

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIRAC, INC.,
Petitioner,

v.

ECOFASTEN SOLAR, LLC,
Patent Owner.

IPR2021-00733
Patent 10,676,929 B2

Before SCOTT B. HOWARD, SEAN P. O'HANLON, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

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

INTRODUCTION

A. Background and Summary

Unirac, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–3, 5, and 7–14 of U.S. Patent No. 10,676,929 B2 (Ex. 1001, “the ’929 patent”). Paper 2 (“Pet.”). EcoFasten Solar, LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). *Inter partes* review may not be instituted unless “the information presented in the petition filed under section 311 and any response filed under section 313 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.” 35 U.S.C. § 314(a) (2018). “When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” PTAB Rules of Practice for Instituting on All Challenged Patent Claims and All Grounds and Eliminating the Presumption at Institution Favoring Petitioner as to Testimonial Evidence, 85 Fed. Reg. 79,120, 79,129 (Dec. 9, 2020) (to be codified at 37 C.F.R. § 42.108(a)).

B. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 89.

Patent Owner identifies itself as the real party in interest. Paper 5, 1.

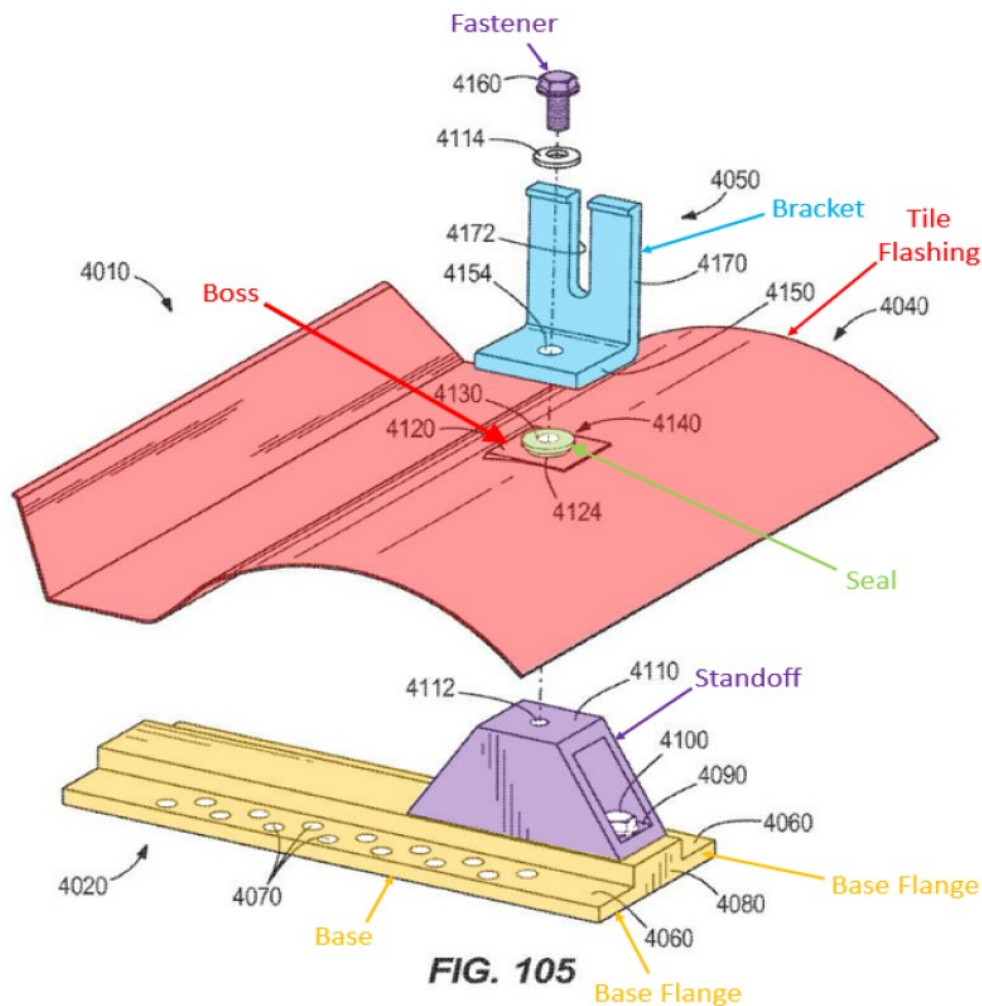
C. Related Matters

The parties identify the following pending district court proceeding in which the ’929 patent is asserted: *EcoFasten Solar, LLC v. Unirac, Inc.*, No. 1:20-CV-01008 (D.N.M.). Pet. 89–90; Paper 5, 1. The parties also identify the following pending patent application which claims the benefit of

the application that issued as the '929 patent: 16/863,997. Pet. 90; Paper 5, 1.

D. The '929 Patent

The '929 patent is entitled “Roof Mounting System” and is directed “to mounting assemblies for supporting solar panels and other structures on roof tops.” Ex. 1001, code (54), 3:8–9. Figure 105, colorized and annotated by Petitioner, is reproduced below.



Pet. 3. Figure 105 is an exploded view of a tile mount assembly 4010 which can be coupled to the upper surface of a roof. Ex. 1001, 7:30–31, 43:36–39. “The tile mount 4010 includes a base 4020 [(yellow)], a block or standoff 4030 [(purple)], a flashing 4040 [(red)], and a bracket 4050 [(blue)].” *Id.* at

43:39–41. “[F]lashing 4040 includes [(1)] an embossed portion or boss 4120” with a hole 4130 and (2) “a grommet or seal 4140 [(green)] . . . positioned within the hole 4130.” *Id.* at 44:4–10. “In general, the flashing 4040 is formed in a shape that corresponds to the shape of the other tiles supported on the roof so that that flashing 4040 will mate with the other tiles and blend in with the other tiles by mimicking their appearance.” *Id.* at 44:45–49. “The flashing 4040 is formed to replace an existing tile on a roof and interlock with the adjacent tiles. . . .” *Id.* at 44:49–52.

Figure 117, colored and annotated by Petitioner, is reproduced below.

