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Paper 82
Date: May 26, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

YITA LLC,
Petitioner,

v.

MACNEIL IP LLC,
Patent Owner.

IPR2020-01142
Patent 8,833,834 B2

Before MITCHELL G. WEATHERLY, MICHAEL L. WOODS, and ARTHUR M. PESLAK, *Administrative Patent Judges*.

WOODS, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)
ORDER
Denying Patent Owner's Motion to Strike
37 C.F.R. § 42.64

I. INTRODUCTION

Petitioner, Yita LLC, filed a Petition (Paper 3, "Pet.") requesting *inter partes* review of claims 1–15 ("the challenged claims") of U.S. Patent No. 8,833,834 B2 (Ex. 1001, "the '834 patent"). Pet. 1. We issued a decision to institute an *inter partes* review of these claims. Paper 17 ("Institution Decision" or "Inst. Dec.").

After institution, MacNeil IP LLC ("Patent Owner") filed a Patent Owner Response (Paper 28 ("PO Resp." or "Response")), to which Petitioner replied (Paper 60 ("Pet. Reply" or "Reply")). Patent Owner also filed a Sur-Reply to Petitioner's Reply. Paper 70 ("PO Sur-Reply" or "Sur-Reply").

Oral argument, or hearing, was held on October 12, 2021, and the transcript of the hearing has been entered as Paper 78 ("Transcript" or "Tr.").

We have jurisdiction under 35 U.S.C. § 6. Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2019). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown that claims 13–15 of the '834 patent are unpatentable. Petitioner has not shown that claims 1–12 of the '834 patent are unpatentable.

A. Related Proceedings

The parties identify the following matters as related:

- *MacNeil Auto. Prods. Ltd. et al. v. Yita LLC et al.*, No. 2:20-cv-00278 (WDWA);
- *MacNeil Auto. Prods. Ltd. et al. v. Jinrong (SH) Auto. Acc. Dev. Co., Ltd. et al.*, No. 2:20-cv-00856 (WDWA);
- IPR2020-01138, institution of which we denied and which sought review of related U.S. Patent No. 8,382,186 B2 (the "'186 patent");
- IPR2020-01139, which seeks review of the '186 patent and which was instituted on January 13, 2021; and
- IPR2020-01140, institution of which we denied and which sought review of the '834 patent.

Pet. 82; Paper 6, 2.

B. Real Parties-In-Interest

The Petition lists Yita LLC, Jinrong (SH) Automotive Development Co., Ltd., ShenTian (SH) Industrial Development Co., Ltd, and Hong Kong Yita International Trade Company Limited as the real parties-in-interest. Pet. 82. Patent Owner identifies itself, MacNeil Automotive Products Limited, and WeatherTech Direct, LLC, as the real parties-in-interest. Paper 6, 2.

C. The '834 Patent (Ex. 1001)

The '834 patent is titled "Molded Vehicle Floor Tray and System." Ex. 1001, code (54). The '834 patent describes a vehicle floor tray that is

molded from a sheet of polymeric material. *Id.* at Abstr. The '834 patent explains a need for a removable floor tray that fits precisely within a vehicle's foot well so that it's more likely to remain in position during vehicle operation, thereby minimizing the chance that it occludes the gas, brake, or clutch pedals. *See id.* at 1:39–44, 2:12–16. To illustrate an embodiment of the floor tray, we reproduce Figure 1, below:

