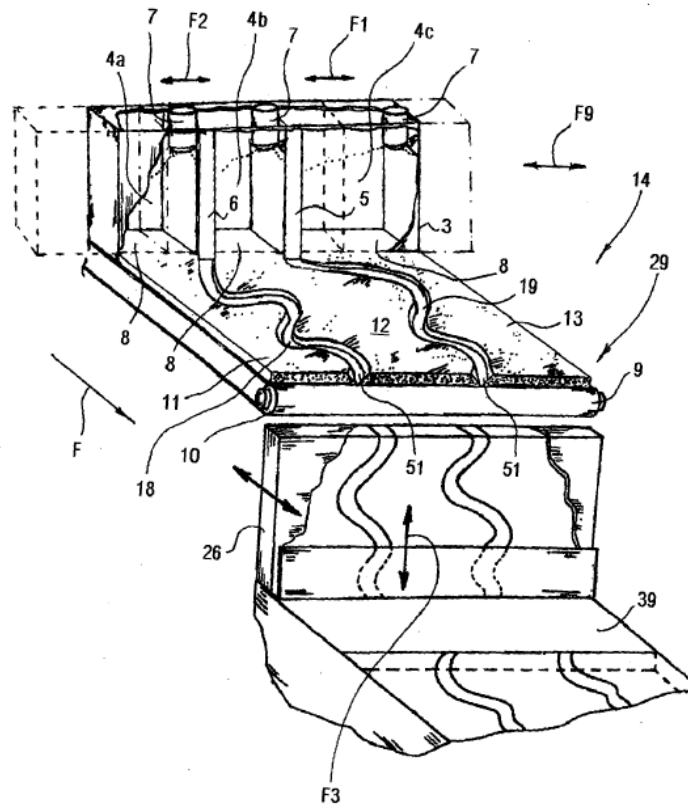


Fig. 2

Figure 2 shows a decorating apparatus having hopper with walls 3 and compartments 4a–4c containing ceramic materials of “different properties,” that exit through discharge openings 8. *Id.* at 7:1–24. The hopper includes first partition 5 and second partition 6 projecting from a lower zone of the hopper in such a way that a lower end portion of first partition 5 and of second partition 6 is “partially immersed inside soft cushion 14.” *Id.* at 7:2–5, 8:26–30. A driving means moves first partition 5 and second partition 6 in relation to walls 3 (in direction of arrow F9). *Id.* at 7:20–36. Conveyor belt 9 advances as ceramic materials 29 are discharged. *Id.* at 8:1–7. In this process, zone 18 and zone 19 are produced which “define in the soft cushion 14 a pair of grooves 51 having a curvilinear development.” *Id.* at 9:4–6.

Bigi's apparatus may comprise distributing means (not shown), which pours into grooves 51 "further ceramic materials having, for example, a color that is different again from that of the ceramic materials that constitute the first zone 11, the second zone 12 and the third zone 13" of soft cushion 14 that are shown in Figure 2. *Id.* at 9:7–12.

The use of first movable partition 5 and of second movable partition 6 "enables the aforementioned curvilinear development to be obtained without mixing of the materials that constitute the different zones." *Id.* at 8:22–25. For example, zone 18 of soft cushion 14 is "interposed" between first zone 11 and second zone 12 and zone 19 is "interposed" between second zone 12 and third zone 13, "in which none of the ceramic materials 29 contained in the compartments 4 is present." *Id.* at 8:34–9:3. Bigi discloses that in this way, soft cushion 14 "is decorated by an ornamental pattern comprising veining." *Id.* at 9:13–14.