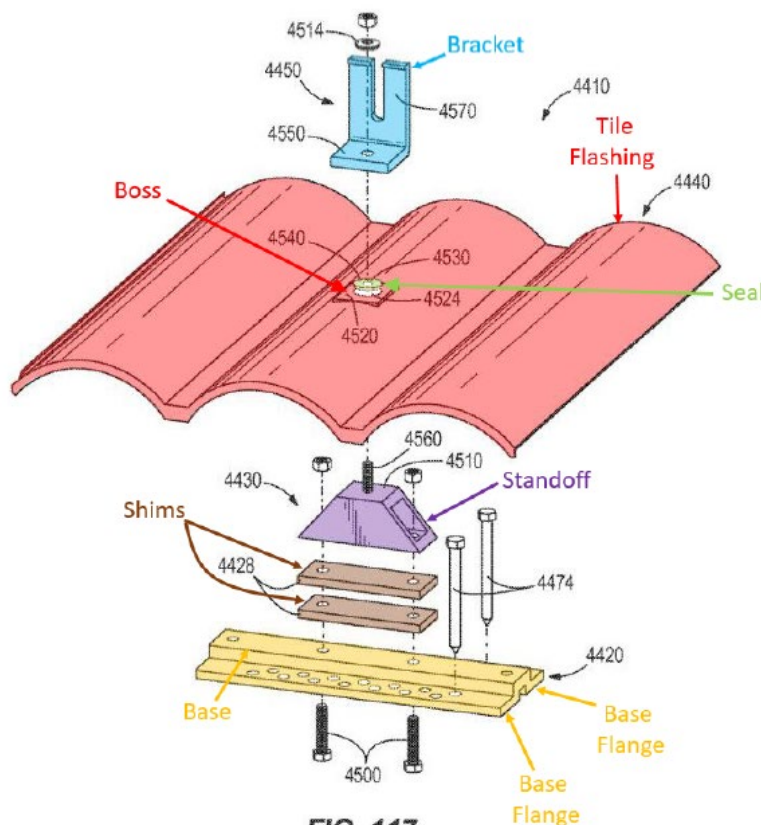


FIG. 117

Pet. 6. Figure 117 is an exploded view of a tile mount assembly. Ex. 1001, 7:58–59. “The components of this embodiment are substantially similar to the components of the tile mount 4010 [shown above in Figure 105], and are

indicated with similar reference numbers, plus 400.” *Id.* at 45:8–11. This embodiment also includes “shims 4428 [(brown)] . . . positioned between the standoff 4430 and the base 4420. The shims 4428 provide an additional height adjustment to position the flashing 4440 at the desired elevation above the roof 4012 with respect to adjacent tiles.” *Id.* at 45:17–21.

E. Illustrative Claims

Claims 1 and 10 are independent claims, are illustrative of the challenged claims, and are reproduced below.

1. A mount assembly, comprising:

a base comprising a pair of flanges extending longitudinally along the base, and a central portion between the pair of flanges;

a standoff positionable on the central portion of the base, the standoff secured to the base with a fastener, wherein a height of the standoff is adjustable;

a tile flashing above the base and the standoff, the tile flashing including a first aperture;

a bracket having a second aperture, wherein the bracket is installable on the tile flashing and is supported by the standoff; and

a preformed rubber seal having a first end portion, a second end portion and a middle portion, the preformed rubber seal defining a third aperture through the first end portion, the second end portion and the middle portion,

wherein the first aperture, the second aperture and the third aperture are concentrically aligned.

Ex. 1001, 47:51–48:2.

10. A tile mount assembly, comprising:

a base comprising a pair of flanges including a first flange and a second flange that extend longitudinally along the base,

and a base central portion between the first flange and the second flange,

a standoff comprising a top surface, the standoff is coupled to and supported by the base central portion;

a tile flashing comprising an embossed portion installable on the base and the standoff, the tile flashing defining a first aperture wherein the top surface of the standoff aligns with the embossed portion of the tile flashing;

a bracket having a second aperture, wherein the bracket is installable on the embossed portion of the tile flashing and is supported by the standoff; and

a rubber seal comprising a first end portion having a first diameter, a second end portion having a second diameter, and a seal central portion having a third diameter between the first end portion and the second end portion, the rubber seal defining a third aperture through the first end portion the seal central portion, and the second end portion,

wherein the third diameter is less than the first and second diameters forming a notch between the first end portion and the second end portion, and

wherein the first aperture, the second aperture and the third aperture are concentrically aligned in the tile mount assembly.

Ex. 1001, 48:23–49.

F. Prior Art and Asserted Grounds

Petitioner asserts that claims 1–3, 5, and 7–14 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1–3, 7–14	103	McPheeters, ² Plaisted, ³ Thaler ⁴
5	103	McPheeters, Plaisted, Thaler, Glicksman ⁵

Petitioner also relies on the declaration testimony of Philip D. Dregger (Ex. 1003). Patent Owner relies on the declaration testimony of Barry Cinnamon (Ex. 2001) and Bart Leusink (Ex. 2004).

ANALYSIS

A. Legal Standards

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under 35 U.S.C. § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) if in evidence, “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. The application for the ’929 patent was filed on December 10, 2018. Although the ’929 patent claims priority to applications filed before March 16, 2013, Patent Owner has not shown that the written description of the earlier applications supports the challenged claims. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378–79 (Fed. Cir. 2015). Accordingly, we apply the AIA version of the statute.

² US 8,250,819 B2, issued Aug. 28, 2012 (Ex. 1006).

³ US 7,857,269 B2, issued Dec. 28, 2010 (Ex. 1009).

⁴ US 6,185,885 B1, issued Feb. 13, 2001 (Ex. 1007).

⁵ US 3,168,321, issued Feb. 2, 1965 (Ex. 1008).

any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the U.S. Court of Appeals for the Federal Circuit has repeatedly emphasized that “it is error to reach a conclusion of obviousness until all those factors are considered,” *WBIP v. Kohler*, 829 F.3d 1317, 1328 (Fed. Cir. 2016).

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The “person having ordinary skill in the art” is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–697 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.*

Petitioner argues that a person having ordinary skill in the art would have had “a Bachelor of Science degree in a relevant engineering discipline,

such as mechanical, structural, civil, or industrial engineering, and a couple of years of experience.” Pet. 13; *see also* Ex. 1003 ¶¶ 21–23. Petitioner argues in the alternative that instead of an engineering degree, the person having ordinary skill in the art “would have at least several years of experience designing, investigating, repairing, or installing roof mounting systems or roof assembly systems.” Pet. 13; *see also* Ex. 1003 ¶¶ 21–23. Petitioner also argues that “[h]igher levels of education may substitute for less experience, and more experience may substitute for the specified level of education.” Pet. 13; *see also* Ex. 1003 ¶¶ 21–23.

Patent Owner “does not challenge” Petitioner’s proposed level of ordinary skill. Prelim. Resp. 6.

Accordingly, for purposes of this Decision, we adopt Petitioner’s proposed formulation of the level of ordinary skill in the art, except that we delete the qualifier “at least” to eliminate vagueness as to the amount of practical experience. The qualifier expands the range indefinitely without an upper bound, and thus, precludes a meaningful indication of the level of ordinary skill in the art.

C. Claim Construction

We apply the same claim construction standard used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2020). Under the *Phillips* standard, the “words of a claim ‘are generally given their ordinary and customary meaning,’” which 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, i.e., as of the

effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

Petitioner proposes a construction for the term “tile flashing.” *See* Pet. 12–13.

Patent Owner does not provide any proposed claim constructions. *See* Prelim. Resp.

1. Tile Flashing

Petitioner argues that, based on the portion of the specification describing Figures 104–128, a person having ordinary skill in the art would have understood the term to include “a flashing that mimics the shape of a tile and is integrated with adjacent tiles.” Pet. 13 (citing Ex. 1001, 44:45–52; Ex. 1003 ¶¶ 50–52).

