

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DONNELLY DISTRIBUTION LLC
and
RAIMONDI S.P.A.,
Petitioner,

v.

RUSSO TRADING CO., INC.,
Patent Owner.

Case IPR2019-00761
Patent 9,279,259 B1

Before ANDREI IANCU, *Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office*,
SALLY C. MEDLEY, and KEVIN W. CHERRY,
Administrative Patent Judges.

CHERRY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Donnelly Distribution LLC and Raimondi S.P.A. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 6 and 7 (the “challenged claims”) of U.S. Patent No. 9,279,259 B1 (Ex. 1001, “the ’259 Patent”). Russo Trading Co., Inc. (“Patent Owner” or “Russo Trading”) did not file a Preliminary Response. We have authority to consider the Petition and determine whether to institute review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), which provide that an *inter partes* review may not be instituted unless the information presented in the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Having considered the arguments and the associated evidence presented in the Petition, for the reasons described below, we institute *inter partes* review of all of the challenged claims on the grounds set forth in the Petition.

B. *Related Proceedings*

Petitioner informs us that the ’259 Patent is involved in litigation in *Russo Trading Company, Inc., v. Donnelly Distribution LLC*, No. 18-CF-1851-JPS (E.D. Wis.). Pet. 7; Ex. 1014. This litigation has been stayed pending the outcome of this proceeding. *See* Ex. 3001.

C. *The ’259 Patent*

The ’259 Patent issued from Application Serial Number 14/823,085 (“the ’085 application”) filed August 11, 2015. Ex. 1001, [21], [22]. The

'085 application is a continuation-in-part of Application Serial Number 14/718,131 (“the '131 application”) filed on May 21, 2015.¹ *Id.* at [63].

The '259 Patent “relates generally to tiles and more specifically to a tile lippage removal system.”² Ex. 1001, 1:14–15. The '259 Patent explains that when laying tiles, it is important not to exert a lateral force which tends to spread the tiles away from each other, such that the tile edges are no longer parallel to each other, which is unacceptable. *Id.* at 1:21–28. The desired lippage removal system provides only a downward force that does not mar a top of the tiles or cause lateral movement of the tiles, which causes oozing of tile glue. *Id.* at 1:30–35.

The '259 Patent describes various designs for a tile lippage removal system with an exemplary embodiment of a cap depicted in Figure 3A, reproduced below.

¹ Petitioner argues, with supporting evidence, that the '259 Patent is not entitled to the filing date of the '131 application. Pet. 19–21 (citing Ex. 1004 ¶¶ 91–95). Patent Owner has not yet contended that the '259 Patent is entitled to the earlier filing date of the '131 application. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379–80 (Fed. Cir. 2015). The Board thus treats the '259 patent as having an effective filing date of August 11, 2015. *See* Ex. 1001, [22].

² The Tile Council of North America states that the American National Standards Institute (ANSI) Standard A108.02, § 4.3.7 explains: “Lippage refers to differences in elevation between edges of adjacent tile modules.” *See* Tile Council of North America, Inc. Website, *available at* <https://www.tcnatile.com/faqs/175-lippage.html> (last visited Sept. 3, 2019) (Ex. 3002)

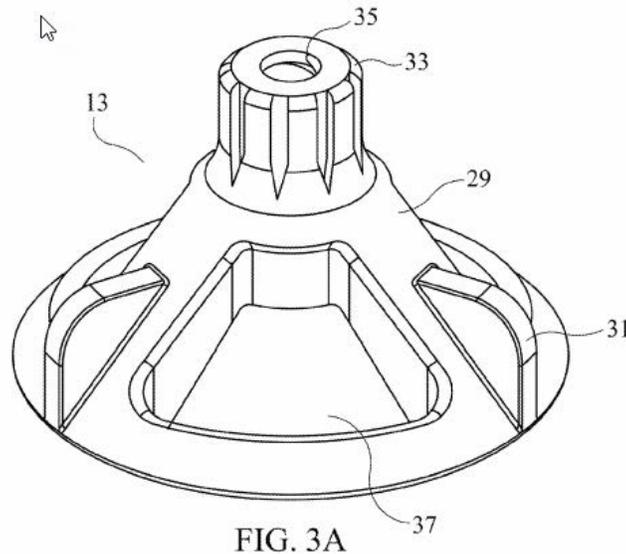


FIG. 3A

Figure 3A is a top perspective view of a design of a “threaded cap of a tile lippage removal system.” *Id.* at 2:23–24. Threaded cap 13 includes an inverted cup 29 and a plurality of grip extensions 31. *Id.* at 3:13–15. A plurality of sight openings 37 are formed through inverted cup 29 to form a plurality of ribs. *Id.* at 3:19–20. The plurality of sight openings 37 allow a distance between two adjacent tiles 100 to be viewed through threaded cap 13. *Id.* at 3:67–4:2; Fig. 1. A hub 33 extends from a top of inverted cup 29. *Id.* at 3:15–16. “A female thread 35 is formed through a center of the hub 33 to threadably receive [a] threaded shaft 20.” *Id.* at 3:16–18. An exemplary threaded shaft 20 is depicted in Figure 2, reproduced below.

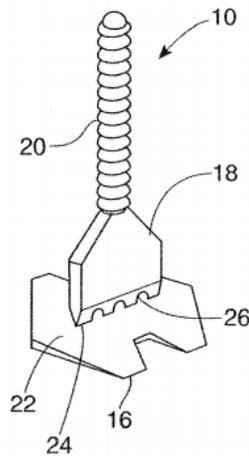


FIG. 2

Figure 2 is a perspective view of a spacer post of a tile lippage removal system. *Id.* at 2:18–19. Spacer post 10 includes base member 16, spacer member 18 and threaded shaft 20. *Id.* at 2:59–60. A bottom of threaded shaft 20 extends from a top of spacer member 18. *Id.* at 3:3–4. A bottom of spacer member 18 extends from a top of base member 16. *Id.* at 2:61–62. A break away connection 22 is made between spacer member 18 and base member 16 that allows spacer member 18 to be separated from base member 16. *Id.* at 2:62–3:1. In order not to exert a lateral force on the tiles, spacer member 18 has a thickness, which is less than a gap between two adjacent tiles. *Id.* at 3:2–3, Fig. 1.