*b) Benito Lopez (Ex. 1005)*

Benito Lopez "relates to those articles that include any kind of agglomerated artificial stone and polymerisable resin, such as tiles or slabs, to be used as construction material" having "different strati or veins, of heterogeneous variable mass that provide a special aesthetic effect similar to the natural stone products." Ex. 1005 ¶ 2. These articles "are used as decorative surfaces in interior and exterior spaces, such as kitchen worktops, bathrooms, flooring, exterior staircases, etc." *Id.* ¶ 5. According to Benito Lopez, the articles would have "a look as close as possible to natural stone which design can be defined by different layered minerals, with different granulometries and varied colours." *Id.*

Benito Lopez discloses that from its system of application of layers by the creation of different mixes, the dimensions of the veins “reach[] a stratum width from 10 mm to 3400 mm[,], preferably 500 mm and lengths that could cross the product in length and width.” *Id.* ¶ 24. Benito Lopez further discloses that the “strati (or large size veins)” provide a product that looks “natural.” *Id.* Stages of manufacturing Benito Lopez’s product include crushing different materials, mixing the crushed material with a resin and a binding material, homogenizing the mixture to achieve pastes or masses of different granulometry, transporting the different mixtures or strati by a conveyor belt to a feeding or distribution mechanism, downloading the strati to a mold, compressing the mixtures or pastes in the mold by vacuum vibro-compression, allowing hardening via polymerization, and finally sizing or cutting into a final product. *Id.* ¶¶ 27–36. Materials used with “variable granulometry” include quartz. *Id.* ¶ 48. Benito Lopez discloses that “the preparation of up to 20 different compositions of masses with fillers of different granulometry” can be used, “pending on the final product to be achieved.” *Id.* ¶ 68. Benito Lopez discloses that one stage of the manufacturing process produces “different masses, pastes or strati which are independently prepared in each mixer and always avoiding a later homogenization existing in the regular processes.” *Id.* ¶ 74. Weighting and movement means can be used to allow “controlling the strati dimensions, for example, width, length, shape, etc. in the final product.” *Id.* ¶ 77.

Figure 2 of Benito Lopez is illustrative and is reproduced below.

FIG.2

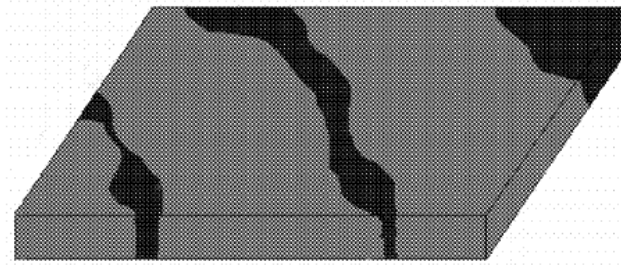


Figure 2 “represents the effect achieved in the final product from the distribution of the strati,” from Benito Lopez’s stages of manufacturing. *Id.* ¶ 43.

## 2. Analysis of Claim 1

Petitioner argues that the combined teachings of Benito Lopez and Bigi would have rendered claim 1 obvious. Pet. 25–40. Specifically, Petitioner alleges that the preamble of claim 1 “is disclosed by both *Benito Lopez* and *Bigi*,” and “*Bigi* teaches both methods and devices for creating ‘soft cushion’ made of granulated ceramic material.” *Id.* at 25. According to Petitioner, Bigi describes a method for creating a “soft cushion” of granulated ceramic material which is then subjected to pressing to make tiles, i.e., slabs. *Id.* (citing Ex. 1025, 4:15–19; Ex. 1031 ¶ 144). Further, “Benito Lopez teaches that its ‘present invention is a process to manufacture artificial stone products, amongst others, tiles or slabs.’” *Id.* (quoting Ex. 1005 ¶ 27).

Petitioner alleges that Benito Lopez describes “veins that can ‘cross the product in length and width’ up to 3400 x 3400 mm (approximately 11 ft x 11 ft.),” thus teaching a slab having “a major surface at least 2 feet wide by at least 6 feet long extending perpendicularly to a slab thickness,” as claimed. *Id.* (citing Ex. 1005 ¶ 24, Fig. 2; Ex. 1031 ¶¶ 146–147). Petitioner

contends that although Bigi does not describe the size of its tiles, Bigi does ‘show[] a major surface that is perpendicular to the thickness of the material” and that “the claimed dimensions . . . would have been obvious to a person of ordinary skill in the art” because “[t]his is a standard size of, for example, countertops.” *Id.* at 26–27 (citing Ex. 1025, Fig. 2; Ex. 1031 ¶¶ 148–150). Petitioner contends that consumer demand for large veined slabs would have influenced a person of ordinary skill in the art to select larger slabs to “avoid unsightly seams, eliminate waste from cutting multiple slabs to fit, and cover larger surface areas like kitchen countertops and islands.” *Id.* at 28 (citing Ex. 1031 ¶ 151). Thus Petitioner reasons that selecting a larger slab size is a simple design choice to meet a commercial need. *Id.* Petitioner also states that a person of ordinary skill in the art “would have no difficulty handling the scale-up to a slab of the size described in *Benito Lopez*.” *Id.* (citing Ex. 1031 ¶ 151).

