

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEKNI-PLEX, INC.,
Petitioner,

v.

CONVERTER MANUFACTURING, LLC,
Patent Owner.

IPR2021-00918
Patent 10,189,624 B2

Before GRACE KARAFFA OBERMANN, JAMES A. TARTAL, and
AVELYN M. ROSS, *Administrative Patent Judges*.

ROSS, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

I. INTRODUCTION

Tekni-Plex, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–20, 22–26, and 29 of U.S. Patent No. 10,189,624 B2 (Ex. 1001, “the ’624 patent”). Converter Manufacturing, LLC (“Patent Owner”) waived the preliminary response to the Petition. Paper 5.

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, and upon considering the Petition and evidence presented in the Petition, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to at least one challenged claim. Accordingly, we grant the Petition, and institute an *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies “Tekni-Plex, Inc. and Dolco LLC” as real parties-in-interest. Pet. 145.

Patent Owner identifies “Converter Manufacturing, LLC” as a real party-in-interest. Patent Owner’s Mandatory Notices, Paper 4.

B. *Related Proceedings*

The parties identify as related proceedings the pending district court litigation styled *Clearly Clean Prods., LLC, et al. v. Tekni-Plex, Inc., et al.*,

No. 2:20-cv-04723-AB (E.D. Pa.) (Ex. 1020, “the district court litigation”).
Pet. 145, Paper 4.

Petitioner also identifies its co-pending petitions for an *inter partes* review of U.S. Patent Nos. 9,908,281 B1 and 10,562,680 B2 as related proceedings. Pet. 145; IPR2021-00916, Paper 1; IPR2021-00919, Paper 1. Petitioner indicates that “Patent Owner has asserted the related ‘281 and ‘680 Patents against third parties other than Petitioner” in the following proceedings: *In re Certain Rolled-Edge Rigid Plastic Food Trays*, No. 337-TA-1203 (ITC) and *Clearly Clean Prods. LLC, et al. v. Eco Food Pak USA Inc., et al.*, No. 5:20-cv-01054 (C.D. Cal.). Pet. 145.

C. The ‘624 Patent

The ‘624 patent, titled “Tray-Shaped Article Having Smooth Edges and Amenable to Multiple Film Sealing Methods,” issued on January 29, 2019. Ex. 1001, codes (45), (54). The ‘624 patent “relates generally to the field of forming shaped thermoplastic articles” in which thermoplastics that can be thermoformed are used “to form containers that can be sealed with thin plastic films, such as trays, bowls, or bins intended to contain foodstuffs and intended to be sealed with transparent plastic film.” *Id.* at 1:19–25, 29–33. Articles can be sealed via overwrap (“OW”) technology that “involves enveloping or wrapping a shaped article,” vacuum-sealed package (“VSP”) technology that “involves adhering a thin . . . plastic film against a face of a shaped article bearing a foodstuff,” or modified atmosphere packaging (“MAP”) technology in which a flexible film “is sealed (e.g., using heat or an adhesive) about the perimeter of a substantially rigid shaped article.” *Id.* at 1:64–65, 2:16–18, 40–44. The ‘624 patent explains that when material is

trimmed to form containers, a sharp edge is left that “can injure flesh or tear or cut materials which come into contact with the edge.” *Id.* at 1:26–29. Further, the sharp edge “can cut or break the film,” thereby interfering “with the sealing process.” *Id.* at 1:40–42. The ’624 patent purports to solve the problem of the unwanted sharp edge by displacing the sharp edge “away from the periphery of an article made from a thermoplastic material, where the sharp edge might otherwise damage surfaces that contact the periphery of the article.” *Id.* at 4:31–35. According to the ’624 patent, a smooth edge and a smooth periphery are made by forming a deflectable flange at the edge of the body of the article, in which the deflectable flange “includes a peripheral edge of the thermoplastic material at the peripheral end of the deflectable flange, optionally on a peripheral flange that extends peripherally from the deflectable flange.” *Id.* at 4:38–45. The peripheral flange can be “connected by an elbow to a spacer and extends peripherally beyond the spacer by a peripheral flange distance” and can be “selected to yield a desired degree of deflection when it is impinged against a surface.” *Id.* at 4:46–50. “The spacer is connected by a bend region to the body, the bend region defining an angle . . . between the spacer and the body.” *Id.* at 4:52–56.