D. Challenged Claims

Of the challenged claims, claim 6 is independent. Claim 7 depends from claim 6.

Claims 6 and 7 are reproduced below:

6. A tile lippage removal system comprising:
 - a spacer post includes a base member, a spacer member and a threaded shaft, a bottom of said spacer member extends

from a top of said base member, a bottom of said threaded shaft extends from a top of said spacer member; and

a threaded cap includes a substantially cone shaped portion having an inverted orientation and a hub, a plurality of sight openings are formed through said cone shaped portion to form a plurality of ribs, said plurality of ribs are disposed between said plurality of sight openings, said hub extends from a top of said substantial cone shaped portion, a female thread is formed through a center of said hub, a plurality of grip portions are formed on a perimeter of said hub, said female thread is sized to threadably receive said threaded shaft.

7. A tile lippage removal system of claim 6 wherein:

a break away connection is formed between said base member and said threaded shaft.

Ex. 1001, 4:39–57.

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 6 and 7 of the '259 Patent on the following grounds:

Basis	Challenged Claims	References
§ 103 ³	6, 7	Lai, ⁴ Irvine, ⁵ and Candela-Garrigós ⁶
§ 103	6, 7	Lai and Sarajian ⁷
§ 103	6, 7	Irvine, Lai, and Sarajian

F. Level of Ordinary Skill

Petitioner proposes that a person of ordinary skill

would be (1) someone with a Bachelor’s degree (or equivalent) in any study area and at least two years of experience in the art of laying tiles, or (2) someone with at least four years of experience in the art of laying tiles, with particular emphasis in tile leveling.

Pet. 36–37 (citing Ex. 1004 ¶¶ 53–54). For purposes of this Decision, we adopt Petitioner’s proposed level of ordinary skill.

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103. Because the effective filing date of the ’259 patent—regardless of whether it is entitled to priority to the ’131 application—is after the effective date of the applicable AIA amendment, we refer to the AIA version of 35 U.S.C. § 103.

⁴ Lai et al., CN 204139562 U, pub. Feb. 4, 2015, filed Sept. 19, 2014 (Ex. 1006, “Lai”). Also included in the record is a certificate of translation (Ex. 1007) and an English language translation of Lai (Ex. 1008). All citations are to Ex. 1008.

⁵ Irvine et al., WO 2014/022889 A1, pub. Feb. 13, 2014, filed Aug. 8, 2013 (Ex. 1009, “Irvine”).

⁶ Candela-Garrigós, ES 1 138 645 U, pub. Apr. 22, 2015, filed Apr. 2, 2015 (Exhibit 1010, “Candela-Garrigós”). Also included in the record is a certificate of translation (Ex. 1011) and an English language translation of Candela-Garrigós (Ex. 1012). All citations are to Ex. 1012.

⁷ Sarajian et al., US 2016/0369518 A1, pub. Dec. 22, 2016, filed June 17, 2015 (Ex. 1013, “Sarajian”).

G. Claim Interpretation

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b).⁸ Under this standard, we construe the claim “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, at this stage in the proceeding, we expressly construe the claims only to the extent necessary to determine whether to institute *inter partes* review. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 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 controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Petitioner proposes constructions for the terms “spacer member,” “substantially cone shaped portion,” “hub,” “grip portions,” and “a plurality of ribs.” Pet. 23–43. Having filed no response, Patent Owner does not address Petitioner’s proposed constructions, nor does it offer any constructions of its own. At this time, we determine that no express construction is necessary. We note that this determination does not preclude

⁸ The Office has changed the claim construction standard in AIA proceedings to replace the broadest reasonable interpretation (“BRI”) standard with the same claim construction standard used in a civil action in federal district court. *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51340 (Oct. 11, 2018). The change applies to petitions filed on or after November 13, 2018. *Id.* The present Petition was filed on March 1, 2019, so we construe the claims in accordance with the federal district court standard, now codified at 37 C.F.R. § 42.100(b).

the parties from arguing their proposed constructions of the claims during trial. Indeed, the parties are hereby given notice that claim construction, in general, is an issue to be addressed at trial. A final determination as to claim construction will be made at the close of the proceeding, after any hearing, based on all the evidence of record. The parties are expected to assert all of their claim construction arguments and evidence in the Petition, Patent Owner's Response, Petitioner's Reply, or otherwise during trial, as permitted by our rules.

II. DISCUSSION

A. Obviousness Based On Lai, Irvine, and Candela-Garrigós

Petitioner challenges claims 6 and 7 of the '259 Patent under 35 U.S.C. § 103 as unpatentable over Lai, Irvine, and Candela-Garrigós. Pet. 39–52. We begin our analysis with an overview of Lai, Irvine, and Candela-Garrigós, and then discuss the Petitioner's contentions for each of the claims. Petitioner relies on the Declaration of Frederick M. Hueston in support of its contentions. *See* Ex. 1004.⁹

1. Overview of Lai

Lai is entitled "Tile Leveling Device." Ex. 1008 [54]. Lai discloses with respect to Figure 1, reproduced below, a tile leveling device with only two parts, namely, a body 2 and a base 1. *Id.* ¶ 16.

⁹ Exhibit 1004 is the Declaration of Frederick M. Hueston, dated February 28, 2019. Petitioner submitted a corrected version of Exhibit 1004 on March 11, 2019, correcting the exhibit number labeled on the exhibit. *See* Paper 4, 2. All citations are to the corrected version.