Next, Petitioner argues that Benito Lopez and Bigi each describe a pigmented vein that extends lengthwise from edge to edge, and separates a second and third pigmented vein also extending lengthwise. *Id.* In particular, Petitioner alleges that Benito Lopez describes the “application of layers by the creation of different mixes [and] the dimensions of the current veins, reaching a stratum width . . . and lengths that could cross the product in length and width, being the limit of length the dimension of the tile.” *Id.* at 29 (quoting Ex. 1005 ¶ 24). Benito Lopez also describes mixes that have different pigments and compositions. *Id.* at 29–30 (citing Ex. 1005 ¶¶ 30, 68) (emphasis omitted). Petitioner further contends that Figure 2 of Bigi shows groove 18 that corresponds to a first vein 18 and second zone 12 and third zone 13 each filled with material having a different color of ceramic

material where each the veins extend generally lengthwise. *Id.* at 30–31 (citing Ex. 1025, Fig. 2, 9:4–12; Ex. 1031 ¶¶ 155–156).

Petitioner further alleges that Bigi describes a design where the first pigmented vein is separate from and unmixed with the second and third veins, as claimed. *Id.* at 32. Specifically, Petitioner points to Bigi’s description that “it is possible to obtain a soft cushion in which ceramic materials having different properties are substantially not mixed with one another so as not to adversely affect the clearness of the aforementioned decorative pattern.” *Id.* (quoting Ex. 1025, 4:10–14; citing Ex. 1031 ¶ 158); *see also id.* at 32–33 (citing Ex. 1025, Fig. 2, 8:34–9:3; 9:4–12). Petitioner also alleges Benito Lopez explains that its method involves “obtaining different masses, pastes or strati which are independently prepared in each mixer and always avoiding a later homogenization existing in the regular processes.” *Id.* at 33 (quoting Ex. 1005 ¶ 74; citing Ex. 1031 ¶ 165) (emphasis omitted).

Petitioner argues that a person of ordinary skill in the art would have understood Bigi to describe creating a predefined pattern, in that its apparatus has a “distributing means arranged to deposit in each container of said plurality of containers a corresponding ceramic material according to a preset arrangement and intercepting means associated with said container means and arranges to deliver said ceramic materials according to a desired sequence.” *Id.* at 33–34 (citing Ex. 1025, 3:30–37; Ex. 1031 ¶ 168); *see also id.* at 34 (stating that Bigi’s materials are distributed “according to a predefined decorative pattern”)(quoting Ex. 1025, 4:20–29). Petitioner also argues that Benito Lopez suggests a slab having veins with a predefined pattern. *Id.* at 34. Petitioner explains that Benito Lopez’s “‘download’ of

the different strati to the mold ‘implies the ordered placing of the different strati in an independent manner’” and that the “movement of the different pastes in the feeding or distribution mechanism in a way that the speed and trajectory of the movement can be controlled to achieve a design of each stratus in the final product,” suggests a predefined pattern. *Id.* at 34–35 (quoting Ex. 1005 ¶¶ 31–32, 77; citing Ex. 1031 ¶¶ 170–171).

