

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

A.G. PELTZ GROUP, LLC, PELTZ COMPAINES, INC., CEMEX, INC.,
MORGAN CORP., and SOLOMON COLORS, INC.,

Petitioner,

v.

ANDALE CONSTRUCTION, INC.,

Patent Owner.

IPR2019-01351

Patent 9,808,959 B2

Before CHRISTOPHER L. CRUMBLEY, MICHELLE N. ANKENBRAND,
and SHELDON M. MCGEE, *Administrative Patent Judges*.

ANKENBRAND, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision

Determining All Challenged Claims Unpatentable

35 U.S.C. § 318(a)

I. INTRODUCTION

This is a Final Written Decision in an *inter partes* review challenging the patentability of claims 1–5 and 9–16 (collectively, the “challenged claims”) of U.S. Patent No. 9,808,959 B2 (“the ’959 patent,” Ex. 1001). We have jurisdiction under 35 U.S.C. § 6. We issue this Final Written Decision

under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner demonstrates, by a preponderance of the evidence, that the challenged claims are unpatentable.

A. Procedural History

A.G. Peltz Group, LLC, Peltz Companies, Inc., Cemex, Inc., Morgan Corp., and Solomon Colors, Inc. (collectively, “Petitioner”) filed a Petition (Paper 6, “Pet.”) requesting an *inter partes* review under 35 U.S.C. § 311. Andale Construction, Inc. (“Patent Owner”) did not file a Preliminary Response. On February 12, 2020, we instituted an *inter partes* review of the challenged claims. Paper 12 (“Institution Decision” or “DI”).

Following institution, Patent Owner filed a Response (Paper 14, “Resp.”), Petitioner filed a Reply (Paper 15, “Reply”), and Patent Owner filed a Sur-reply (Paper 16, “Sur-reply”).

Petitioner relies on the Declaration of Christopher R. Tull, P.E. (Ex. 1002). Patent Owner did not take cross-examination testimony of Mr. Tull via deposition. Nor did Patent Owner rely on any declaration testimony in its Response.

Petitioner requested an oral hearing but Patent Owner did not. *See* Paper 18, 2. In a teleconference, counsel for both parties represented that an oral hearing was not necessary, and we subsequently cancelled the oral hearing. *See id.*

B. Related Matters

The parties do not identify any related matters.

C. The '959 Patent

The '959 patent, titled “Concrete Slab Forming Method,” issued on November 7, 2017. Ex. 1001, at [45], [54]. The '959 patent relates to a method for forming “concrete slabs in the form of roadways, foundation

floors, patios, tarmacs and the like.” *Id.* at 1:18–19. The written description explains that the concrete used to form the slabs is “no-slump concrete, preferably RCC roller compactable concrete,” which contains loosened mulch. *Id.* at 1:61–63, 2:65–66. It was known that no-slump concrete may be worked in a different manner than typical concrete. *Id.* at 1:60–61. Specifically, the no-slump concrete is drop spread over the ground in an even depth layer, “similar to the action of a common asphalt paving machine upon loose granular asphalt.” *Id.* at 1:66–2:1. The known process involves conveying the no-slump concrete from a forward hopper to a lateral dispersion auger that disperses the concrete to rearwardly drop to the ground in an even depth layer over the ground’s surface. *Id.* at 1:61–2:6.

The drop spread no-slump concrete “typically includes a large amount of entrained air pockets” that must be removed to maintain the strength of the slab. *Id.* at 2:10–13. A known compaction step removes the air pockets before hardening proceeds. *Id.* at 2:18–36.

After hardening, the no-slump slab contains surface imperfections that result from exposed aggregate edges, among other things. *Id.* at 2:40–44. It is difficult to remove the imperfections because no-slump concrete lacks sufficient moisture to induce surface level fluid currents and, therefore, trowel actuated liquid floatation surfacing to smooth the imperfections is not possible. *Id.* at 2:44–50. So concrete slabs formed using this method are rough and unsightly, and “marked difficulties have been encountered in the concrete fabrication industry in properly surfacing such slabs.” *Id.* at 2:51–54.