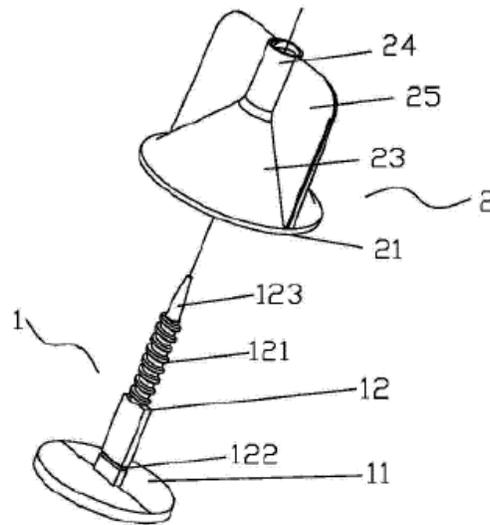


Fig. 1

Figure 1 is an exploded view of a tile leveling device. *Id.* ¶ 18.

The tile leveling device depicted in Figure 1 includes base 1 having bottom plate 11 and a connecting rod 12 arranged on bottom plate 11 and provided with connecting threads 121. *Id.* ¶ 22. The bottom of connecting rod 12 is provided with linear groove breaking point 122 that “is structurally weaker than other parts of the connecting rod 12 so as to allow the connecting rod 12 to be separated from the bottom plate 11” at linear groove breaking point 122. *Id.* ¶ 24. The tile leveling device also includes body 2, a vertically through connecting passageway 22 formed in body 2, and “internal threads 221 for screw engagement with the connecting threads 121 on the connecting rod 12.” *Id.* ¶ 22, Fig. 3. Lai’s body 2 includes tapered cylinder 23 and a round cylinder 24 that is coaxially arranged at the top end of the tapered cylinder 23, an “inner cavity of the round cylinder 24 forms the connecting passageway 22 and is provided with the internal threads 221.” *Id.* ¶ 23, Fig. 3. Lai’s body 2 also includes “two side plates 25 [that] are arranged at two opposing sides of the round cylinder 24 and extend

downwardly to be integrally connected, respectively, with the external side of the tapered cylinder 23 . . . to rapidly tighten the body 2 with the base 1.”
Id. ¶ 25.

2. Overview of Irvine

Irvine is entitled “Tile Leveller and Spacing System,” and “relates to a system for levelling and spacing tiles.” Ex. 1009 [54] ¶ 2. Irvine’s system includes a tile leveller 40, as seen in the relevant portion of Figure 1, reproduced below. *Id.* ¶¶ 50, 52, Fig. 1.

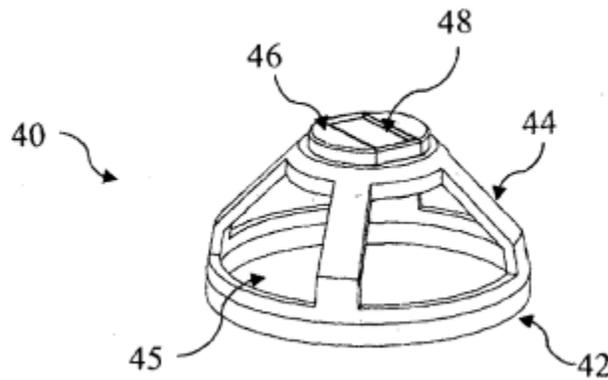


Figure 1 is a (partial) “exploded perspective view of a tile spacer and levelling system” and shows details of a tile leveller 40. *Id.* ¶ 21.

Tile leveller 40 includes tile top surface engagement portion 42 having four vertical struts 44 extending therefrom, which connect to a central portion 46. *Id.* ¶ 53. Struts 44 define viewing apertures 45 so the tile “installer has a clear and largely unobstructed view of the tiles and spacer. *Id.* This allows the installer to visually check that the tiles remain engaged with the tile alignment portion 32 and the tile leveller 40, both before and after the tile leveller has been applied against the tiles.” *Id.*

3. Overview of Candela-Garrigós

Candela-Garrigós is entitled “Coiled Unit,” and relates to a device that is suitable to playing marbles indoors. Ex. 1012 [54] 3:9–10. Candela-Garrigós explains that the game of marbles is difficult to play indoors because a hole must be provided into which the marbles are introduced. *Id.* at 2:13–14. With prior art devices it could not be seen whether the tiles on which the game is played are placed on a slope due to irregularities in the floor underneath and when four tiles are placed together simultaneously, the joints are not visible. *Id.* at 2:24–3:2. Because indoor floors may not be level, the device includes a hollow hemispherical “female (5)” that has window (8), as seen in Figure 1, reproduced below. *Id.* at 3:13–14.

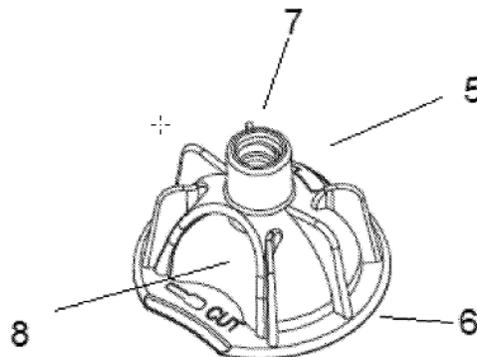


FIG 1

Figure 1 is an “axiometric view of the female [part].” *Id.* at 4:5.