Petitioner further asserts that both Bigi and Benito Lopez show first and second veins each having a thickness equal to and parallel to the slab thickness as claimed. *Id.* at 35. Petitioner relies on Figure 2 of Bigi, which depicts grooves into which ceramic material is poured where the grooves extend the thickness of the tile. *Id.* at 35–37 (citing Ex. 1025, Fig 2, 8:34–9:12; Ex. 1031 ¶¶ 174–176). Bigi further states that “it is possible to obtain products, for example ceramic tiles, that are finely decorated with a pattern that extends through the entire thickness of the products.” *Id.* at 35 (quoting Ex. 1025, 4:15–16). Petitioner further alleges that Benito Lopez Figure 2 “shows veins extending through the thickness of the slab.” *Id.* (citing Ex. 1005, Fig. 2; Ex. 1031 ¶ 178). Petitioner explains that a person of ordinary skill in the art would have applied the designs of Bigi, i.e., veins extending lengthwise and extending the full thickness of the slab, to Benito Lopez as a “desirable aesthetic design choice” and to “accommodate many different designs, again with the goal of matching the appearance of natural stone.” *Id.* at 38 (citing Ex. 1031 ¶ 178; Ex. 1005 ¶¶ 31, 77, 85).

Lastly, Petitioner argues that Bigi describes using different mineral mixes to fill the different grooves shown in Bigi Figure 2, thus satisfying the requirement of claim 1 that “the second particulate mineral mix being different than the first particulate mineral mix.” *Id.* at 38 (citing Ex. 1025,

Fig. 2, 9:7–12; Ex. 1031 ¶ 181). Petitioner contends that Benito Lopez similarly “use[s] different mineral mixes to achieve its veining pattern.” *Id.* at 39 (citing Ex. 1005 ¶¶ 28–29). Petitioner explains that Benito Lopez describes a process where “[e]ach mass or paste, hereinafter called stratus, can be differentiated from the other thanks to its composition (granulometry, pigmentation, etc.),” which a person of ordinary skill in the art would have understood to mean “the veins are made of different particulate mixes.” *Id.* at 39–40 (citing Ex. 1005 ¶ 30; Ex. 1031 ¶ 182).

Patent Owner argues that Petitioner fails to show differences between the prior art and the ’303 patent, and that the combination of Benito Lopez and Bigi fails to suggest the claimed veining configurations or the dimensions claimed by the ’303 patent. Prelim. Resp. 28–46. In addition, Patent Owner contends that Petitioner fails to demonstrate a reason to combine Benito Lopez and Bigi or a reasonable expectation of success in the proposed combination. *Id.* at 21–28, 47–52. Because we are persuaded by Patent Owner’s arguments that Petitioner failed to establish a reason to combine Benito Lopez with Bigi and failed to identify the differences between the claims and the prior art, we limit our discussion to those arguments below.

*a) whether Petitioner has established a reason to combine the teachings of Bigi and Benito Lopez*

Patent Owner contends that Petitioner’s stated motivation—that is, to make a processed slab that mimics the veining pattern of natural stone slabs—is “generic,” conclusory, and lacks “reasoning with some rational underpinning.” Prelim. Resp. 22–23. Patent Owner further alleges that “[t]he Federal Circuit has rejected nearly identical motivations that a skilled artisan would have ‘wanted to build something better’ and ‘more attractive

to [ ] customers’ as ‘generic and bear[ing] no relation to any specific combination of prior art elements.’” *Id.* at 23 (quoting *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1328 (Fed. Cir. 2012)).

We agree with Patent Owner that Petitioner’s rationale for combining Benito Lopez and Bigi is insufficient and fails to provide the necessary factual support.

In making a determination of obviousness, it is not enough that each claimed limitation be found in on or more prior art references. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (explaining that obviousness “cannot be predicated on the mere identification . . . of individual components of claimed limitations”). Instead, Petitioner must also show that the skilled artisan would have had a reason to combine each of the prior art references to achieve the claimed subject matter and a reasonable expectation of success in making the combination. *PAR Pharm., Inc. v. TWi Pharm. Inc.*, 773 F.3d 1186, 1193 (Fed. Cir. 2014). A generic reason to combine references fails to “explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does.*” *ActiveVideo*, 694 F.3d at 1328; *see also Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 381 F.3d 1371, 1377 (2004) (explaining that “[r]ecognition of a need does not render obvious the achievement that meets that need” because “[t]here is an important distinction between the general motivation to cure an uncured disease . . . and the motivation to create a particular cure.”).