We agree with the first part of Petitioner’s proposed construction: “a flashing that mimics the shape of a tile.” That language is supported by the specification of the ’929 patent, which describes the flashing used in Figures 104–128 as follows:

In general, the flashing 4040 is *formed in a shape that corresponds to the shape of the other tile supported on the roof so that that flashing 4040 will mate with the other tiles and blend in with the other tiles by mimicking their appearance*. The flashing 4040 is formed to replace an existing tile on a roof and interlock with the adjacent tiles (e.g., by grooves 4242 and/or tabs 4244).

Ex. 1001:44:45–52 (emphases added). As the emphasized language makes clear, flashing 4040—that is the tile flashing—will mimic the shape of the tiles.

However, we disagree with the second portion of Petitioner’s proposed construction—“integrated with adjacent tiles.” The “integrated with adjacent tiles” portion of the proposed construction would require the

tile flashing to be located on a roof with tiles. However, both independent claims 1 and 10 are directed to a mount assembly and the claims do not recite any requirement that the mount assembly be connected with a roof, let alone a roof with tiles. *See* Ex. 1001, 47:51–48:2, 48:23–49. In fact, the claims simply recite the individual elements of the assembly and how they are to be assembled without requiring them to be assembled. *See id.* (reciting elements are positionable and installable, not positioned and installed). Because the ordinary meaning of the claims does not require an assembled mount assembly placed on a roof, we will not read such a limitation into the claims.

Accordingly, based on the current record, we conclude that the term “tile flashing” means “a flashing that mimics the shape of a tile.”

2. *Remaining Terms*

For purposes of this Decision, we need not construe expressly any other claim terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we 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))).

D. *Asserted Obviousness in View of McPheeters, Plaisted, and Thales*

Petitioner argues that claims 1–3 and 7–14 would have been obvious over McPheeters, Plaisted, and Thales. *See* Pet. 41–75. Based on the current record, we are not sufficiently persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to any of claims 1–3 and 7–14.

1. *McPheeters*

McPheeters is entitled “Module Attachment Apparatus” and is directed “to securing a solar module or other component to a surface.”

Ex. 1005, code (57), 1:19–20. McPheeters Figure 3a is reproduced below.

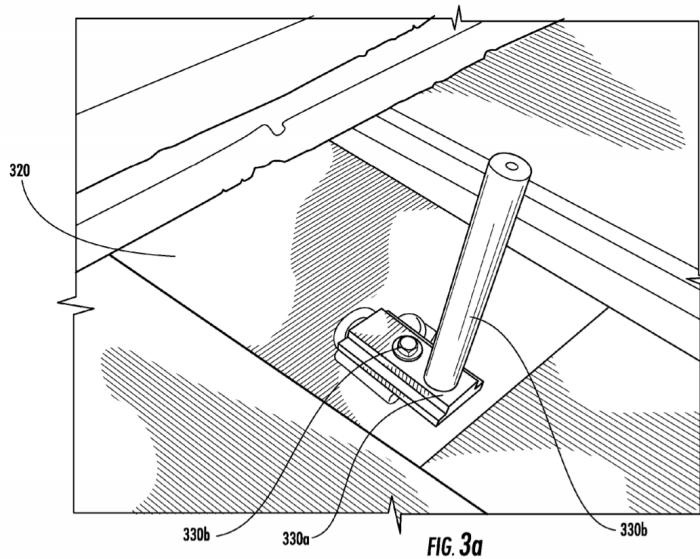


Figure 3a “shows a perspective view of a base according to an exemplary embodiment.” Ex. 1006, 3:60–61. “In this exemplary embodiment, a base 330a is secured to a roof 320 by a bolt 330 . . . extending from the base 330a [and] away from the roof 320.” *Id.* at 7:38–41.

McPheeters Figure 3b is reproduced below:

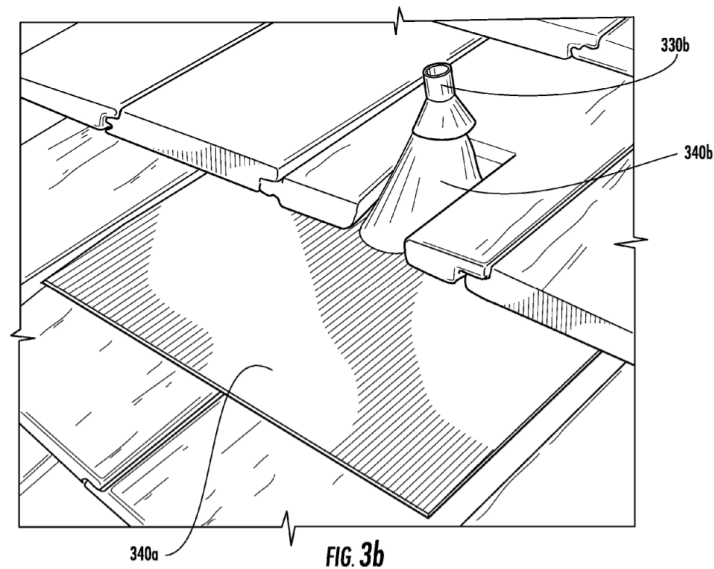


Figure 3b “shows a perspective view of a flashing according to an exemplary embodiment.” Ex. 1006, 3:62–63. More specifically, Figure 3b depicts “flashing 340 . . . installed over the base 330a and substantially over the post 330b.” *Id.* at 7:41–43. “The flashing has a substantially flat rectangular component 340a and a post flashing component 340b that substantially covers the base 330a and the post 330b. The post flashing component 340b can be substantially cone-shaped.” *Id.* at 7:43–47.

McPheeters Figure 3c is reproduced below.

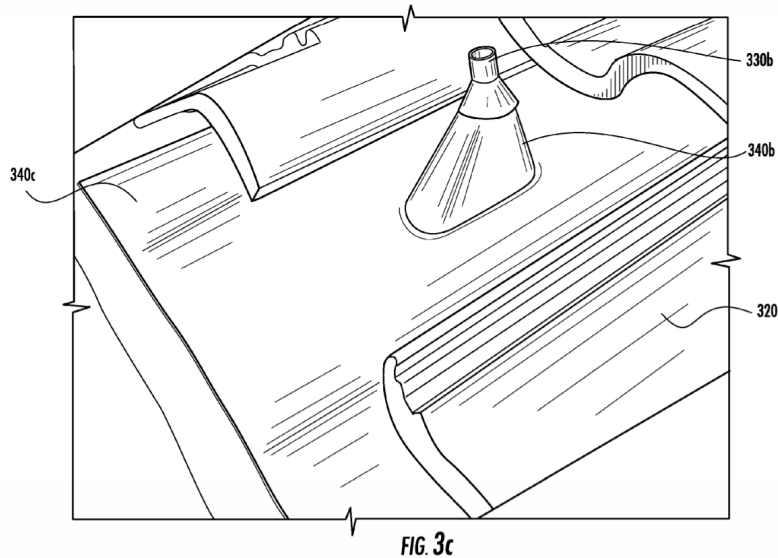


Figure 3c “shows a perspective view of a flashing according to an alternative exemplary embodiment.” Ex. 1006, 3:64–65. In this modification to the embodiment shown in Figure 3b above, substantially flat rectangular component 340a is replaced by rectangular component 340c which “can mimic the undulating shape of the roof 320 to allow for better protection of the base 330a.” 8:45–50. *Id.* After the flashing has been installed, a clamp can be placed over the exposed portion of the post. *See id.* at Fig. 3d.