Candela-Garrigós further provides that “the unit can be used for placing tiles in the same manner as detailed in ES 2530622^[10], which is

¹⁰ Mr. Hueston explains that ES 2530622 (Ex. 1026) is a Spanish language translation of the English language patent EP 2549030 B1 to Eluteri (Ex. 1027, “Eluteri”). Ex. 1004 ¶ 139. Eluteri is entitled “A device for correct laying of floor tiles.” Ex. 1027 [54]. Eluteri teaches a unit, just as that of Candela Garrigós, with a base from which a vertical blade protrudes, supporting a threaded stem in the upper position. The cap is a knob provided with a central cylindrical conduit with internal threaded walls,

incorporated herein by reference.” *Id.* at 5:9–10. Window (8) in “female (5)” “makes it possible to observe whether the tiles are correctly aligned among themselves and, better yet, the introduction of a level into the window makes it possible to ensure that the tiles are not on a slope due to irregularities of the floor.” *Id.* at 5:11–14. The device also includes a “male (1)” having threaded shank (2) and base (3), which is supported on the floor, threaded shank (2) extends through a hole (7) in “female (5)” to adjust a height of the “female (5)” with respect to the floor. *Id.* at 4:10–18, Fig. 2.

4. Discussion

The preamble of claim 6 recites “[a] tile lippage removal system.”¹¹ Petitioner contends that Lai discloses the type of tile leveling system claimed in claim 6. *See* Pet. 40. Claim 6 recites “a spacer post includes a base member, a spacer member and a threaded shaft.” Petitioner contends that Lai’s tile leveling device includes a spacer post through Lai’s disclosure of base 1 having a bottom plate 11 (base member), a connecting rod 12 (spacer

adapted to receive the threaded stem portion. Ex. 1027 ¶ 39. The operation of the Eluteri device, which was specifically incorporated by reference into Candela Garrigós, is described at Ex. 1027 ¶¶ 52–60. As described in those paragraphs of Eluteri, the base is placed beneath the tiles and the stem protrudes between the tiles. *Id.* The knob is screwed onto the threaded upper portion of the stem and is rotated until the base of the knob is engaged against the upper surface of the two adjacent tiles. *Id.* Upon further rotation, the two tiles are strictly tightened between the base and the flange, thereby stabilizing the position of the tiles. *Id.* This achieves leveling between the two tiles. *Id.* ¶ 75.

¹¹ Petitioner argues that the claim 6 recitation in the preamble of “tile lippage removal system” is a misnomer because “the purpose of the system is to avoid lippage rather than remove it.” Pet. 1, n. 1. Petitioner thus refers to the system of the ’259 Patent as a “tile leveling system.” *Id.*

member), and connecting threads 121. Pet. 40–41. According to Petitioner, because the bottom of Lai’s connecting rod 12 has a rectangular cross section, that “extend[s] from the gap between two adjacent tiles,” Lai’s “rectangular part of the connecting rod serves as a spacer between the base 11 and the threaded post 121.” Pet. 41 (citing Ex. 1008 ¶ 30; Ex. 1004 ¶ 108). Claim 6 also recites “a bottom of said spacer member extends from a top of said base member, a bottom of said threaded shaft extends from a top of said spacer member.” Petitioner argues Lai discloses this limitation through its disclosure that “the bottom end of the connecting rod 12 is connected integrally to the upper surface of the bottom plate 11,” and because Lai’s Figure 1 shows the bottom of the threaded portion 121 extending from the rectangular portion of the connecting rod. Pet. 41 (citing Ex. 1008 ¶ 29; Ex. 1004 ¶ 111).

Claim 6 further recites “a threaded cap includes a substantially cone shaped portion having an inverted orientation and a hub.” Petitioner argues Lai discloses this limitation because Figure 1 of Lai “shows a body 2 with internal threads 221,” and shows body 2 having “a tapered cylinder (cone-shaped portion) 23” and “a round cylinder (hub) 24.” Pet. 41–42 (citing Ex. 1008 ¶ 23). Petitioner contends that Lai’s tapered cylinder “is in the shape of the surface of a frustum of a right circular cone.” Pet. 41–42 (citing Ex. 1004 ¶ 113).

Claim 6 further recites “said hub extends from a top of said substantial cone shaped portion.” Petitioner argues Figure 1 of Lai teaches this limitation by depicting “cylindrical hub 24 extending from the top of tapered cylinder (cone-shaped portion) 23.” Pet. 42 (citing Ex. 1008 ¶ 23).

Claim 6 further recites “a female thread is formed through a center of said hub . . . said female thread is sized to threadably receive said threaded shaft.” Petitioner contends that this limitation is described in Figure 3 of Lai, “which shows an internal female thread 221 formed through the center of the hub 24,” and is disclosed in paragraph 22 of Lai, which states that “connecting passageway 22 is provided with internal threads 221 for screw engagement with the connecting threads 121 on the connecting rod 12.” Pet. 42–43 (citing Ex. 1008 ¶ 22).

Claim 6 further recites “a plurality of grip portions are formed on a perimeter of said hub.” Petitioner considers that this limitation is met by Lai because Figure 1 of Lai “shows side plates 25 formed on the perimeter of the hub 24,” and because Lai refers to plates 25 as “an operating handle,” and discloses that “a force can be applied onto the two side plates 25 to rapidly tighten the body 2 with the base 1.” Pet. 42 (citing Ex. 1008 ¶ 25). Petitioner submits that Lai’s side plates 25 are consistent with what Patent Owner has identified in its infringement allegations provided with the complaint in the underlying district court litigation. *See id.* at 43–44 (citing Ex. 1004 ¶ 125).

Claim 6 further recites “a plurality of sight openings are formed through said cone shaped portion to form a plurality of ribs, said plurality of ribs are disposed between said plurality of sight openings.” Petitioner explains that Lai does not disclose this limitation (*see* Pet. 42), but that based on the “teachings of the secondary reference (Irvine) and the tertiary reference (Candela-Garrigós) . . . it would have been obvious to a POSITA to modify Lai . . . to place a plurality of sight openings in the substantially

cone shaped portion of Lai, with a plurality of ribs formed therebetween.”
Pet. 44.