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

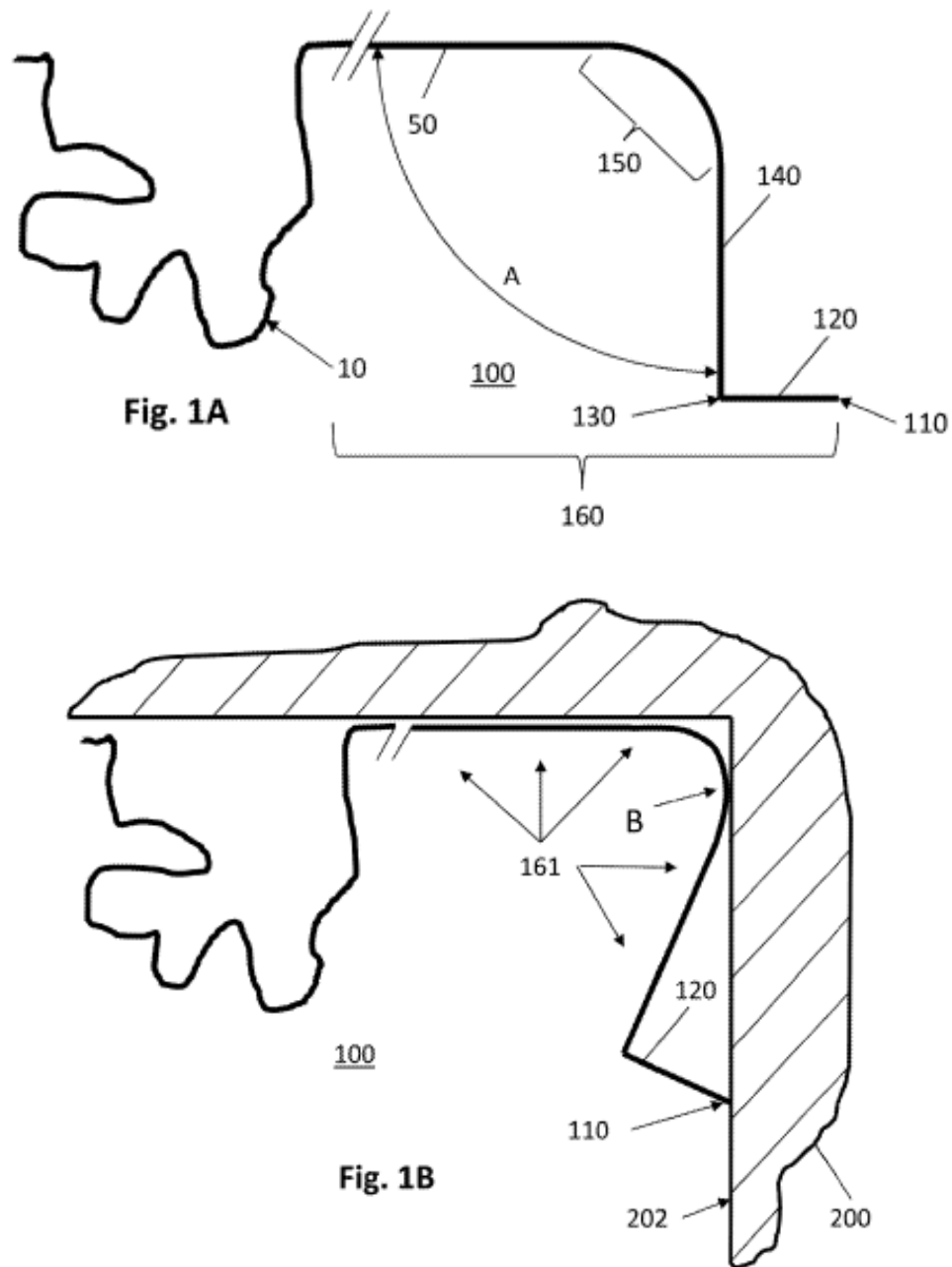


Figure 1A shows a sectional view of thermoplastic article 100 inserted within interior of upper body 200, shown in Figure 1B, prior to bending an unwanted sharp edge away from the periphery of the article. *Id.* at 6:14–34. Thermoplastic article 100 has “deflectable flange 160 formed at an edge thereof.” *Id.* at 6:19–21. Deflectable flange 160 includes extension 50, bend

region 150, spacer 140, and peripheral flange 120. *Id.* at 6:21–27. Elbow 130 connects spacer 140 to peripheral flange 120. *Id.* at 6:27–28.

Figure 8K of the '624 patent, reproduced below, illustrates how thermoplastic article 100 is shaped near peripheral flange 120. *Id.* at 10:55–67.