McPheeters Figure 5d is reproduced below.

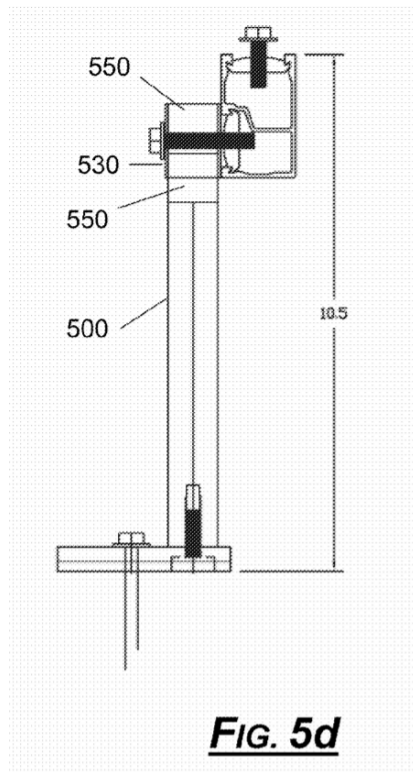


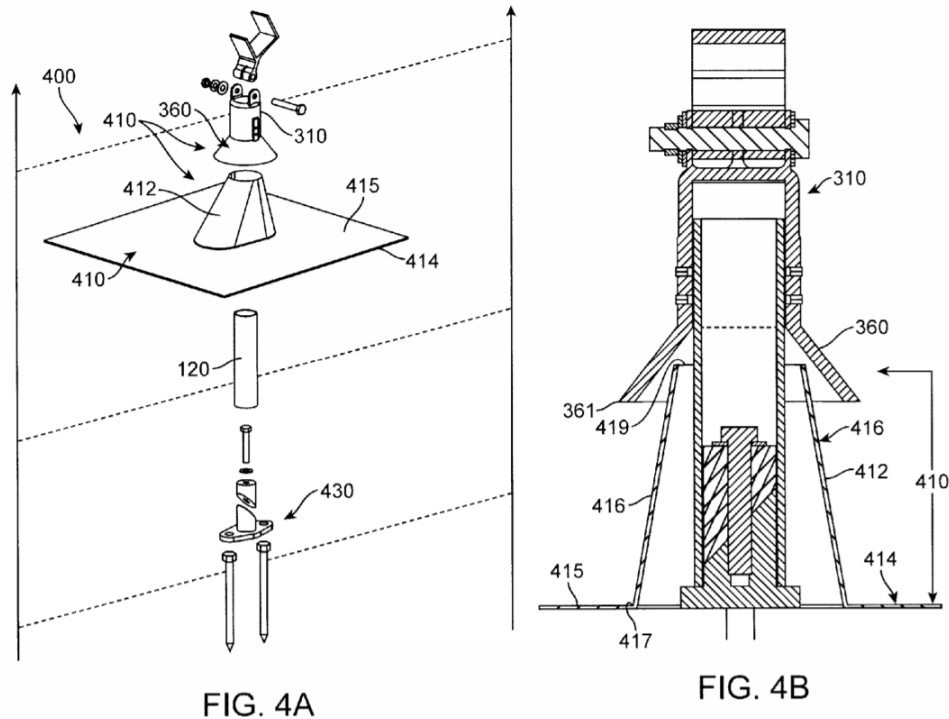
FIG. 5d

Figure 5d “shows a cross sectional view of a clamp assembly according to an exemplary embodiment.” Ex. 1006, 4:15–16. Figure 5d depicts “a post 500 . . . secured to a standoff base 510 using a bolt 520” and a clamp 520 securing a rail 540 to the post 500. *Id.* at 8:40–42. Figure 5d further shows two spacers 550 which provides height adjustment. *See id.* at 8:42–46, 8:49–57. Use of the post 500 alone, with one spacer 550, or two spacers 550 allow the clamp to be adjusted from a height of about 7.5 inches to about 10.5 inches. *Id.* at 8:55–60, Figs. 5a–5d.

2. Plaisted

Plaisted is entitled “Mounting Assembly for Arrays and Other Surface-Mounted Equipment” and is directed to a “mounting system . . . for supporting equipment such as solar module arrays on a rooftop or other underlying surface.” Ex. 1009, codes (54), (57).

Plaided Figures 4A and 4B are reproduced below.



Figures 4A “is a mounting assembly shown with multiple water proofing features” and Figure 4B “is a side cross-sectional view of FIG. 4A, cut along lines B-B.” Ex. 1009, 1:46–49.

Plaisted describes two waterproofing features. Ex. 1009, 6:1–49. One waterproofing feature is skirt 360. *Id.* at 6:15–16. The shape of the skirt is used to direct water outward to avoid the assembly: “[S]kirt 360 may correspond to a structure that has a cross-section 361 of maximum dimension and taper to a cross-section 363 of minimum dimension at a height above. With this geometry, rainwater or other moisture may be directed outward while falling downward to the mounting assembly and underlying surface.” *Id.* at 6:7–12. “[S]kirt 360 may be integrally or unitarily formed or attached onto the upper connector 310.” *Id.* at 6:6–7.

The second waterproofing feature is flashing sub-assembly 410. *See* Ex. 1009, 6:19–27. “[T]he flashing sub-assembly 410 includes a conically shaped flashing member 412 that is unitarily or otherwise integrated with a platform 414. The platform 414 may be planar and thin in dimension to form a suitable flashing surface.” *Id.* at 6:21–25.

Skirt 360 and flashing sub-assembly 410 work together to provide waterproofing:

In combination, skirt 360 diverts rainwater from coming into contact with the pipe 120. An embodiment recognizes that the pipe 120 is a most likely place for water leakage onto the underlying body, and reduction of water that falls into this area when the mounting assembly is assembled further reduces the possibility of leakage. In this manner, *the skirt 360 provides a weatherproofed counter-flashing over the flashing member 412*, which may be integrated with a rooftop or other surface through platform 414 to seal the pipe 120 and foot 430 against water intrusion.

Ex. 1009, 6:28–37 (emphasis added).

As shown in Figure 4B, “the flashing sub-assembly 410 includes the extension 412 that extends conically from the platform 414 to taper into top section 419.” Ex. 1009, 6:39–41. “The skirt 360 extends outward over the top section 419.” *Id.* at 6:41–42. As described in Plaisted, skirt 360 is separate from and not a part of flashing sub-assembly 410. *See id.* at 6:1–49, Figs. 4A, 4B.

3. *Thaler*

Thaler is entitled “Roof Flashing Assembly” and is directed “to roof flashings of the type which provide a waterproof and weather resistant seal between a roof of a building structure and pipes, vent stacks, support members for roof mounted apparatus, or other elongate members projecting from the roof.” Ex. 1007, code (54), 1:4–10.