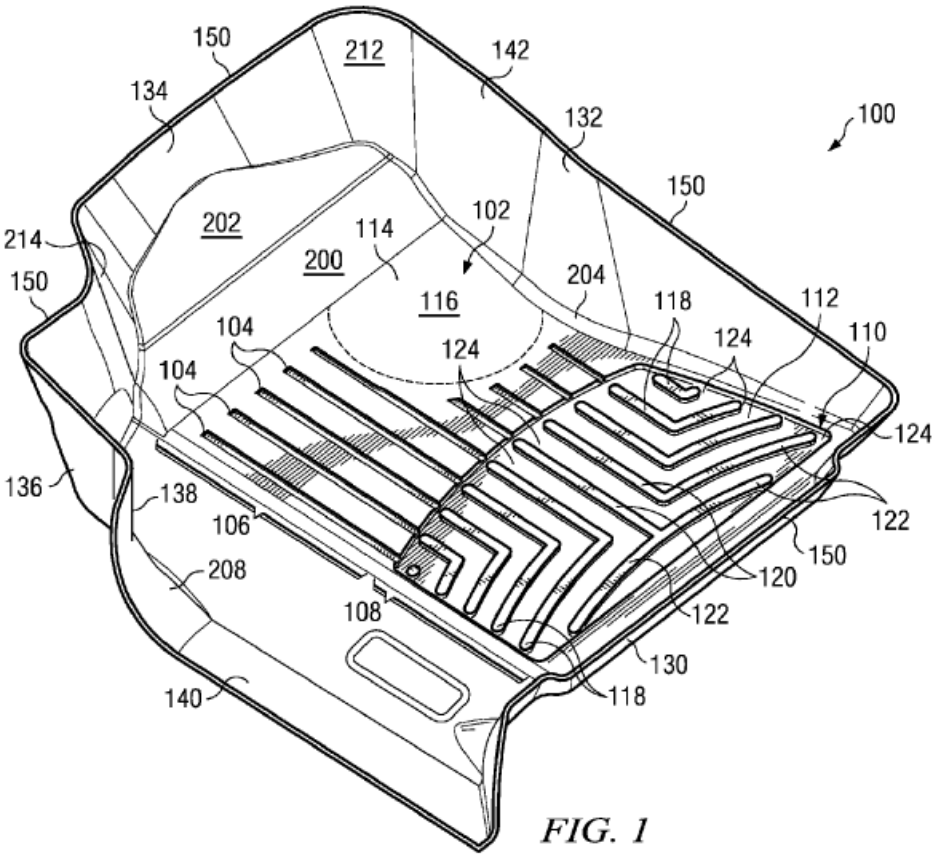


FIG. 1

Figure 1 depicts an embodiment of the floor tray described in the '834 patent. *Id.* at 5:49–50. In particular, this figure illustrates vehicle floor tray (or cover) 100 that is designed to protect a vehicle's floor and lower sides of the foot well. *See id.* at 6:34–35. Floor tray 100 includes floor (or central panel) 102 with channels 104 disposed in forward region 106 of the panel. *Id.* at 6:37–41.

D. Illustrative Claims

Petitioner challenges every claim of the '834 patent, claims 1–15. Pet. 1. Of these claims, claims 1, 5, 9, and 13 are independent. Ex. 1001, 20:4–24:19. We reproduce independent claims 1 and 13, below, reformatted from the version provided in the '834 patent to include bracketed alphanumeric nomenclature that corresponds with Petitioner's nomenclature.

> 1. *[Preamble]* A system including a vehicle and a floor tray for consumer installation into a predetermined foot well of the vehicle, the system comprising:
>
> *[Element 1(a)]* a vehicle foot well having a floor, a substantially longitudinally disposed first foot well wall upstanding from the floor, a substantially transversely disposed second foot well wall upstanding from the floor and joined to the first foot well wall, a substantially longitudinally disposed third foot well wall upstanding from the floor and joined to the second foot well wall; and
>
> *[Element 1(b)]* a vehicle floor tray molded from a sheet of polymeric material of substantially uniform thickness,
>
> *[Element 1(c)]* a central panel of the tray substantially conforming to the floor of the vehicle foot well,
>
> *[Element 1(d)]* a substantially longitudinally disposed first tray wall joined to the central panel by a curved transition and standing up from the central panel to substantially conform to the first foot well wall,
>
> *[Element 1(e)]* a substantially transversely disposed second tray wall joined to the central panel and to the first tray wall by respective curved transitions and standing up from the central panel, the second tray wall substantially conforming to the second foot well wall,
>
> *[Element 1(f)]* a substantially longitudinally disposed third tray wall joined to the central panel and to the second tray wall by respective curved transitions and standing up from the central panel,

[Element 1(g)] the central panel and first, second and third tray walls each having an outer surface facing the vehicle foot well and an inner surface opposed to the outer surface, a thickness of the central panel and of the, first, second and third tray walls measured between the outer surface and the inner surface thereof being substantially uniform throughout the tray;

[Element 1(h)] at least 90 percent of that one-third of the outer surfaces of the first, second and third tray walls which are closest to the respective top margins of the first, second or third tray walls being within one-eighth of an inch of the respective foot well walls.