Specifically, Petitioner argues that Irvine discloses a substantially cone shaped cap 40 similar to that of Lai that is used to eliminate lippage from tiles. Pet. 45 (citing Ex. 1009, Abstract and Fig. 1). Petitioner asserts that there are “a plurality of openings (45) formed through the surface of the substantially cone shaped cap between the plurality of struts (44) that serve as the claimed plurality of ribs.” Pet. 45 (citing Ex. 1009 ¶ 53). Petitioner contends that Irvine provides motivation for using sight openings on the cap “so the installer has a clear and largely unobstructed view of the tiles and spacer.” Pet. 45 (citing Ex. 1009 ¶ 53). According to Petitioner, “[t]he motivation to provide a clear and unobstructed view of the tiles and their spacing below the cap provides a recognized and predictable benefit in light of what would be a simple addition of the sight openings of Irvine into the solid cone surface of Lai.” Pet. 46 (citing Ex. 1004 ¶ 134). Petitioner asserts that Irvine’s use of a different type of cap tightening mechanism “does not make any difference in the motivation for providing openings in the walls of the cap. The view through the sight openings is the same in either case.” Pet. 47 (citing Ex. 1004 ¶ 136).

Petitioner asserts, moreover, “Candela-Garrigós (Ex. 1010) also teaches the advantage of a sight opening in the wall of the cap in a tile leveling device that has the cap engaging the post of the base with a threaded arrangement.” Pet. 47. Petitioner contends that Candela-Garrigós discloses an opening 8 in cap 5 “to allow the installer to observe whether the tiles therebeneath are properly aligned.” Pet. 49 (citing Ex. 1012, 3:20–22 and 5:10–12). According to Petitioner, “Lai, Irvine and Candela-Garrigós are

specifically pertinent to the particular problem with which the invention was involved because they are all directed to tile leveling systems, and because they are all directed to cap and base-type tile leveling systems.” Pet. 49–50 (citing Ex. 1004 ¶¶ 34–35 and 101–103). Petitioner concludes that because

Candela-Garrigós teaches that the desira[bility] of a way to see the tiles beneath the cap is also present in the cap of a threaded screw-type cap and base levelling system, it would have been obvious to combine the sight openings in the cone shaped portion of the cap of the tile leveling system of Irvine with the cone shaped portion of the cap of the tile leveling system Lai and predictably achieve the same desirable results touted by Irvine.

Pet. 52 (citing Ex. 1004 ¶ 150).

Patent Owner has not yet presented any arguments addressing Petitioner’s obviousness contentions for this claim.

On this record, for purpose of deciding the limited question of whether to institute this *inter partes* review, Petitioner has sufficiently shown that Lai accounts for the preamble (to the extent it is limiting), “a spacer post includes a base member, a spacer member and a threaded shaft,” “a bottom of said spacer member extends from a top of said base member, a bottom of said threaded shaft extends from a top of said spacer member,” “a threaded cap includes a substantially cone shaped portion having an inverted orientation and a hub,” “said hub extends from a top of said substantial cone shaped portion,” and “a female thread is formed through a center of said hub . . . said female thread is sized to threadably receive said threaded shaft.” Ex. 1008 ¶¶ 22, 23, 29, 30, Fig. 1, 3; Ex. 1004 ¶¶ 108, 111, 113. In particular, we note that, although Lai refers to item 23 of Figure 1 as a “tapered cylinder,” Mr. Hueston has reasonably opined that this is cone-shaped. Ex. 1004 ¶ 123. Petitioner has also sufficiently shown that the side

plates 25 of Lai would meet the grip portions limitation, in view of Patent Owner infringement contentions that identify flange structures as meeting the “a plurality of grip portions are formed on a perimeter of said hub limitation” and Mr. Hueston’s testimony. Ex. 1014, 38; Ex. 1004 ¶ 125; Ex. 1008 ¶ 25.

Petitioner has also sufficiently shown that Irvine and Candela-Garrigós would account for the claimed “a plurality of sight openings are formed through said cone shaped portion to form a plurality of ribs, said plurality of ribs are disposed between said plurality of sight openings.” Ex. 1009 ¶ 53, Fig. 1; Ex. 1012, 3:20–22 and 5:10–12. Petitioner has also sufficiently shown that Lai and Irvine are in the same field of endeavor as the claimed invention. *See* Ex. 1008, [54] (“Tile leveling device”); Ex. 1009 ¶ 2 (“The present invention relates to tiling. In a particular form the present invention relates to a system for levelling and spacing tiles.”). Petitioner has also shown sufficiently that Candela-Garrigós is analogous art to the claimed invention. In particular, we note that Candela-Garrigós specifically states that it can be used for “placing tiles,” and incorporates by reference Eluteri (Ex. 1027), which, as explained above, describes a device for the correct laying of floor tiles. Ex. 1027 ¶ 1; *see supra* at 12 n.9. Finally, Petitioner has shown an adequate motivation to combine Irvine and Candela-Garrigós with Lai. Specifically, Petitioner has identified specific teachings in both Irvine and Candela-Garrigós that teach the benefits of adding sight openings to floor leveling devices such as Lai. *See* Ex. 1009 ¶ 53 (explaining Struts 44 define viewing apertures 45 so the tile “installer has a clear and largely unobstructed view of the tiles and spacer. This allows the installer to visually check that the tiles remain engaged with the tile alignment portion 32 and

the tile leveller 40, both before and after the tile leveller has been applied against the tiles.”); Ex. 1012, at 5:11–14 (Window (8) in “female (5)” “makes it possible to observe whether the tiles are correctly aligned among themselves and, better yet, the introduction of a level into the window makes it possible to ensure that the tiles are not on a slope due to irregularities of the floor.”). We note that Mr. Hueston has reasonably opined that a person of ordinary skill in the art would have been motivated to incorporate the viewing windows of Irvine and Candela-Garrigós with reasonable expectation of success. Ex. 1004 ¶¶ 127–150. Patent Owner has not yet presented any evidence of objective indicia of non-obviousness, which we would consider in determining whether the claims are obvious.