Here, Petitioner combines the materials and methods of Benito Lopez with the specific design of Bigi and reasons that “the person of ordinary skill

in the art would have been motivated to combine the teachings of these references as part of his or her efforts to continue to develop processed quartz slabs that provide the appearance of natural stone slabs.” Pet. 23 (citing Ex. 1031 ¶ 137), 25 (citing Ex. 1031 ¶ 138); *see also id.* at 38 (citing Ex. 1031 ¶ 178)(describing a “desirable aesthetic design choice” and a “goal of matching the appearance of natural stone”). According to Petitioner, “[t]his motivation . . . come[s] from, *inter alia*, market pressures to create processed slabs that realistically mimic veining patterns seen in natural stone.” *Id.* (citing Ex. 1031 ¶¶ 139–142). Petitioner’s proffered reason to modify Benito Lopez with Bigi, however, merely addresses a *generalized desire* in the industry to improve the aesthetic quality of engineered stone slabs and does not provide a reason to adopt Bigi’s design. *Cardiac Pacemakers*, 381 F.3d at 1377. Petitioner fails to direct our attention to any record evidence that suggests the specific veining configuration described in Bigi improves the overall aesthetics of the engineered slab beyond that described in Benito Lopez. Rather, the record evidence shows that each of Benito Lopez and Bigi product artificial stone products that mimic the veining patterns of natural stone. Pet. 12, 17–18; Prelim. Resp. 25 (citing Ex. 1031 ¶ 138) (“Petitioner admits both Benito Lopez and Bigi disclose products that allegedly ‘mimic[] the veining pattern of natural stone slabs like marble.’”); *see also* Ex. 1025, 1:11–13 (describing ornamental patterns that include “veining, streaks or blotches, for example imitating natural stone”), 10:9 (Bigi stating that it achieves “a high-quality ornamental pattern”); Ex. 1005 ¶ 4 (Benito Lopez stating that it achieves “an aesthetic look similar to natural stone . . . surpassing the existing technical limitation”). The mere fact that Benito Lopez and Bigi share a common goal

of producing products that mimic natural stone fails to identify what *would have* prompted the skilled artisan to arrive at the combination in the first place.

Petitioner also relies on the testimony of Mr. Tassone, but Mr. Tassone's testimony similarly falls short. *See* Ex. 1031 ¶¶138–143, 184. Mr. Tassone's testimony is entitled to little weight because it fails to explain how the alleged market pressures or commercial need would motivate one of ordinary skill in the art to make the proposed combination, and it is not otherwise apparent that it does. *See* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see also Velandier v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003) (“It is within the discretion of the trier of fact to give each item of evidence such weight as it feels appropriate.”); *cf. Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (“Lack of factual support for expert opinion going to factual determinations, however, may render the testimony of little probative value in a validity determination.”).

As a result, Petitioner's reason to combine is generic and untethered from the modification being made, and, therefore, is insufficient to support a determination of obviousness.

*b) whether Petitioner has identified differences between the claims and the prior art or modifications to the prior art such that the Petition complies with the particularity requirement of 35 U.S.C. § 312(a)(3)*

Patent Owner argues that “Petitioner never identifies what differences, if any, allegedly exist between either reference and the claims, let alone whether or how either reference should be modified to resolve such

differences,” as required by *Graham* and numerous Board decisions. Prelim. Resp. 28–29. Patent Owner further asserts that “Petitioner does not identify which of the two references cited—Bigi or Benito Lopez—a skilled artisan would allegedly have started from, or which one would allegedly be used to modify the other to arrive at the claims.” *Id.* at 30. Therefore, Patent Owner contends “the Petition fails to identify the proposed grounds for review ‘with particularity,’ as required by 35 U.S.C. § 312 (a)(3).” *Id.*

According to 35 U.S.C. § 312(a)(3), a petition for *inter partes* review must identify, “in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim.” According to 37 C.F.R. § 42.104(b)(4), a petition for *inter partes* review “must identify how the construed claim is unpatentable under the statutory grounds on which the petitioner challenges the claims, and must specify where each element of the claim is found in the prior art patents or printed publications relied upon.” Rule 42.104(b)(5) adds that the Petition must “identify[] specific portions of the evidence that support the challenge.” Similarly, Rule 42.22(a)(2) states that each petition must include “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent.” The Patent Trial Practice Guide suggests that “parties should avoid submitting a repository of all the information that a judge could possibly consider, and instead focus on concise, well-organized, easy-to-

follow arguments supported by readily identifiable evidence of record.”<sup>7</sup>  
CTPG, 39.