13. *[Preamble]* A vehicle floor tray for installation by a consumer in a vehicle foot well, the vehicle floor tray formed from a sheet of polymeric material of substantially uniform thickness and comprising:

[Element 13(a)] a substantially horizontal central panel;

[Element 13(b)] a first tray wall joined to the central panel by a curved transition, the first tray wall standing up from the central panel and being substantially longitudinally disposed;

[Element 13(c)] a second tray wall joined to the central panel and to the first tray wall by respective curved transitions, the second tray wall standing up from the central panel and being substantially transversely disposed;

[Element 13(d)] a third tray wall joined to the central panel and to the second tray wall by respective curved transitions, the third tray wall standing up from the central panel and being substantially longitudinally disposed;

[Element 13(e)] the central panel having a general portion with an upward facing general surface and a reservoir portion with an upwardly facing general surface, the general surface of the reservoir portion disposed vertically below the general surface of the general portion; and

[Element 13(f)] a plurality of elongate, spaced-apart, hollow baffles formed within the reservoir portion to stand up from the general surface of the reservoir portion,

> *[Element 13(g)]* each of the general portion of the central panel, the reservoir portion of the central panel, the baffles and the first, second and third tray walls having an outer surface adapted to face a respective surface of a vehicle foot well and an inner surface opposed to the outer surface, a thickness measured between the respective inner and outer surfaces of the first tray wall, second tray wall, third tray wall, general portion of the central panel, reservoir portion of the central panel and the baffles being substantially uniform throughout the tray.

Ex. 1001, 20:4–40, 22:56–24:3; Pet. 31–45, 57–64.

E. References Relied Upon

Petitioner's challenges rely on the following references (Pet. 23):

Name	Reference	Ex. No.
Rabbe	Certified English-language translation of French Patent Publication No. 2,547,252, published December 14, 1984	1005
Yung	US Patent Publication No. 2002/0045029 A1, published April 18, 2002	1006
Gruenwald	G. Gruenwald, *Thermoforming: A Plastics Processing Guide*, Technomic Publishing Company, Inc. (2nd Ed. 1998)	1007
Sturtevant	US Patent No. 2,657,948, issued Nov. 3, 1953	1011

F. Alleged Grounds of Unpatentability

Petitioner contends that the challenged claims are unpatentable based on the following grounds (Pet. 23):

Ground	Claim(s) Challenged	35 U.S.C. §[1]	Reference(s)/Basis
1	1, 4, 5, 8, 9, 12–15	103	Rabbe, Yung, Gruenwald
2	2, 3, 6, 7, 10, 11	103	Rabbe, Yung, Gruenwald, Sturtevant

Petitioner supports its challenge with declarations from, among others, Dr. Paul E. Koch, Ph.D. (Exs. 1003, 1041), Mr. Mark Strachan (Ex. 1042), and Mr. Dan Perreault (Ex. 1044). *See* Pet. vi; *see also* Pet. Reply v. Patent Owner submits the competing testimony of, among others, Dr. Tim Osswald, Ph.D. (Exs. 2041, 2186), Mr. Ryan Granger (Exs. 2042, 2127), and Mr. Ray Sherman (Exs. 2043, 2187). *See, e.g.*, PO Resp. ix; *see also id.* at vii n.1 (withdrawing the testimony of Dr. James Thorne, Ph.D.); *see also* PO Sur-Reply ix, xii.

[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the '834 patent issued asserts priority to a parent application filed before this date, and this priority is not at issue in this proceeding, we apply pre-AIA version of § 103. *See* Ex. 1001, code (60).