Accordingly, at this stage of the proceeding, we determine Petitioner has demonstrated a reasonable likelihood that claim 6 would have been obvious over Lai, Irvine, and Candela-Garrigós.

Petitioner also contends that claim 7 would have been obvious over Lai, Irvine, and Candela-Garrigós. *See* Pet. 43. In particular, Petitioner notes that Lai discloses that “connecting rod 12 is provided with a breaking point (i.e., the linear grooves 122), the strength of this position is the weakest, so that the connecting rod 12, together with the body 2 in threaded connection therewith, will be separated from the bottom plate 11 at this position.” *Id.* (citing Ex. 1008 ¶ 31). We note that Patent Owner has not yet presented any arguments addressing the limitations of this claim. As we explained above, Petitioner has sufficiently accounted for the limitations of independent claim 6, and has sufficiently shown a motivation to combine the references with a reasonable expectation of success. Based on the evidence noted above, Petitioner has also sufficiently shown that Lai accounts for the

additional limitations of claim 7. Ex. 1008 ¶ 31. Accordingly, we determine that the Petition provides the requisite showing, at this stage, that claim 7 would have been obvious over Lai, Irvine, and Candela-Garrigós.

5. *Summary*

We determine, based on the current record, that the Petition shows a reasonable likelihood that Petitioner would prevail with respect to the contention that claims 6 and 7 would have been obvious over Lai, Irvine, and Candela-Garrigós.

B. Obviousness Based on Lai and Sarajian

Petitioner challenges claims 6 and 7 of the '259 Patent under 35 U.S.C. § 103 as unpatentable over Lai and Sarajian. Pet. 53–58. As Lai is discussed above in section II.A.1, we begin with an overview of Sarajian. We then turn to Petitioner's contentions for the claims.

1. Overview of Sarajian

Sarajian is entitled "Floor Leveling Device," and relates to "devices for leveling floor tiles." Ex. 1013, [54], ¶ 1. Sarajian's floor leveling device 20 includes a base 24 and a cap 28, which are depicted in an assembled condition in Figure 2, reproduced below. *Id.* ¶ 18.

with an internal female thread that receives and engages the threaded portion of a stem, and that “also includes a plurality of apertures 100 that are circumferentially spaced around the body 92 of the cap 28.” Pet. 54–55 (citing Ex. 1013 ¶ 27). Petitioner asserts that the part of the substantially cone shaped portion of Sarajian that is between apertures 100 are ribs. Pet. 55 (citing Ex. 1004 ¶ 182). According to Petitioner, because Sarajian uses sight openings “to allow the installer to see areas beneath the cap, such as, for example, to see whether grout is squeezing out between the tiles underneath the cap,” inserting the sight openings into the cap of Lai yields the predictable results of allowing the installer to see beneath the cap in the tile leveling system of Lai. Pet. 56–57 (citing Ex. 1004 ¶¶ 183–184). Petitioner concludes that because “Sarajian provides an explicit and clear motivation . . . it would have been obvious under AIA 35 U.S.C. §103 as of the effective filing date to include the openings of Sarajian in the substantially cone-shaped wall of the cap of Lai.” Pet. 58 (citing Ex. 1004 ¶ 189).

Patent Owner has not yet presented any arguments addressing Petitioner’s obviousness contentions for this claim.

As we explained above, Petitioner has shown sufficiently for purposes of instituting this *inter partes* review that Lai accounts for all the limitations of claim 6 except for the sight openings. *See supra* at 17–18. Petitioner has also sufficiently shown that Sarajian would account for the claimed sight openings. Ex. 1013 ¶¶ 25–27, Fig. 2. Additionally, Petitioner has sufficiently shown that Lai and Sarajian are in the same field of endeavor as the claimed invention. *See* Ex. 1008, [54] (“Tile leveling device”); Ex. 1013 [54], Abstract (“A floor leveling device for leveling tiles includes a base

having a plate and a stem.”). Petitioner has identified specific teachings in Sarajian that teach the benefits of adding sight openings to floor leveling devices such as Lai. *See* Ex. 1013 ¶ 27 (explaining apertures 100 “allow a user to view portions of the tiles beneath the cap 28 to see, for example, if grout is squeezing out between the tiles underneath the cap 28”). We also note that Mr. Hueston has reasonably opined that a person of ordinary skill in the art would have been motivated to incorporate the viewing windows of Irvine and Candela-Garrigós with reasonable expectation of success.

Ex. 1004 ¶¶ 183–189. For this reason, at this stage, Petitioner has shown a sufficient motivation to combine Lai and Sarajian. Patent Owner has not yet presented any evidence of objective indicia of non-obviousness, which we would consider in making a decision on obviousness. Accordingly, we determine Petitioner has demonstrated a reasonable likelihood that claim 6 would have been obvious over Lai and Sarajian.

Petitioner also contends that claim 7 would have been obvious over Lai and Sarajian. Pet. 53. We note that Patent Owner has not yet presented any arguments addressing the limitations of this claim. Petitioner relies on the same teachings for claim 7 for this combination that we found sufficient above. *See supra* at 19–20. Accordingly, we determine that the Petition provides the requisite showing, at this stage, that claim 7 would have been obvious over Lai and Sarajian.

3. Summary

We determine, based on the current record, that the Petition shows a reasonable likelihood that Petitioner would prevail with respect to the contention that claims 6 and 7 would have been obvious over Lai and Sarajian.

C. Obviousness Based On Irvine, Lai, and Sarajian

Petitioner challenges claims 6 and 7 of the '259 Patent under 35 U.S.C. § 103 as unpatentable over Irvine, Lai, and Sarajian. Pet. 58–71. Lai is discussed above in section II.A.1 and Sarajian is discussed above in section II.B.1. Although Irvine is discussed above in section II.A.2, we expand upon the above overview of Irvine because for this ground, Petitioner relies on Irvine as disclosing more than was discussed above. We then turn to Petitioner's contentions for the claims.