The ’959 patent purportedly ameliorates the difficulties in slab surfacing because it provides method steps that “re-mulch and distribute over the surface of a compacted no-slump concrete slab a portion of the

concrete's paste" to create a smooth slab top surface. *Id.* at 2:55–60. The patent further explains the re-mulching step. Specifically, the step comprises "re-mulching small upper portions of the concrete layer's no-slump paste" and "horizontally transporting such re-mulched paste over and into pockets or voids at and about any exposed surface aggregate." *Id.* at 3:53–61. In a preferred embodiment, the method uses sliding horizontal movements of trowel blades over the slab surface to effect the re-mulched no-slump paste's horizontal transportation into the pockets or voids. *Id.* at 3:62–4:2, 5:55–6:3.

D. Illustrative Claim

Claim 1 is the only independent claim Petitioner challenges and is illustrative of the claimed subject matter. Claim 1 recites:

1. A method for fabricating a concrete slab upon a surface, the concrete slab having a final thickness and having, upon drying, a maximum dry density, the method comprising steps of:
 - (a) providing a body of no-slump concrete, the no-slump concrete comprising a combination of aggregate and paste;
 - (b) dispensing the no-slump concrete upon the surface in an even depth layer which has an upper surface and includes a volume of air, such dispensation upwardly exposing portions of the paste;
 - (c) removing a portion of the air volume from the even depth layer; and
 - (d) mulching the paste exposed at the upper surface and simultaneously horizontally transporting the mulched paste over the upper surface; wherein the paste mulching and transporting steps comprise steps of providing a trowel having a lower surface, and applying the trowel to and horizontally

drawing the trowel over the upwardly exposed paste so that portions of said paste roll along the trowel's lower surface.
Ex. 1001, 6:40–60.

E. The Instituted Grounds of Patentability

We instituted an *inter partes* review of the challenged claims on the following grounds of unpatentability:

Claims Challenged	35 U.S.C. §	Reference(s)
1, 10–16	103	Jofré ¹
2–5, 9	103	Jofré, Röwer ²
1, 10–16	103	Ytterberg, ³ Concrete News ⁴
2–5, 9	103	Ytterberg, Concrete News, Röwer

II. ANALYSIS

A. Legal Standards

To prevail in its challenge, Petitioner must demonstrate by a preponderance of the evidence that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d) (2019). A claim is unpatentable 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

¹ Carlos Jofré et al., *The Use of Roller Compacted Concrete for Roads*,” Permanent Int’l Ass’n of Road Congress (PIARC) Tech. Comm. on Concrete Roads (1993) (Ex. 1005).

² US 6,238,135 B1, issued May 29, 2001 (Ex. 1006).

³ US 5,709,824, issued Jan. 20, 1998 (Ex. 1004).

⁴ Concrete News, *Nano-silica Technology Paves Way for Smooth, Monolithic RCC Slabs* (July 16, 2014) (Ex. 1008).

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 skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations.⁵ See *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In the Institution Decision, we determined that a person of ordinary skill in the art at the time of the invention of the '959 patent “was typically a person with five to ten years of experience in evaluation and/or design using no-slump concrete.” DI 5 (adopting Petitioner’s description).

For purposes of this Final Written Decision, we maintain our determination from the Institution Decision because neither party disputes that determination and because that level of ordinary skill is consistent with the record.

C. Claim Construction

In an *inter partes* review, 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). See 37 C.F.R. § 42.100(b). Under that standard, we construe claims “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.* Furthermore, we expressly construe the claims only to the extent necessary to resolve the parties’ dispute. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the

⁵ The record does not contain evidence or argument regarding objective evidence of nonobviousness.

controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

In the Petition, Petitioner proposes constructions for the terms “mulching” and “mulched” recited in claim 1. Pet. 6–7. We determined it was not necessary to construe either claim term for purposes of institution. DI 6 (citing *Nidec*, 868 F.3d at 1017).

In the post-institution briefing, neither party identifies a claim construction dispute or argues that we should construe any claim term. *See generally* Resp.; Reply; Sur-reply. Accordingly, it is not necessary to construe any claim term for purposes of this decision. *See Nidec*, 868 F.3d at 1017.

D. Asserted Prior Art

Before considering the asserted grounds of unpatentability, we provide a brief overview of the asserted references.