Thaler Figure 1 is reproduced below.

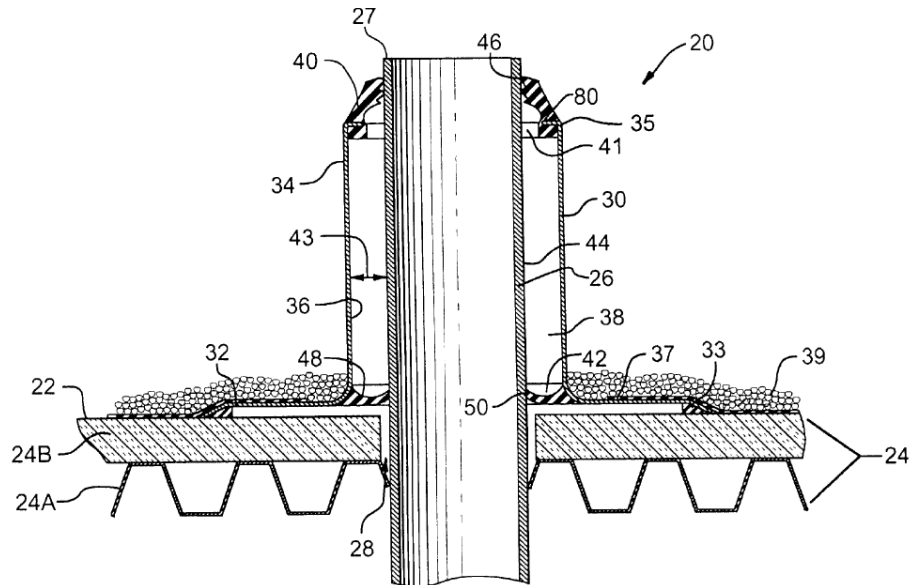


FIG.1

Figure 1 is a sectional view of the roof flashing assembly and shows, *inter alia*, (1) an assembly comprising a flashing with base portion 32 and (2) boss portion 34 extending from base portion 32 and inserted into resilient grommet 40. Ex. 1007, 4:17–19, 5:1–12, 6:49–53.

Thaler Figure 5 is reproduced below.

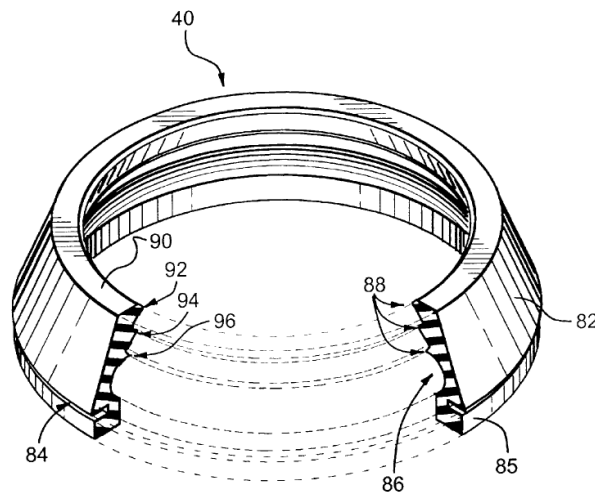


FIG.5

Figure 5 “is a perspective view of the resilient grommet of FIG. 1, shown partially in phantom outline.” Ex. 1007, 4:26–27.

[T]he resilient grommet 40 comprises an annular grommet body 82, having a groove 84 extending circumferentially around an outer base surface 85 of the grommet body 82, with said resilient grommet 40 being assembled on the upper end 35 of the boss portion 34 in resilient sealing engagement with the annular flange portion 80 of the body member 30, by means of frictional engagement between said annular flange portion 80 and said groove 84.

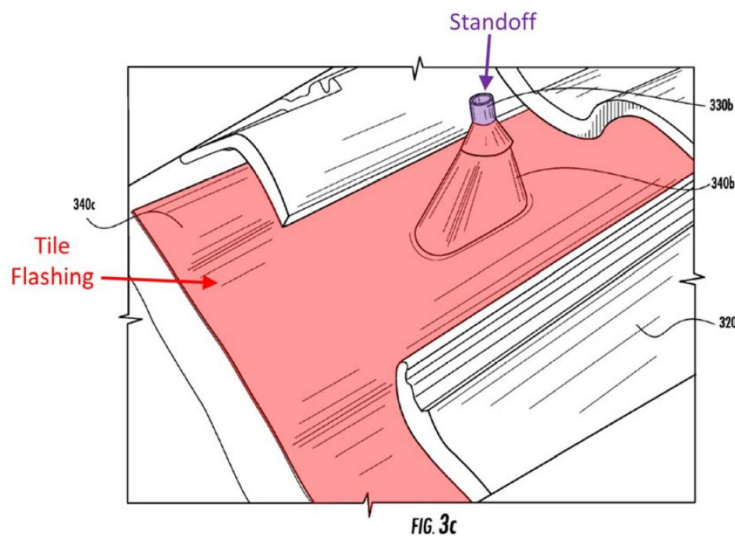
Id. at 6:54–62.

4. *Analysis of Claims 1–3 and 7–9*

Claim 1 recites “a tile flashing above the base and the standoff.” Ex. 1001, 47:58–62. Claims 2, 3, and 7–9 depend, directly or indirectly, from claim 1.

a) *Petitioner’s Argument*

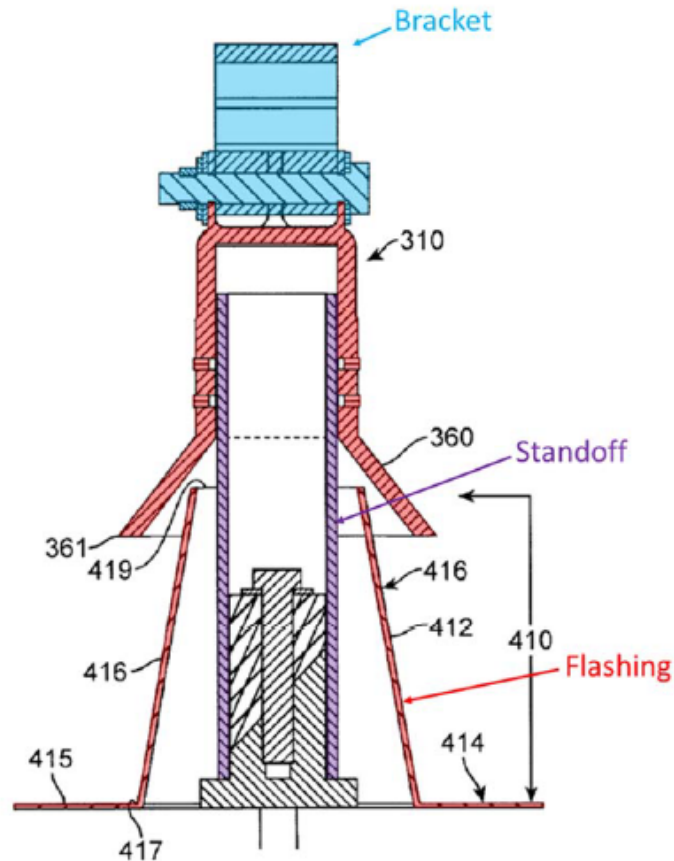
Petitioner argues that McPheeters teaches using flashing that mimics the shape of the tiles of the roof. Pet. 45–46 (citing Ex. 1006, 7:37–52, Fig. 3a–3d; Ex. 1003 ¶ 98). Petitioner directs our attention to an annotated and colorized version of McPheeters Figure 3c, reproduced below.