Here, Petitioner’s approach of arguing that every limitation in claim 1 can be satisfied by both Benito Lopez and/or Bigi, or possibly the combination of the two, fails to identify with sufficient specificity the portions of Benito Lopez or Bigi or the combination that Petitioner relies on to meet each limitation of claim 1. Although arguing in the alternative is generally permissible, in this case, both the Petition and Mr. Tassone fail to explain in adequate detail which, why, or how the identified elements of Benito Lopez or Bigi, or their prospective combination, meet the limitations of claim 1. In each subsection discussing discrete claim limitations, Petitioner relies on both Bigi and Benito Lopez, seemingly individually. Pet. 25–40, Section IX.B.2.a–g. At the beginning or the conclusion of the subsections discussing each claim limitation (Section IX.B.2.a–g), Petitioner asserts either that the limitation is “disclosed by both *Benito Lopez* and *Bigi*” or that “*Bigi* and *Benito Lopez* render obvious this limitation.” *Id.* at 25, 29, 31, 33, 35, 38, 40. This leaves it unclear whether Petitioner intends to rely on both Benito Lopez or Bigi individually or possibly the combination of the two.

Even for the limitation “according to a predefined layer pattern” (*id.* at 33, Section IX.B.2.e), Petitioner muddies the waters by saying that both Bigi and Benito Lopez teach the distribution of mixes according to a predefined pattern, and then apparently relying on the process of Bigi as well

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<sup>7</sup> Patent Trial and Appeal Board Consolidated Trial Practice Guide (“CTPG”), available at <https://www.uspto.gov/TrialPracticeGuide> Consolidated (Nov. 14, 2019).

as the process of Benito Lopez. Pet. 33–34. Specifically, Petitioner alleges that “*Bigi* teaches to distribute material in such a way as to create predefined patterns.” *Id.* at 33; *see also id.* at 34 (stating that *Bigi* “also teaches that another aspect of its invention is a method of pouring ceramic materials inside containers” and that “its materials are distributed inside a container” to be “transferred to a transfer surface”). Petitioner then alleges that Benito Lopez describes producing veins of a predetermined pattern where “step d) of its method, the ‘download’ of different strati to the mold ‘implies the ordered placing of the different strati in an independent manner and depending on the final design that is to be achieved.’” *Id.* at 34–35. Neither the Petition nor Mr. Tassone explains how this identified method of *Bigi* could be used in the method of Benito Lopez, which further confuses the discussion because Petitioner purportedly relies on Benito Lopez for the process and *Bigi* for the design. *Id.* Thus, we are not able to determine, based on the information advanced in the Petition, what Petitioner relies on to meet the limitation requiring “according to a predefined layer pattern.” Pet. 33–36.

This lack of specificity is compounded by Petitioner’s lack of clarity about whether the limitations of claim 1 could be satisfied by any of (1) *Bigi* alone, (2) Benito Lopez alone, or (3) the combination of *Bigi* and Benito Lopez, or what that combination would entail. Presumably, the Petition’s assertion that Ground 1 “proposes the use of *Benito Lopez*’s materials (i.e., quartz, resin binder, and colouring agent) and methods in combination with the designs and distribution of materials taught by *Bigi*” (Pet. 23) sets forth Petitioner’s position, but the remainder of Ground 1 does not clearly support this proposal, nor does it explicitly exclude a scenario in which either *Bigi* or

Benito Lopez or a combination discloses any given limitation. Mr. Tassone’s testimony, which largely mirrors the Petition, does not add any clarity. *See* Ex. 1031 ¶¶ 140–184.

The layering of one alternative argument on top of another alternative argument, without sufficient explanation of how the alternatives interrelate, obscures what exactly Petitioner is relying on as disclosing the limitations of claim 1. In addition, this approach improperly shifts the burden of deciphering Petitioner’s arguments onto Patent Owner and the Board, which is contrary to the statutory and regulatory provisions governing *inter partes* review proceedings discussed above. To hold otherwise would require us to “play archaeologist with the record,” which we decline to do. *DeSilva v. DiLeonardi*, 181 F.3d 865, 866–67 (7th Cir. 1999).