1. Jofré (Ex. 1005)⁶

Jofré discloses using roller-compacted concrete (“RCC”) to build roads. Ex. 1005, 7. Jofré explains that RCC is popular because RCC pavement is constructed “with machinery usually available” and, therefore, “no special equipment is required.” *Id.* at 9. Jofré describes the materials that make up the RCC, including aggregates and aggregate size, cement content, water content, and additives. *Id.* at 11, 13, 15. Jofré explains that mixes of cement and fly ash “are frequently employed” because “fly ash improves the workability of RCC and affects favourably its cracking

⁶ We cite to the red page numbers on the bottom center of Jofré. Beginning on page 6, Jofré’s disclosure appears in French generally on even pages and appears in English generally on odd pages. We cite to the English language disclosure in Jofré.

behavior.” *Id.* at 13. Jofré also describes constructing the RCC pavement, which includes spreading the RCC on a base using conventional paving machines, compacting the RCC with a vibratory roller, and curing the surface, e.g., performing finishing operations with a mechanical trowel. *Id.* at 27, 29, 43. In one embodiment, using mechanical troweling to finish the pavement enables the filling of voids created at the RCC surface. *Id.* at 11.

2. Röwer (*Ex. 1006*)

Röwer is related to mobile paving machines with a floating screed assembly. *Ex. 1006*, 1:5–7. Röwer’s paving machine includes “a hopper 3 at a front end and a distributor auger 4 at a rear end.” *Id.* at 2:59–60. In operation, a “conveyor . . . extends between the hopper 3 and the auger 4” and transports “a mix of paving material from out of the hopper 3, through a conveyor shaft extending below paver machine superstructure . . . , and into the region or vicinity of the distributor auger 4.” *Id.* at 2:60–65.

3. Ytterberg (*Ex. 1004*)

Ytterberg describes a method of “forming a roller compacted concrete industrial floor slab.” *Ex. 1004*, 1:10–11. In Ytterberg’s method, no-slump concrete is “placed on the ground to form a concrete slab of predetermined thickness” and a vibratory single or double drum compactor applies rolling and vibratory forces to the upper surface of the slab “to compact the slab to substantially its maximum practically achievable density while allowing the aggregate to remain displaced throughout the slab.” *Id.* at 3:19–27.

Ytterberg further discloses two methods for providing a smooth finish to the surface of the RCC slab after compacting. The first method entails applying a finish surface mixture of cement-coated rice-sized grit in a moisture-saturated condition and applying vibratory forces to the surface finish mixture to work the mixture into any voids in the upper surface of the

RCC slab. *Id.* at 3:30–35. Troweling may be used after vibration “to effect a smooth, dense, burnished surface finish.” *Id.* at 3:38–39. The second method includes roughening the upper surface of the slab, applying to the upper surface a topping comprising a mixture of washed concrete sand, aggregate, cementitious material, and water, and vibrating the upper surface to effect a smooth and dense finish. *Id.* at 3:42–50. “After vibrating[,] the upper surface of the topping layer may be troweled to enhance formation of a smooth surface.” *Id.* at 3:53–55. Troweling “may be carried out by hand or by a machine using a [troweling] device 23 . . . typically moved along the upper surface” in a horizontal direction. *Id.* at 7:59–62, Fig. 8.

4. *Concrete News (Ex. 1008)*

Concrete News discloses that the RCC Surface Pro agent, a silica admixture, allows “[t]he prospect of power-troweled, roller compacted concrete with surface characteristics and performance potential approaching conventional flatwork.” Ex. 1008, 1. The RCC Surface Pro is “applied to a top layer or lift shortly after a final drum roller pass, just ahead of power troweling. Through the troweling process, the agent imparts an optimally thin layer of paste, ready for smooth float or broom brush.” *Id.*

E. *Obviousness over Jofré or Jofré and Röwer*

Petitioner asserts that the subject matter of claims 1 and 10–16 would have been obvious over Jofré, and that the subject matter of claims 2–5 and 9 would have been obvious over the combination of Jofré and Röwer. Pet. 30–44.

1. *Claim 1*

Petitioner asserts that Jofré discloses or suggests each element of claim 1, and supports its analysis with citations to Jofré and Mr. Tull’s testimony. Pet. 30–34 (citing Ex. 1005, 1, 11, 13, 23, 25, 27, 29, 31, 43, Fig.