Id. at 46. Petitioner modified McPheeters Figure 3c (previously discussed) by coloring the flashing red, coloring the standoff purple, and adding a “Tile Flashing” annotation pointing towards the portion of the flashing that is undulating. *Id.*

Petitioner also argues that a person having ordinary skill in the art would have modified “McPheeters with the teachings of Plaisted to include a bracket connector having an integral skirt that performs the function of flashing.” Pet. 46 (citing Ex. 1003 ¶ 99). According to Petitioner, “[w]ith the teachings of McPheeters modified according to the teachings of Plaisted, the portion of the connector covering the post or standoff and having the integral skirt performs the function of flashing, working in conjunction with other flashing elements to divert water.” *Id.* (citing Ex. 1003 ¶ 100).

Petitioner further argues that “in the modified assembly, the McPheeters’ flashing (comprising components 340a, 340b and which mimics a tile roof) working in conjunction with the portions of Plaisted’s connector 310 performing the flashing function together constitute a ‘tile flashing,’ as indeed McPheeters and Plaisted themselves teach that flashing can comprise multiple elements.” *Id.* at 47 (citing Ex. 1003 ¶ 101); *see also* Ex. 1003 ¶ 101 (citing Ex. 1009, 6:1–49). Petitioner also argues that this tile flashing is above the base and the standoff and directs our attention to an annotated and colorized version of Plaisted Figure 4B, reproduced below.



Id. at 48. Petitioner annotated Plaisted Figure 4B (previously discussed) by using red to identify what Petitioner calls the flashing and purple to identify what Petitioner calls the standoff. *Id.*

b) Patent Owner's Arguments

Patent Owner argues that none of the prior art Petitioner relies on teaches “a tile flashing above the base and the standoff” as recited in claim 1. Prelim. Resp. 24 (emphasis omitted). Specifically, Patent Owner argues that Petitioner “identifies a flashing in McPheeters with a standoff that protrudes through the flashing, like many flashings used on all types of roofs to create water tight vents and the like.” *Id.* (citing Ex. 2001 ¶ 68). Patent Owner then argues that Petitioner “modifies the McPheeters flashing to

include a structural connector with a skirt from Plaisted. [Petitioner] states that the structural connector is a flashing, but it is not.” *Id.* Instead, according to Patent Owner, Plaisted’s skirt is “counter flashing” which is not recited in claim 1. *Id.* at 25. Patent Owner also argues that the conical skirt is not tile flashing but “is part of a structural connector.” *Id.*

Patent Owner further argues that Plaisted’s connector—including the skirt—“neither mimics the shape of a tile nor is integrated with adjacent tiles. The connector of Plaisted is structural and could not practically be fabricated with a curved lower section to match with the flashing below or adjacent tiles. The connector is a rigid member designed to support solar arrays.” Prelim. Resp. 25 (citations omitted).

c) Our analysis

Based on the current record, we are not sufficiently persuaded by Petitioner’s argument.

Petitioner has sufficiently shown that McPheeters teaches using “tile flashing.” McPheeters describes a first embodiment shown in Figure 3b that describes flashing 340 that is installed over base 330a and substantially over post 330b. Ex. 1006, Fig. 3b, 7:37–43. As shown in Figure 3b and described in the Specification, “[t]he flashing has a substantially flat rectangular component 340a and a post flashing component 340b that substantially covers the base 330a and the post 330b. The post flashing component 340b can be substantially cone-shaped.” *Id.* at Fig. 3b, 7:42–47.

McPheeters further describes an alternate embodiment in which the flashing’s substantially flat rectangular component 340a is replaced with a section of flashing that mimics the undulating shape of the roof: “In an alternative embodiment shown in FIG. 3c, a rectangular component 340c can mimic the undulating shape of the roof 320 to allow for better protection

of the base 330a.” Ex. 1006, 7:47–50. As shown in Figure 3c—reproduced *supra*—the flashing consists of post flashing component 340b that is a cone-shaped portion over the base and post and an undulating portion for the rest of the flashing. *Id.* at Fig. 3c. However, as post 330b extends through post flashing component 330b, flashing 340 is not “above . . . the standoff” as recited in claim 1. *See* Ex. 1006, 7:41–43, Figs. 3b, 3c.

Petitioner has sufficiently shown that a person having ordinary skill in the art would have added Plaisted’s upper connector 310—including skirt 360—to McPheeters design. *See* Pet. 34–37. Specifically, Petitioner has sufficiently shown that McPheeters “integral skirt serves to counter-flash or divert water away from the opening in the post flashing.” Pet. 37; Ex. 1003 ¶ 84. Based on the current record, Petitioner has sufficiently shown that a person having ordinary skill in the art would have added Plaisted’s connector with a skirt for improved waterproofing. *See* Ex. 1003 ¶¶ 84–85.

However, Petitioner has not sufficiently shown that Plaisted’s skirt 360 is part of McPheeters’s “tile flashing” in the modified assembly. This is of critical importance because Petitioner identifies Plaisted’s skirt 360 as the portion of the tile flashing that is above the base and the standoff. *See* Pet. 47 (“This combination of McPheeters and Plaisted further teaches that the tile flashing is ‘*above the base and the standoff*’” in that the portion of Plaisted’s connector that covers the post or standoff is above the base and standoff of the modified McPheeters’ assembly.” (citing Ex. 1003 ¶ 102)).

We agree with Petitioner that flashing can comprise multiple elements. *See* Pet. 47 (“McPheeters and Plaisted themselves teach that flashing can comprise multiple elements.”); Ex. 1003 ¶ 101 (same). Both McPheeters and Plaisted do just that. McPheeters describes how flashing 340 comprises “a substantially flat rectangular component 340a and a post

flashing component 340b that substantially covers the base 330a and the post 330b. Ex. 1006, 7:43–46. In an alternate embodiment, flashing 340 comprises undulating rectangular component 340c and post flashing component 340b. *Id.* at 7:43–50, Fig. 3c. Similarly, Plaisted describes flashing sub-assembly 410 as including “a conically shaped flashing member 412 that is unitarily or otherwise integrated with a platform 414.” Ex. 1009, 6:21–23, Fig. 4A. In both McPheeters and Plaisted, the elements that make up the flashing are either a unitary piece (McPheeters and Plaisted) or integrated with each other (Plaisted). *See* Ex. 1009, 6:21–23, Fig. 4A; Ex. 1006, Fig. 3b-3c, 7:43–50. However, neither reference describes two unconnected pieces as a single flashing. *See id.*

Petitioner has not sufficiently shown that Plaisted’s skirt 360 and flashing sub-assembly 410 constitute a single flashing. Plaisted’s upper connector 310—including skirt 360—is not a unitary piece or otherwise integrated with flashing sub-assembly 410. *See* Ex. 1009, Fig. 4B. Moreover, the very section of Plaisted cited by Petitioner’s expert describes upper connector 310 as a separate element from the flashing with a different function. *See* Ex. 1009, 6:1–49, *cited by* Ex. 1003 ¶ 101.⁶ Under the current record, Petitioner has not sufficiently demonstrated that skirt 360 is part of flashing sub-assembly 410.