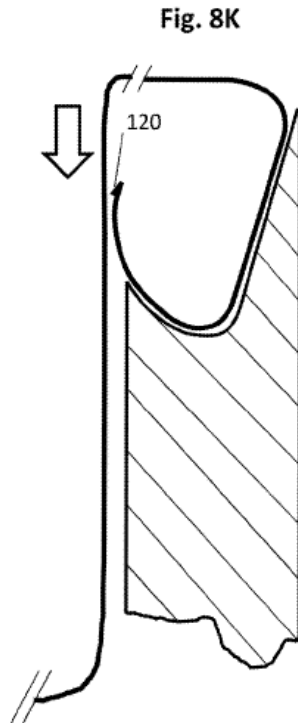


Figure 8K shows that after a series of steps (Figures 8E–8J), thermoplastic article 100 is ultimately urged into ram 300 (identified in Figures 8E, 8H) in the direction indicated by the open arrow to produce a shaped deflectable flange 160 that includes peripheral flange 120 at the peripheral end of spacer 140. *Id.* at 10:56–61. The '624 patent discloses that shaped articles can be “in the form of a rounded rectangular tray” having “an internal concave compartment.” *Id.* at 10:39–40, 22:7–8.

D. Illustrative Claims

Petitioner challenges claims 1–20, 22–26, and 29 of the '624 patent. Independent claim 1 is the independent claim challenged and is reproduced below.

1. A tray intended to be suitable for use in any or all of overwrap (OW), vacuum-sealed packaging (VSP), and modified atmosphere packaging (MAP) sealing technologies, the tray being[:]

an article formed from a thermoplastic sheet having a peripheral edge, the article comprising a tray-shaped body having a concave portion surrounded by an extension extending peripherally away from the concave portion;

the extension including the peripheral edge, a flat sealing surface surrounding the concave portion and being suitable for sealing a sealing film thereto using either of VSP and MAP sealing technologies, a bend region adjacent the sealing surface and interposed between the peripheral edge and the sealing surface, the bend region having the conformation of a smooth curve, and a bent portion interposed between the peripheral edge and a spacer separating the bent portion from the bend region; and

the article having a smooth periphery and having the overall shape of a rectangular tray with rounded corners, and the bent portion being bent sufficiently that the peripheral edge is turned at least approximately opposite the periphery.

Ex. 1001, 41:13–36.

E. The Asserted Unpatentability Challenges

Petitioner asserts that claims 1–20, 22–26, and 29 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–9, 13–20, 22–26, 29	102	Long ¹
1–20, 24, 29	102	Portelli ²
1, 6–14, 22, 23, 29	102 ³	Meadors ⁴
1–20, 22–26, 29	103	Long, Portelli
1–20, 22–26, 29	103	Long, Meadors
1–20, 24, 29	103	Portelli
10–12	103	Portelli, Brown ⁵

Pet. 2. Petitioner also relies on declaration testimony of Glenn May (Ex. 1002, “the May Declaration”).

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.

¹ Long et al., WO 2012/064203 A1, published May 18, 2012 (Ex. 1004, “Long”).

² Portelli et al., WO 96/01179 A1, published January 18, 1996 (Ex. 1003, “Portelli”).

³ On page 2 of the Petition, under the “Prior Art” column of the table, Petitioner identifies a ground based on Meadors “in view of Long” even though “35 U.S.C. § 102” is the asserted basis for that ground. Pet. 2. We understand the recitation of “in view of Long” in this instance to be typographical error as it is not reasserted when the details supporting this ground are discussed in the Petition. *See* Pet. 102.

⁴ Meadors, US 4,228,121, issued October 14, 1980 (Ex. 1005).

⁵ Brown et al., US 6,960,316 B2, issued November 1, 2005 (Ex. 1006, “Brown”).

Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* 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).

To anticipate, a reference must “show all of the limitations of the claims arranged or combined in the same way as recited in the claims.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008); accord *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990).

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.⁶ *Graham*, 383 U.S. at 17–18.

⁶ At this stage of the proceeding, the parties have not asserted or otherwise directed our attention to any objective evidence of nonobviousness.

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 anticipated by or 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 be a person with either (1) a Bachelor of Science degree in packaging science, mechanical engineering, material science, or chemistry and two years of experience designing and manufacturing thermoformed plastic items, or (2) three years of experience designing and manufacturing thermoformed plastic items.” Pet. 7–8 (citing Ex. 1002 ¶ 35). Patent Owner does not, at this time, dispute Petitioner’s proposed definition. *See* Patent Owner’s Preliminary Response Waiver, *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. *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))). We will make any final determination pertaining to the level of ordinary skill in the art, however, on the full trial record.