18; Ex. 1002 ¶¶ 18, 29, 40–46). Patent Owner disagrees, arguing that Petitioner’s ground fails because Jofré teaches away from “horizontally transporting the mulched paste over the upper surface” by “applying the trowel to and horizontally drawing the trowel over the upwardly exposed paste so that portions of said paste roll along the trowel’s lower surface.” Resp. 6–10 (citing Ex. 1005, 43, Fig. 18). In other words, Patent Owner contends that Jofré teaches away from claim 1’s step (d). We first address this disputed limitation and then turn to the remaining limitations of claim 1, which Patent Owner does not contest separately. *See generally* Resp.

a) Step (d) - “mulching the paste exposed at the upper surface and simultaneously horizontally transporting the mulched paste over the upper surface; wherein the past mulching and transporting steps comprise steps of providing a towel having a lower surface, and applying the trowel to and horizontally drawing the trowel over the upwardly exposed paste so that portions of said paste roll along the trowel’s lower surface”

Petitioner argues that Jofré discloses or suggests step (d), i.e., “mulching the paste exposed at the upper surface and simultaneously horizontally transporting the mulched paste over the upper surface; wherein the paste mulching and transporting steps comprise steps of providing a towel having a lower surface, and applying the trowel to and horizontally drawing the trowel over the upwardly exposed paste so that portions of said paste roll along the trowel’s lower surface.” Pet. 33–35. Petitioner contends that a person of ordinary skill in the art would have understood “that ‘mulching the paste’ as described in the ‘959 patent is the same as ‘loosening the paste,’ which is a known process that has been accomplished by using troweling machines for decades.” *Id.* at 33 (citing Ex. 1002 ¶ 18). Petitioner further directs us to Jofré’s “embodiment for low volume roads

where the RCC ‘pavements are finished by mechanical troweling, this process enabling to fill eventual voids created at their surface.’” *Id.* (quoting Ex. 1005, 11 and citing *id.* at 43, Fig. 18). According to Petitioner, although Jofré does not explicitly disclose how its mechanical trowel fills the surface voids, an ordinarily skilled artisan would have understood how a trowel operates, i.e., it utilizes a blade drawn over the surface of the concrete slab. *Id.* at 34 (citing Ex. 1002 ¶¶ 29, 46). And Mr. Tull testifies that the paste is “the only material on the surface of the concrete that could be used to fill the voids on the surface,” because “transporting aggregates would create new voids rather than fill voids.” Ex. 1002 ¶ 46. Thus, opines Mr. Tull, a person of ordinary skill in the art would have understood that, “in the context of Jofré, the lower blade or pan of the mechanical trowel would be drawn against the surface of the RCC, mulching exposed paste, and horizontally transporting that exposed paste between the trowel blade or pan and the RCC surface to fill eventual voids created at the surface.” *Id.*

Patent Owner responds that Jofré teaches away from step (d) because Jofré utilizes a trowel “to gouge circular grooves downwardly into the surface of the concrete slab to enhance vehicle tire skid resistance.” Resp. 6–7 (citing Ex. 1005, 43, Fig. 18); Sur-reply 5–6. Patent Owner argues that Jofré achieves skid resistance by using the trowel on the top surface “to create multiplicities of circular gouges or concavities which extend downwardly into [the] surface and open upwardly at the surface.” Resp. 7–9; Sur-reply 5–6 (both citing Ex. 1005, 43, Fig. 18). According to Patent Owner, Jofré’s method contrasts with claim 1’s step (d) because step (d) requires that the trowel “contacts the paste component of the concrete at the slab’s upper surface and draws the paste horizontally.” Resp. 9; see Sur-reply 6 (“Jofré’s application of its mechanical trowel to the upper surface of

its RCC slab is not simultaneously a void filling process and a scratch/gouge creating process.”). Thus, argues Patent Owner, Jofré’s path “diverges from that” recited in claim 1 “just as strongly as the horizontal direction [recited in step (d)] diverges from the downward direction [Jofré describes].”

Resp. 9.

Having evaluated the evidence, we do not agree with Patent Owner that Jofré teaches away. Rather, we find that Jofré discloses “applying the trowel to and horizontally drawing the trowel over the upwardly exposed paste so that portions of said paste roll along the trowel’s lower surface,” as step (d) requires.