⁶ It is for this reason that we do not find Mr. Degger’s testimony (paragraph 101) persuasive and give it no weight. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (noting that the “[l]ack of factual support” for an expert opinion “may render the testimony of little probative value”).

Similarly, when Plaisted's upper connector 310 with skirt 360 is attached to McPheeters's post 330b, Petitioner has not sufficiently shown that it would be considered part of McPheeters's flashing 340. That is, for the reasons set forth above, Petitioner has not sufficiently shown that, when the teachings of McPheeters and Plaisted are combined, Plaisted's skirt 360 would be unitary or otherwise integrated with McPheeters's flashing 340 such that they would be considered a single tile flashing.

However, that does not end our inquiry. Instead, we must consider whether Petitioner has sufficiently shown that skirt 360, when considered by itself, is tile flashing. The answer to that question is no. Petitioner has not argued either that skirt 360 mimics the shape of the tiles or that a person having ordinary skill in the art would have modified the shape of the skirt to mimic the shape of the tiles. *See* Pet. 46–48. Because Plaisted's skirt 360 does not mimic the shape of the tiles, it is not “tile flashing” as recited in claim 1.

Accordingly, because Petitioner has not persuasively identified a portion of the “tile flashing above the base and the standoff,” Petitioner has not set forth a reasonable likelihood of showing that claim 1 is unpatentable based on McPheeters, Plaisted and, Thaler.

Similarly, because claims 2, 3, and 7–9 depend, either directly or indirectly, from claim 1, Petitioner has not set forth a reasonable likelihood of showing that claims 2, 3, and 7–9 are unpatentable based on McPheeters, Plaisted, and Thaler. *See In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992)

(“[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.”).⁷

5. *Analysis of Claims 10–14*

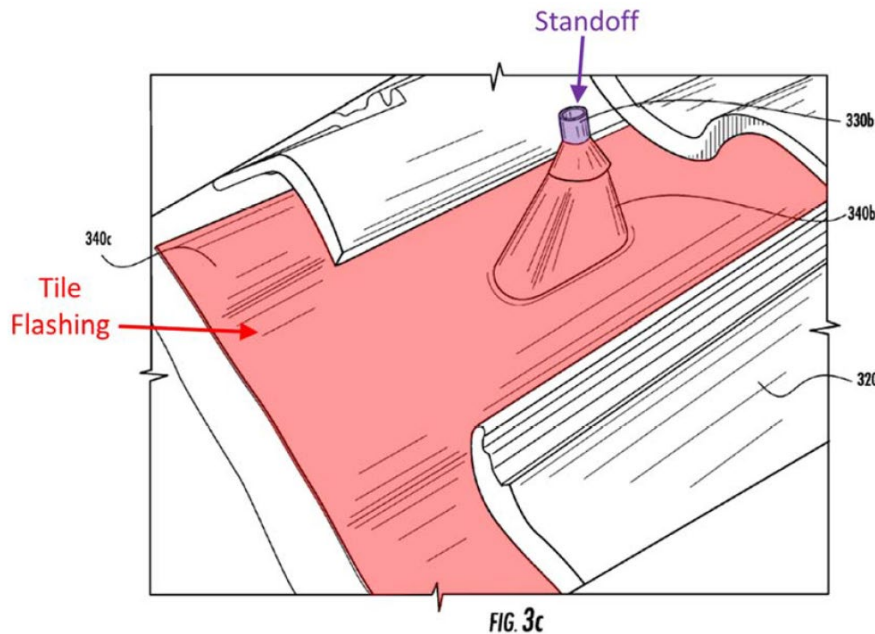
Claim 10 recites “a tile flashing comprising an embossed portion installable on the base and standoff . . . wherein the top surface of the standoff aligns with the embossed portion of the tile flashing” and “a bracket . . . installable on the embossed portion of the tile flashing and is supported by the standoff.” Ex. 1001, 48:30–36.

a) *Petitioner’s Argument*

With respect to the “tile flashing,” Petitioner relies on its arguments set forth in claim 1 and discussed in the preceding section. Pet. 65.

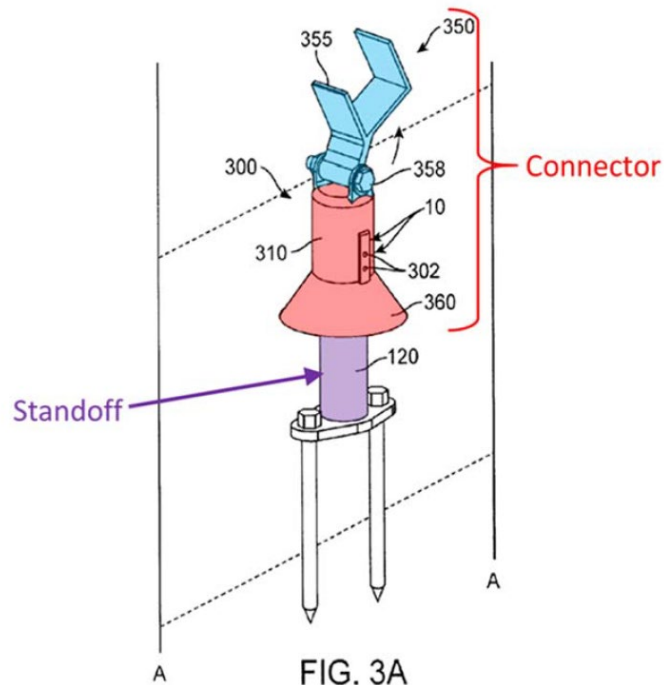
With regard to the “embossed” portion of tile flashing, Petitioner argues that a person having ordinary skill in the art would have “understood that one or both of the protruding post flashing component and the undulating shape of the rectangular component [of McPheeters] could be made by forming or stamping such features into pieces of material.” Pet. 61, 65. Specifically, Petitioner directs us to an annotated and colorized version of McPheeters Figure 3c, reproduced below.

⁷ Because we find that Petitioner has not satisfied its burden, Patent Owner’s remaining arguments are moot.



Id. at 61. Petitioner modified McPheeters Figure 3c (previously discussed) by coloring the flashing red, coloring the standoff purple, and adding a “Tile Flashing” annotation pointing towards the portion of the flashing that is undulating. *Id.* Petitioner further argues that a person having ordinary skill in the art would have “understood that the upwardly extending post flashing component is a ‘boss.’” *Id.* (citing Ex. 1011; Ex. 1007, code (57), 5:1–11, Fig. 1, Ex. 1033 ¶ 122).