1. Expanded Overview of Irvine

As discussed above, Irvine's system for levelling and spacing tiles includes tile spacer 10 and tile leveller 40, as seen in Figure 1, reproduced below. Ex. 1009 ¶¶ 50, 52, Fig. 1.

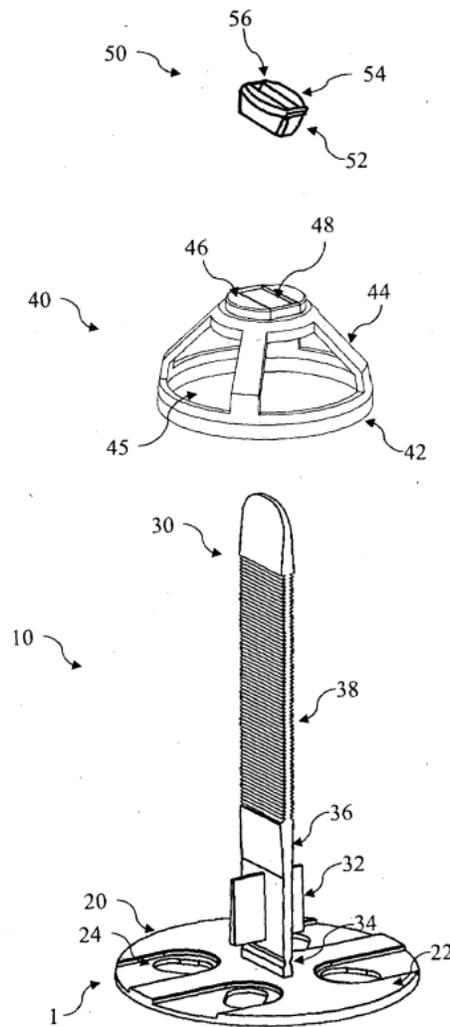


Figure 1

Figure 1 is an exploded perspective view of tile spacer 10 and levelling system 1. *Id.* ¶ 21.

Spacer 10 includes base 20 and stem 30. *Id.* ¶ 50. Stem 30 projects upward from base 20, and includes tile alignment portion 32 that is dimensioned to “ensure that when the tiles are engaged with the portion they will be correctly spaced with respect to each other.” *Id.* ¶ 52. Spacer 10 also includes frangible (i.e., breakable) portion 34 between base 20 and tile alignment portion 32. *Id.* A lower portion 36 of stem 30 extends upward from tile alignment portion 32. *Id.*

Tile leveller 40 has a cone shape that is formed by four vertical struts 44 that extend between tile top surface engagement portion 42 and central portion 46. *Id.* ¶ 53. Central portion 46 has aperture 48 through which stem 30 extends. *Id.* Struts 44 define viewing apertures 45 so the tile “installer has a clear and largely unobstructed view of the tiles and spacer. This allows the installer to visually check that the tiles remain engaged with the tile alignment portion 32 and the tile leveller 40, both before and after the tile leveller has been applied against the tiles.” *Id.* Struts 44 are disposed between the plurality of apertures 45. *Id.*

To connect stem 30 of spacer 10 with leveler 40, and to apply clamping forces to level the tiles, Irvine uses a ratchet mechanism. *Id.* ¶ 57. Specifically, stem 30 includes a plurality of teeth 38 that are arranged above tile alignment portion 32. *Id.* ¶ 58. Teeth 38 of stem 30 engage teeth of a second member 50 that is designed to be received in aperture 48 of tile leveller 40 with an interference fit. *Id.* ¶ 54. The teeth of second member 50 are part of stem engaging portion 57 that also includes aperture 56 for receiving stem 30. *Id.*

2. Discussion

Petitioner contends that “Irvine discloses all of the claimed elements except for Irvine does not disclose the shaft of the stem being threaded and engaging with an internal female thread of a hub on the cap and having grip portions on the hub of the cap.” Pet. 64. Specifically, Petitioner argues that Irvine’s struts 44 form a substantially cone shaped cap in the shape of the surface of a frustum of a right circular cone and that hub 46 is a “portion of the cap that begins where the substantially cone shaped portion ends.” Pet. 64 (citing Ex. 1004 ¶¶ 215–216). Petitioner asserts that Irvine’s “struts

44 are ‘a plurality of ribs.’” Pet. 64 (citing Ex. 1004 ¶ 217). According to Petitioner, Irvine’s ratchet member for tightening the cap onto the tiles to level the tiles performs the identical function as Lai’s screw-thread arrangement. Pet. 66 (citing Ex. 1004 ¶ 224). Petitioner asserts, moreover, that the equivalence between Irvine’s toothed stem-ratchet hub system and Lai’s threaded stem and hub system is further established by Sarajian, which states, “[i]n some embodiments, the threaded portion 76 may be replaced with a toothed portion that engages the cap 28 via a ratchet-type mechanism.” Pet. 67 (citing Ex 1013 ¶ 21; Ex. 1004 ¶ 229).

Petitioner contends that because Lai uses side plates 25 “to rapidly tighten the body 2 with the base” (Ex. 1008 ¶ 25), it would have been obvious to use Lai’s side plates 25 when substituting a threaded mechanism for Irvine’s ratchet mechanism as “the function of such side plates is only relevant to threaded screw cap and base mechanisms and would be considered part of such mechanism of Lai that is being substituted for the toothed stem-ratchet mechanism of Irvine.” Pet. 68 (citing Ex. 1004 ¶ 231). Petitioner asserts that a person of ordinary skill in the art would have substituted a threaded cap for a ratchet cap because a threaded cap is easier to use in that it does not need an additional tool that is often used with a ratchet cap. Pet. 69–70 (citing Ex. 1004 ¶¶ 235–236). Petitioner concludes,

Substituting the threaded mechanism of Lai for the teeth and ratchet mechanism of Irvine, and including the side plates of Lai for their intended function to improve the manual manipulation of the threaded mechanism in the hub, would have been within the skill of a POSITA at the time the invention was made because such an improvement was no more than the predictable use of the prior art screw threaded cap and base mechanism according to its established functions as of the date of the ’259 Patent.