A reference teaches away from the claimed invention if it criticizes, discredits, or would have discouraged a person of ordinary skill in the art from “following the path set out in the reference,” or if a person of ordinary skill “would [have been] led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); see *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Patent Owner argues that Jofré teaches away from step (d) because Jofré’s troweling process does not draw the paste horizontally (to fill voids), but rather, draws the paste vertically thereby creating voids. Resp. 9; Sur-reply 6. Jofré, however, explicitly discloses that on certain “low-volume roads constructed in Spain, . . . pavements are finished by *mechanical troweling, this process enabling to fill eventual voids created at their surface.*” Ex. 1005, 11 (emphasis added); see Pet. 33; Reply 5 (both quoting Ex. 1005, 11). Jofré again refers to the “Spanish low-volume roads” when discussing mechanical troweling to improve skid resistance, as depicted in Figure 18. Ex. 1005, 43 (“It must be pointed out that in Spanish low-volume roads, a mechanical trowel is applied to improve skid resistance.”).

Patent Owner acknowledges Jofré's disclosure of using mechanical troweling to fill voids created in the RCC surface, but contends that such disclosure "nonsensically contradict[s] the friction enhancement method taught at page 43." Resp. 9–10 (referring to "[r]eferences to other portions of *Jofré* (e.g., *Jofré*, pg. 11)"). Patent Owner's assertion that Jofré's disclosure is contradictory lacks evidentiary support. Rather, it is bare attorney argument and, therefore, has little probative value. *In re Geisler*, 116 F.3d 1465, 1479 (Fed. Cir. 1997); *see also In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1994) ("Attorney's argument in a brief cannot take the place of evidence.").

Patent Owner argues that no expert testimony is necessary to conclude that Jofré's mechanical troweling "is not simultaneously a void filling process and a scratch/gouge creating process." Sur-Reply 6 (argument directed to claim 15, which Patent Owner states "is inclusive of [c]laim 1"). We agree with Patent Owner that expert testimony is not necessary in every case. Here, however, even assuming expert testimony is not necessary, Patent Owner must provide some evidentiary basis to support its arguments. But Patent Owner does not direct us to any evidence that Jofré's disclosure of using mechanical troweling to fill voids created in the RCC surface is contradictory to Jofré's teaching about also using troweling for skid resistance.

Moreover, even if we accept Patent Owner's argument that Jofré's troweling creates grooves to increase friction (i.e., for skid resistance), we agree with Petitioner that step (d) does not exclude troweling to achieve a grooved surface. Reply 4. Thus, as long as Jofré's trowel is drawn horizontally over the paste on the concrete surface so that portions of the paste roll along the trowel's lower surface, Jofré discloses this requirement

of step (d). As we discuss below, Jofré's method meets the claim requirement and, therefore, Jofré's disclosure of forming gouges or grooves for skid resistance while also drawing the trowel horizontally over the paste on the surface (i.e., smoothing the non-grooved portions of the concrete) does not teach away from step (d).

Jofré explicitly discloses an embodiment that uses mechanical troweling to fill the voids at the RCC surfaces. Ex. 1005, 11, 43, Fig. 18. Mr. Tull explains how Jofré's troweling process works to fill the voids at the surface of the RCC, testifying, "the lower blade or pan of the mechanical trowel would be drawn against the surface of the RCC, mulching the exposed paste, and horizontally transporting that exposed paste between the trowel blade or pan at the RCC surface." Ex. 1002 ¶ 46. Mr. Tull's testimony is unrebutted and credible in light of Jofré's disclosure. Because one of ordinary skill in the art would have understood that mechanical troweling as disclosed in Jofré fills the voids created at the surface of the RCC by horizontally transporting exposed paste between the trowel blade and the RCC surface, Petitioner establishes that Jofré discloses or suggests step (d).

b) Remaining limitations

Petitioner explains how Jofré discloses or suggests the remaining limitations of claim 1. For example, Petitioner explains that, if claim 1's preamble is limiting, then Jofré teaches claim 1's preamble. Pet. 30 (citing Ex. 1005, 23, 25, 31, 43; Ex. 1002 ¶¶ 40–41). Petitioner also explains that Jofré discloses providing a body of no-slump concrete that comprises a combination of aggregate and paste, i.e., claim 1's step (a). *Id.* at 31 (citing Ex. 1005, 1, 11–13; Ex. 1002 ¶¶ 42, 60). Petitioner acknowledges that Jofré does not explicitly disclose some of step (b)'s limitations, particularly, "an

even depth layer,” “a volume of air,” and “exposing portions of the paste.” *Id.* at 31–33. However, Petitioner explains that a person of ordinary skill in the art would have understood that Jofré discloses or suggests these limitations. *Id.* at 31–32 (citing Ex. 1005, 23, 27, 29; Ex. 1002 ¶¶ 43–44). For step (c), Petitioner explains that Jofré discloses compacting the concrete “until it achieves the required density,” and that compacting “increases density by removing portions of air from the RCC slab.” *Id.* at 33 (citing Ex. 1005, 29, 31; Ex. 1002 ¶ 45). We find that the evidence of record supports Petitioner’s contentions regarding these limitations.