With regard to the “bracket” limitation, Petitioner relies on the discussion of the boss above. Pet. 65. Petitioner further relies on Plaisted’s upper connector 310 and grasping member 350 and directs us to an annotated and colorized version of Plaisted Figure 3A, reproduced below. *Id.* at 49–54, 65.



Id. at 50. Plaisted Figure 3A “illustrates a leveling sub-assembly or structure that may be attached or otherwise integrated into a mounting system.”

Ex. 1009, 1:41–43. Petitioner identifies (1) pipe 120 as a standoff (purple) and (2) connector 310 (red) and grasp 350 (blue) as a connector. Pet. 50. According to Petitioner, “Plaisted discloses or teaches a ‘*bracket*’ integral with the connector that includes grasp structure 350 and hinged connector 358.” *Id.* (citing Ex. 1009, 5:44–55, Figs. 3A–5A).

Petitioner also draws our attention to two differently annotated versions of Plaisted Figure 4B (not reproduced) that “shows how Plaisted’s connector 310 includes flashing and the bracket integral to each other, with various portions performing the functions of the ‘bracket’ (as indicated in blue) and the ‘flashing’ (as indicated in red).” *Id.* at 51; *see also id.* at 52–53 (annotated versions of Plaisted Figure 4B).

b) Patent Owner's Argument

Patent Owner argues “Plaisted does not describe upper connector 310 as a flashing because the upper connector 310 of Plaisted is not a flashing. Upper connector 310 is a load-bearing connector capable of supporting an array as described in Plaisted and excerpted above.” Prelim. Resp. 15; *see also id.* at 29 (“[Petitioner] states that the structural connector is a flashing, but it is not. The connector in Plaisted is a structural member meant to support the weight of a roof-mounted solar installation.”).

Patent Owner also argues that “[l]ooking at the totality of the claim for context, the claim element - ‘*a tile flashing comprising an **embossed portion installable on the base and the standoff***’—requires that the base and standoff be covered by the ‘*tile flashing*’ because the ‘*tile flashing ... [is] installable on the base and the standoff*’” and that “[n]one of the flashings in the prior art disclose the claimed structural arrangement.” Prelim. Resp. 29–30 (alterations in original) (citing Ex. 2001 ¶ 80).

c) Our Analysis

Based on the current record, we are not sufficiently persuaded by Petitioner’s argument. Specifically, Petitioner has not sufficiently shown that “the top surface of the standoff aligns with the embossed portion of the tile flashing” as recited in claim 10. Rather, McPheeters Figure 3b shows that the top surface of the post 330b (which Petitioner maps to the standoff) is above, not aligned with, the top of the flashing post component 340b. *See* Ex. 1006, Fig. 3c; *see also id.* at 7:41–42 (stating that the flash is only “substantially over the post 330b,” not completely over the post). Neither Petitioner nor Mr. Dregger explains how post flashing component 340b is aligned with the upper surface of the standoff. *See* Pet. 65; Ex. 1003 ¶ 129. Although both the Petition and the testimony incorporate the arguments and

evidence from other sections, we fail to see any discussion in those sections on the relative alignment of the elements. *See* Pet. 60–62; Ex. 1003

¶¶ 121–122.

Moreover, Petitioner has not sufficiently shown that “the bracket is installable on the embossed portion of the tile flashing” as recited in claim 10. Plaisted shows grasp 350 (which Petitioner maps to the bracket) installed on the upper portion of connector 310 through the hinged connector 358. *See* Ex. 1009, 5:43–67, Figs. 3A, 4B. Plaisted also shows connector 310 placed over pipe 120. *Id.* Petitioner does not argue that connector 310 or pipe 120 is “the embossed portion of the tile flashing.” *See* Pet. 49–54. Nor does Petitioner argue that a person having ordinary skill in the art would attach Plaisted’s grasp 350 to McPheeters’s post flashing 340b. *See id.*

Based on the current record, although Petitioner has sufficiently shown that McPheeters teaches “tile flashing comprising an embossed portion,” Petitioner has not sufficiently shown that the combination of McPheeters and Plaisted teaches a “tile flashing comprising an embossed portion . . . wherein the top surface of the standoff aligns with the embossed portion of the tile flashing” or “a bracket . . . wherein the bracket is installable on the embossed portion of the tile flashing” as recited in claim 10. Accordingly, Petitioner has not shown a reasonable likelihood of showing that claim 10 is unpatentable based on McPheeters, Plaisted and, Thaler.

Similarly, because claims 11–14 depend directly from claim 10, Petitioner has not shown a reasonable likelihood of showing that claims 11–14 are unpatentable based on McPheeters, Plaisted, and Thaler. *See Fritch*,

972 F.2d at 1266 (“[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.”).⁸

E. Asserted Obviousness in View of McPheeters, Thales, Plaisted, and Glicksman

Petitioner argues that claim 5 would have been obvious over McPheeters, Thales, Plaisted, and Glicksman. *See* Pet. 76–83. Based on the current record, we are not sufficiently persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to claim 5.

1. *Glicksman*

Glicksman is entitled “Composite Washer Construction” and is directed “to the field of sealing washers, of a type adapted to be disposed beneath a screw head or similar fastening structure, and to be pressed against the flat surface of a sheet metal body or casing to effect a hermetic seal.” Ex. 1008, 1:2, 1:8–12. Glicksman Figure 1 is reproduced below.

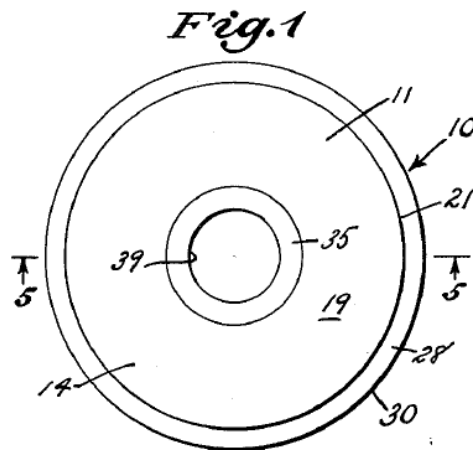


Figure 1 “is a plan view” device 10, which includes “a metallic washer element 11 and a resilient washer element 12.” Ex. 1008 1:60–61, 2:1–4.

⁸ Because we find that Petitioner has not satisfied its burden, Patent Owner's remaining arguments are moot.

2. *Analysis of Claim 5*

Claim 5 depends from claim 1. Ex. 1001, 48:11–12. Because Petitioner does not argue that Glicksman cures the deficiency with claim 1 set forth above, Petitioner has not shown a reasonable likelihood of showing that claim 5 is unpatentable based on McPheeters, Plaisted, Thaler, and Glicksman. *See Fritch*, 972 F.2d at 1266 (“[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.”).

CONCLUSION

For the foregoing reasons, we determine that Petitioner fails to show a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. We, therefore, do not institute an *inter partes* review of the challenged claims based on the Petition.

ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, no *inter partes* review is instituted as to any claim of the '929 patent.

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Patent 10,676,929 B2

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