Pet. 70 (citing Ex. 1004 ¶ 238; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007)).

Patent Owner has not yet presented any arguments addressing Petitioner's obviousness contentions for this claim.

On this record, for purposes of deciding the limited question of whether to institute this *inter partes* review, Petitioner has shown sufficiently that Irvine accounts for the preamble (to the extent it is limiting), “a spacer post includes a base member, a spacer member,” “a bottom of said spacer member extends from a top of said base member,” and “said hub extends from a top of said substantial cone shaped portion,” Ex. 1009, 1:1, ¶¶ 50:2–5, 52:1–3, 53:1, 57, 58, ; Ex. 1004 ¶¶ 196, 205, 209–212. In particular, we note Mr. Hueston's opinion is reasonable that the substantially cone shaped portion formed by the struts 44 is in the shape of the surface of a frustum of a right circular cone and that Irvine's “central portion 26” is the claimed “hub.” Ex. 1004 ¶¶ 215–217. Further, Petitioner has shown sufficiently that Irvine accounts for the claimed “a plurality of sight openings are formed through said cone shaped portion to form a plurality of ribs, said plurality of ribs are disposed between said plurality of sight openings.” Ex. 1009 ¶ 53, Fig. 1.

Additionally, Petitioner has sufficiently shown that the combination of Irvine, Lai, and Sarajian accounts for the claimed “threaded shaft.” “a threaded cap includes a substantially cone shaped portion having an inverted orientation and a hub,” “a bottom of said threaded shaft extends from a top of said spacer member,” and “a female thread is formed through a center of said hub . . . said female thread is sized to threadably receive said threaded shaft.” Ex. 1009 ¶¶ 52, 53, 57, 58, Fig. 2; Ex. 1008 ¶¶ 13, 22, 30, Fig. 1;

Ex. 1013 ¶ 21; Ex. 1004 ¶¶ 219–230. Petitioner has also sufficiently shown that the side plates 25 of Lai would meet the grip portions limitation in view of Patent Owner’s infringement contentions that identify flange structures as meeting the grip portions limitation, and Mr. Hueston’s reasonable testimony. Ex. 1008 ¶ 25; Ex. 1014, 38; Ex. 1004 ¶ 125.

Petitioner has also sufficiently shown that Irvine, Lai, and Sarajian are in the same field of endeavor as the claimed invention. *See* Ex. 1008, [54] (“Tile leveling device”); Ex. 1009 ¶ 2 (“The present invention relates to tiling. In a particular form the present invention relates to a system for levelling and spacing tiles.”); Ex. 1013 [54], Abstract (“A floor leveling device for leveling tiles includes a base having a plate and a stem.”). Finally, Petitioner has shown an adequate motivation to combine Irvine, Lai, and Sarajian. Specifically, Petitioner has identified specific teachings in Sarajian that teaches that it would have been obvious at the filing date to substitute the threaded member of Lai for the ratchet mechanism of Irvine. *See* Ex. 1013 ¶ 21 (“In some embodiments, the threaded portion 76 may be replaced with a toothed portion that engages the cap 28 via a ratchet-type mechanism.”); Ex. 1004 ¶ 229. Additionally, Mr. Hueston reasonably opined that it would have been a simple substitution for a person of ordinary skill in the art to replace the ratchet mechanism of Irvine for the threaded member of Lai. *See* Ex. 1004 ¶¶ 223–230. Petitioner also presents sufficient evidence that a person of ordinary skill would have been motivated to incorporate Lai’s side plates 25 to facilitate rotation of the hub. Ex. 1004 ¶¶ 231, 232. Patent Owner has not yet presented any evidence of objective indicia of non-obviousness, which we would consider in determining whether the claims are obvious. Accordingly, we determine

Petitioner has demonstrated a reasonable likelihood that claim 6 would have been obvious over Irvine, Lai, and Sarajian.

Petitioner also contends that claim 7 would have been obvious over Irvine, Lai, and Sarajian. Pet. 64. In particular, Petitioner relies on Irvine's disclosure in Figure 1 showing a breakable portion 34, and Irvine's statement that "[a] frangible (ie breakable) portion 34 is located between the base 20 and the tile alignment portion 32." Ex. 1009 ¶ 52:6-7. We note that Patent Owner has not yet presented any arguments addressing the limitations of this claim. Petitioner has sufficiently accounted for this additional limitation. *See* Ex. 1009 ¶ 52:6-7, Fig. 1. Accordingly, we determine that the Petition provides the requisite showing, at this stage, that claim 7 would have been obvious over Irvine, Lai and Sarajian.

3. Summary

We determine, based on the current record, that the Petition shows a reasonable likelihood that Petitioner would prevail with respect to the contention that claims 6 and 7 of the '259 Patent would have been obvious over Irvine, Lai, and Sarajian.

III. CONCLUSION

For the foregoing reasons, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it will succeed in showing claims 6 and 7 are unpatentable under all the grounds asserted in the Petition. Accordingly, we institute an *inter partes* review of all challenged claims under the grounds set forth in the Petition.

Our determination at this stage of the proceeding is based on the evidentiary record currently before us. This decision to institute trial is not a

final decision as to patentability of any claim for which *inter partes* review has been instituted. Our final decision will be based on the full record developed during trial.

IV. ORDER

For the reasons given, it is:

ORDERED that an *inter partes* review is instituted on all challenged claims of the '259 Patent under all asserted grounds; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '259 Patent is hereby instituted commencing on the entry date of this Decision, and 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.

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