Patent Owner does not address these assertions and, therefore, has forfeited any arguments for patentability based on these uncontested limitations. *See generally* Resp.; see Paper 13, 8 (Scheduling Order cautioning Patent Owner that “any arguments for patentability not raised in the response will be deemed waived”); *cf. In re NuVasive*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (explaining that a patent owner waives an argument presented in the preliminary response if it fails to renew that argument in the patent owner response during the instituted trial). Because a preponderance of the evidence supports Petitioner’s arguments relating to Jofré’s teachings, we adopt Petitioner’s analysis as our own. *See* Pet. 30–33 (and evidence cited therein); *see also In re NuVasive*, 841 F.3d 966, 974 (Fed. Cir. 2016) (explaining that the Board need not make specific findings as to claim limitations that a patent owner fails to dispute the prior art discloses).

Further, we note that although Petitioner styles its challenge as one of obviousness, the Petition does not include any analysis related to a reason to combine or modify with a reasonable expectation of success. *See generally* Pet. Rather, Petitioner’s analysis appears to focus on what a person of ordinary skill in the art would have understood about whether Jofré suggests

certain limitations that Jofré does not explicitly disclose. Because Petitioner’s primary argument is that an ordinarily skilled artisan would have understood that Jofré discloses or suggests all of claim 1’s limitations, we are “not required to make any finding regarding a motivation to combine.” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1373 (Fed. Cir. 2019); *see also Polygroup Ltd MCO v. Willis Elec. Co.*, 759 F. App’x 934, 942–43 (Fed. Cir. 2019) (when a petitioner sets forth an obviousness challenge and argues that a single reference “teaches every element of the challenged claims,” the “Board err[s] when it refuse[s] to consider these arguments”). Accordingly, Petitioner establishes that the subject matter of claim 1 would have been obvious over Jofré.

2. Claim 15

Claim 15 ultimately depends from claim 1 and additionally recites “the upper surface [of the no-slump concrete’s even depth layer] comprises a multiplicity of upwardly opening concavities, and wherein the step of horizontally transporting the paste over the upper surface fills the multiplicity of upwardly opening concavities.” Ex. 1001, 8:24–28. Petitioner points to Jofré’s embodiment for low volume roads that we discuss above in connection with claim 1 as disclosing or suggesting claim 15’s additional limitations. Pet. 38 (“[T]he RCC ‘pavements are finished by mechanical troweling, this process enabling to fill eventual voids created at their surface.’” (quoting Ex. 1005, 11)). Petitioner asserts that the voids “are multiple open concavities on the surface and the mechanical troweling would transport paste to fill those voids,” as discussed in connection with claim 1. *Id.* (citing Ex. 1002 ¶ 52).

Patent Owner responds that the “curved upwardly opening gouges depicted in *Jofré’s* Fig. 18 . . . constitute upwardly opening concavities” and

Jofré's method "creates those concavities for the purpose of enhancing skid resistance." Resp. 10. Patent Owner further argues that the concavities, therefore, are unfilled in order to enhance skid resistance. *Id.* Thus, Patent Owner contends that Jofré teaches away from filling a multiplicity of upwardly facing concavities. *Id.*; see Sur-reply 5–6.

Patent Owner's teaching away argument is substantively the same teaching away argument that Patent Owner makes for claim 1, i.e., that Jofré teaches away because Jofré's troweling process does not fill voids or concavities, but rather, it creates voids or concavities. Resp. 10; Sur-reply 5–6. We are not persuaded that Jofré teaches away for the same reasons that we set forth above in connection with claim 1, namely, that Jofré explicitly discloses an embodiment in which a mechanical trowel process fills the voids at the surface of the RCC. Ex. 1005, 11. Again, the fact that Jofré's troweling may create grooves does not prevent it from simultaneously filling voids in the non-grooved portions of the surface, and does not teach away from filling voids. See Reply 7 ("Even assuming the skid-resistant grooves are also upwardly facing concavities . . . that would not negate the fact that a multiplicity of upwardly facing cavities (e.g., the surface voids) are filled by troweling."). We also credit Mr. Tull's unrebutted testimony that a person of ordinary skill in the art would have understood that "the voids discussed in Jofré are open concavities on the surface left in the RCC prior to finishing" and that Jofré's mechanical troweling "transports the paste to fill those voids," as that testimony is consistent with Jofré's disclosure. Ex. 1002 ¶ 52. Petitioner, therefore, establishes that Jofré discloses or suggests the additional limitations of claim 15. Further, as discussed above, because Petitioner argues that Jofré alone teaches or suggests claim 15's additional limitations, we are "not required to make any finding regarding a

motivation to combine.” *Realtime Data, LLC*, 912 F.3d at 1373.