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) (2019). 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 it “does not currently seek construction of any terms.” Pet. 9. Patent Owner does not, at this time, seek construction of any terms. See Patent Owner’s Preliminary Response Waiver, *passim*.

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. Alleged Anticipation based on Portelli

Petitioner alleges that claims 1–20, 24, and 29 are anticipated by Portelli. Pet. 56–102. See *id.*

1. Overview of Portelli (Ex. 1003)

Portelli is directed to plastic trays used for packaging, which are wrapped in plastic film. Ex. 1003, 1:2–3, 27–30. In particular, Portelli

explains that in the past, plastic trays that are “used in packaging are formed by a thermoforming operation” but “have a sharp terminal edge forming the periphery thereof with an unfortunate tendency to tear or cut through plastic film within which the trays are wrapped.” *Id.* at 1:21–2:2. According to Portelli, “[i]t would therefore be advantageous if a method and an apparatus could be found for providing these trays with a peripheral edge region which reduced the tendency of the wrap to tear.” *Id.* at 2:16–18. Portelli thereby discloses steps of “heating the peripheral edge region of the tray” and producing a “fold line along which the peripheral edge region of the tray is folded.” *Id.* at 3:9–13.

Figure 13 of the Portelli, reproduced below, is a schematic sectional view of an edge of a tray that has been deformed out of a wrap path. *Id.* at 8:11–12.

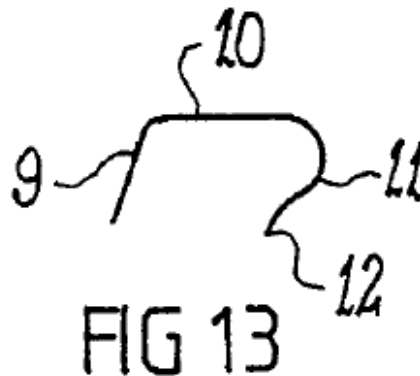


Figure 13 shows a finished tray edge with sloping sidewall 9, that has “a more rounded peripheral edge region” than that of other trays. *Id.* at 8:19–9:3, 14:15–17. The profile edge of the tray has rim 10 connected to peripheral edge region 11, which is connected to terminal edge 12. *Id.* at 14:10–13. Portelli discloses that the trays can have a rounded rectangular shape with a concave compartment formed therein. *See* Figs. 14–16.

2. *Analysis of Claim 1*

Petitioner asserts that “Portelli’s tray is wrapped in a plastic film to form an airtight seal” and “is suitable for OW sealing technology.” Pet. 56 (citing Ex. 1003, Abstract, 1:2–4, 1:9–11, 5:25–28, 16:15–17). Petitioner, though the testimony of Mr. May, alleges that Portelli also “is suitable for use in VSP sealing technology.” *Id.* (citing Ex. 1002 ¶¶ 132–134).

Petitioner alleges that “Portelli’s tray is made of a thermoformed plastic; thus, it is thermoplastic.” *Id.* at 57 (citing Ex. 1003, Abstract, 9:17–24, 14:10, 15:13–14, 16:15–17). Petitioner further asserts that Portelli’s tray includes a peripheral edge. *Id.* (citing Ex. 1003, Fig. 13, 9:1, 9:17–24, 13:18–20, 14:11–13; Ex. 1002 ¶¶ 135–138). According to Petitioner, “Portelli teaches a ‘base member 51’ and a ‘cover member 52,’ either or both of which comprise a tray-shaped body” and “comprises a base 8 or 56 and a sidewall 9 or 57, which form a concave portion.” *Id.* at 58–60 (citing Ex. 1003, Figs. 1–8, 14–15, 1:1–5, 1:7–8, 5:25, 8:28–29, 10:17–18, 15:27–30, 18:6; Ex. 1002 ¶ 141). Petitioner contends that Portelli’s tray includes “‘circumferential peripheral rim 58’—i.e., an extension—which ‘projects outwardly away from the upper end of the side wall 57’—i.e., extends peripherally away from the concave portion” where “[t]he rim 10/58, ‘peripheral edge region 11,’ and ‘terminal edge 12’ (i.e., ‘peripheral edge’) together form an extension.” *Id.* at 60–63 (citing Ex. 1003, Figs. 13–14, 9:1, 9:17–19, 13:18–20, 14:11–13, 15:28–30; Ex. 1002 ¶¶ 142–146).