In view of these deficiencies, we agree that “it is unclear whether Petitioner is proposing that a skilled artisan would select Benito Lopez and modify some aspect of that reference in view of Bigi or the other way around” and that by “failing to identify a primary reference or any modifications to be made in light of either reference, the Petition fails to identify the proposed grounds for review ‘with particularity’ as required by 35 U.S.C. § 312(a)(3)” with respect to the limitations of independent claim 1, the similar arguments presented for independent claim 14, and the dependent claims. Prelim. Resp. 30.

3. *Remaining Claims (claims 2–4, 8–11, 13–15, and 18–20)*

Petitioner presents no arguments or evidence with respect to claims 2–4, 8–11, 13–15, and 18–20 that would remedy the defects noted above with respect to independent claim 1. *See generally* Prelim. Resp. Thus, Petitioner has failed to demonstrate a likelihood that the subject matter of

claims 2–4, 8–11, 13–15, and 18–20 would have been obvious over the combined disclosures of Benito Lopez and Bigi.

*E. Challenge based on Bigi, Benito Lopez, and Toncelli*

Petitioner alleges that the combination of Bigi, Benito Lopez, and Toncelli would have rendered obvious claims 5–7, 12, 16, and 17. Pet. 61–72. Petitioner also relies on the testimony of Mr. Tassone to support its arguments. *See id.*

*1. Overview of Toncelli (Ex. 1011)*

Toncelli “relates to the manufacture of stone conglomerate products, in particular slabs with a veined effect.” Ex. 1011 ¶ 1. Toncelli explains that slabs or tiles have been made of “a granulate, preferably natural stone material, and a binder, consisting of a cement or synthetic resin.” *Id.* ¶ 2. A mix is poured into a rubber mold and the layer of mixture is subjected to vibrocompaction. *Id.* ¶¶ 3–4. Toncelli discloses that it is desirable to provide the surface of the slab with a “veined” effect so that the surface “resembles even more closely the natural stone material.” *Id.* ¶ 9. Toncelli’s manufacturing process includes, after the formation of a non-colored layer of mix on a temporary support or tray mold, adding a step “involving the formation of irregular grooves or roughness, which causes the distribution of the dye also to become even more irregular and random.” *Id.* ¶ 36.

*2. Claims 5–7, 12, 16, and 17*

Petitioner alleges that the combination of Bigi, Benito Lopez, and Toncelli render claims 5–7, 12, and 16–17 obvious, and specifically that Toncelli suggests the added subject matter of these dependent claims. *See* Pet. 61–72. Patent Owner does not challenge Petitioner’s allegations as to

dependent claims 5–7, 12, and 16–17, but rather rests on its arguments discussed above for independent claims 1 and 14. *See generally* Prelim. Resp. Having determined that Petitioner failed to satisfy the threshold showing under 35 U.S.C. § 314(a) for institution of trial with respect to independent claims 1 and 14 of the ’303 patent (*see supra* Section II.D.2–3.), from which claims 5–7, 12, and 16–17 depend, we similarly determine Petitioner has failed to demonstrate a likelihood that the subject matter of claims 5–7, 12, and 16–17 would have been obvious over the combined disclosures of Bigi, Benito Lopez, and Toncelli.

*F. Discretion Under 35 U.S.C. § 314(a)*

Petitioner argues that the Board should not exercise its discretion to deny institution under 35 U.S.C. § 314(a) in view of the District Court litigation. Pet. 72–73 (citing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)). Patent Owner does not present arguments directed to whether we should exercise our discretion to deny institution under 35 U.S.C. § 314(a) and *Fintiv*. *See generally* Prelim. Resp. For the reasons stated above, we decline to institute *inter partes* review. Because we base our denial of institution on the merits of this case, it is unnecessary for us to analyze whether we should also discretionarily deny institution under 35 U.S.C. § 314(a).

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we do not institute an *inter partes* review of the ’303 patent.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, the Petition is *denied* as to all challenged claims of U.S. Patent No. 9,718,303 B2 and no trial is instituted.

IPR2022-00582  
Patent 9,718,303 B2

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