Accordingly, Petitioner establishes that the subject matter of claim 15 would have been obvious over Jofré.

3. *Uncontested claims*

As noted above, Petitioner argues that the subject matter of claims 10–14 and 16 would have been obvious over Jofré and that the subject matter of claims 2–5 and 9 would have been obvious over Jofré and Röwer. Claims 2–5, 9–14, and 16 ultimately depend from claim 1 and include additional requirements for the concrete slab fabricating method. Ex. 1001, 6:61–8:33. For claims 10–15 and 16, Petitioner explains how Jofré discloses the additional limitations of each claim, with supporting citations from Jofré and supporting testimony from Mr. Tull. See Pet. 35–39 (citing Ex. 1005, 11, 27, 29, 31, 43, Fig. 18; Ex. 1002 ¶¶ 47–54). For claims 2–5 and 9, Petitioner explains how Röwer or Jofré discloses or suggests the additional limitations of each claim with Mr. Tull’s supporting testimony. See *id.* at 40–44 (citing Ex. 1005, 1, 11–12; Ex. 1006, 2:52–65, Fig. 1; Ex. 1002 ¶¶ 56–62). For claims 2–5 and 9, Petitioner additionally provides reasons why one of ordinary skill in the art would have had a reason to combine Jofré and Röwer with a reasonable expectation of success in achieving the claimed inventions. *Id.* at 40 (explaining how using Röwer’s paver to spread Jofré’s RCC would have been a predictable use of a conventional piece of equipment in a conventional method). Having evaluated the record, we find the preponderance of the evidence supports Petitioner’s arguments.

In arguing that Petitioner fails to carry its burden on these challenges, Patent Owner refers to its arguments with respect to claim 1. See Resp. 10. For the reasons we discuss above, we do not find those arguments persuasive. Because a preponderance of the evidence supports Petitioner’s

arguments as to claims 2–5, 9–14 and 16, we adopt Petitioner’s analysis as our own. *See* Pet. 35–44 (and evidence cited therein); *NuVasive*, 841 F.3d at 974. Accordingly, Petitioner establishes that the subject matter of claims 10–14 and 16 would have been obvious over Jofré, and that the subject matter of claims 2–5 and 9 would have been obvious over Jofré and Röwer.

F. Remaining Grounds

Having determined that claims 1 and 10–16 would have been obvious over Jofré and that claims 2–5 and 9 would have been obvious over the combination of Jofré and Röwer, we do not address Petitioner’s additional obviousness grounds challenging claims 1 and 10–16 over the combination of Ytterberg and Concrete News or claims 2–5 and 9 over the combination of Ytterberg, Concrete News, and Röwer. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”).

III. CONCLUSION

Based on the evidence and arguments, Petitioner establishes by a preponderance of the evidence that claims 1–5 and 9–16 of the ’959 patent are unpatentable.⁷

⁷ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner establishes by a preponderance of the evidence that claims 1–5 and 9–16 of the '959 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 10–16	103	Jofré	1, 10–16	
2–5, 9	103	Jofré, Röwer	2–5, 9	
1, 10–16	103	Ytterberg, Concrete News ⁸		
2–5, 9	103	Ytterberg, Concrete News, Röwer ⁹		
Overall Outcome			1–5, 9–16	

⁸ As discussed in § II.F, we do not reach this ground.

⁹ As discussed in § II.F, we do not reach this ground.

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FOR PETITIONER:

James P. Murphy
Pat Woolley
Michael Williamson
POLSINELLI PC
jpmurphy@polsinelli.com
pwoolley@polsinelli.com
mwilliamson@polsinelli.com

FOR PATENT OWNER:

Kenneth H. Jack
DAVIS & JACK, L.L.C.
kennethjack@davisandjack.com