Petitioner further alleges, referring to Figure 13, that extension 10 includes a flat sealing surface and is “suitable for VSP.” *Id.* at 63–64 (citing Ex. 1003, Fig. 13). Petitioner explains that “VSP involves laying a thin plastic film over a tray and its contents, and sucking the air out to press the film against the contents” and to be suitable, “the tray must have no sharp

peripheral edge or crimp located where they could damage the film.” *Id.* at 64 (citing Ex. 1003, 2:16–30, 3:4–19, 3:64–4:10, 36:40–58, 37:34–60). Petitioner alleges that because Portelli’s peripheral edge “is displaced inwardly,” it does not have a sharp edge that would damage the film. *Id.* at 64–66 (citing Ex. 1003, Fig. 13, Abstract, 1:29–2:18, 3:13, 5:1–2, 5:12, 5:25–6:3, 15:20–23, 18:3–5, 20:11–16, 20:24–27, 21:17–23; Ex. 1002 ¶¶ 147–153). Petitioner argues that Portelli describes a bend region where the upper end of extension 10, curves on the right side as shown in Figure 13. *Id.* at 66–67 (Ex. 1003, Fig. 13; Ex. 1002 ¶¶ 154–156). Petitioner alleges that the extension further includes a bent portion and identifies exemplary bent portions. *Id.* at 67–70 (identifying various bent portions, i.e., examples 1–4, depicted in Petitioner’s modified Figures 8 and 13) (citing 1003, Figs. 8, 13; Ex. 1002 ¶¶ 157–161). Petitioner contends that Portelli depicts a spacer located between the bend region and bent portion. *Id.* at 71–73 (citing Ex. 1003, Figs. 8, 13; Ex. 1002 ¶¶ 162–164).

Petitioner further alleges that Portelli’s tray is a rectangular tray and that “the periphery of Portelli’s tray is smooth.” *Id.* at 73–75 (citing Ex. 1003 Figs. 13–15, 1:1–5, 5:25, 10:17–18, 18:6, 10:25–11:3; Ex. 1002 ¶¶ 166–171). And lastly, Petitioner contends that “the bent portion is sufficiently bent that the peripheral edge is turned at least approximately opposite the periphery of the tray,” as claimed. *Id.* at 75–76 (examples 1–2 shown in Petitioner’s modified Figure 13) (citing Ex. 1003, Fig. 13, Abstract, 2:2–8, 3:17–19; Ex. 1002 ¶¶ 172–174).

We have reviewed the evidence and argument of record and determine, for purposes of this decision, that Petitioner has shown a reasonable likelihood of prevailing with respect to its contention that the

subject matter of claim 1 of the '624 patent is anticipated by Portelli. Therefore, Petitioner establishes a reasonable likelihood of prevailing with respect to at least one of the challenged claims.

3. *Remaining Claims (2–20, 24, and 29)*

We have reviewed the evidence and argument presented in the Petition, including the relevant portions of the May Declaration and determine, on this record, that Petitioner's challenges of claims 2–20, 24, and 29 based on anticipation by Portelli are adequately supported for institution purposes.

E. *Remaining Challenges*

Petitioner also asserts that Portelli alone would have rendered claims 1–20, 24, and 29 obvious (Pet. 139–140) and that claims 10–12 would have been obvious over the combination of Portelli and Brown (*id.* at 140–142). Petitioner additionally alleges that Long anticipates claims 1–9, 13–20, 22–26, 29. Pet. 13–55. Petitioner further contends that Long, in combination with either of Portelli or Meadors, would have rendered obvious claims 1–20, 22–26, and 29 of the '624 patent. Pet. 13–55, 132–134, 134–139. Petitioner alleges that Meadors anticipates claims 1, 6–14, 22, 23, and 29. *Id.* at 102–127. Petitioner relies on the testimony of Mr. May to support its arguments. *See generally* Pet.

Because we conclude above that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail on its assertion that at least one claim of the '624 patent is unpatentable as anticipated by Portelli, we institute an *inter partes* review of all challenged claims and all grounds presented in the Petition. *See PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (indicating that a decision whether to institute an *inter partes review* “require[s] a simple yes-or-no

institution choice respecting a petition, embracing all challenges included in the petition”).

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we institute an *inter partes* review of the ’624 patent.

The factual findings set forth in this Decision are preliminary and provided for the sole purpose of deciding whether to institute a review. Any final findings will be based on the full trial record, including any information presented in a timely filed response to the Petition. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”) (quoting 35 U.S.C. § 314(a) and comparing *id.* with § 316(e)).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–20, 22–26, and 29 of U.S. Patent No. 10,189,624 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which will commence on the entry date of this Decision.

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