II. ANALYSIS

A. 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 v. John Deere Co. of Kansas City*, 383 U.S. 1, 17 (1966).

Factors pertinent to a determination of the level of ordinary skill in the art include: (1) 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 workers active in the field. *Environmental Designs, Ltd. v. Union Oil Co.*, 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.* Moreover, these factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art. *Daiichi Sankyo Co. Ltd, Inc. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

In determining a level of ordinary skill, we also may look to the prior art, which may reflect an appropriate skill level. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding 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)))

Petitioner contends that a person having ordinary skill in the relevant art ("POSITA" or "POSA")

> would have had a bachelor's degree in engineering: plastics, mechanical, or a closely related field, or equivalent formal training, education, or practical experience in a field relating to plastic product design, material science, or manufacturing. This person would also have a minimum of three to five years of experience in plastics engineering, manufacturing, plastic product design, or a related industry. This description is an approximation and a higher level of training or practical experience might make up for less education, and vice-versa.

Pet. 20 (citing Ex. 1003 ¶¶ 26–28).

For the purposes of institution, we adopted Petitioner's proposed level of ordinary skill in the art. Inst. Dec. 8–10. At that time, we disagreed with Patent Owner's argument that Petitioner's expert, Dr. Koch, is not a POSITA, because he lacks "substantial industrial knowledge and experience in thermoforming." *Id.* at 9 (quoting Paper 11 (citing Ex. 2004 ¶¶ 3–17) (Thorne declaration)). Patent Owner asks that we "reconsider [our] position" because "Petitioner's theories of obviousness rely exclusively on . . . thermoform[ing] Rabbe's floor tray." PO Resp. 7–8. Patent Owner's expert, Dr. Osswald, testifies that a POSITA "would be particularly familiar with and have experience with plastic product design and manufacturing using thermoforming techniques. Ex. 2041 ¶ 46 (emphasis added); *see also* PO Resp. 7 (citing Ex. 2041 ¶¶ 43–48). Dr. Osswald further testifies that

> In my opinion, in light of the technology described and claimed in the '834 Patent (e.g., vehicle floor trays molded/formed from a sheet of polymeric material) and the manner in which Petitioner maps the disclosure in the alleged prior art references to the claims of the '834 Patent (a mapping that relies on the alleged disclosure of a thermoformed vehicle floor tray in the proposed combinations of references), *a POSITA would at least have three*

> *years of industry experience with thermoforming techniques. . . .* In my opinion, *knowledge and experience in the thermoforming industry is critical to understanding the '834 Patent's manufacturing processes.*

Ex. 2041 ¶ 47 (emphasis added).

We decline to adopt Patent Owner's proposed level of skill.

Even if Petitioner's unpatentability arguments involve the manufacture of Rabbe's floor tray by thermoforming (*see, e.g.*, Pet. 38), we do not find this reason enough to impose a requirement that a POSITA must have "at least have three years of industry experience with thermoforming techniques." Ex. 2041 ¶ 47. The claims of the '834 patent simply recite "vehicle floor trays" or a "system including a vehicle and a floor tray," and do not require that the floor trays be manufactured by thermoforming. *See* Ex. 1001, 20:4–24:19. Under Patent Owner's strict definition of a POSITA, a skilled artisan with a Ph.D. in thermoforming would not qualify as a POSITA, unless that artisan also had at least three years of "industry experience in thermoforming techniques." *See* Ex. 2041 ¶ 47. Upon consideration of the factors enumerated in *Environmental Designs*, we decline to adopt such a rigid definition. *See Environmental Designs*, 713 F.2d at 696–97.

In particular, the sophistication of the technology, as reflected in the prior art, does not persuade us that at least three years of industry experience in thermoforming techniques—as opposed to graduate-level research in vehicle floor tray design—is *necessary* to qualify a person as a POSITA, as Patent Owner's expert testifies. *See* Ex. 2041 ¶ 47. Rather, we find Petitioner's definition to more accurately reflect the level of ordinary skill in the art, as it does not require "at least three years of industry experience with

thermoforming techniques." *Compare id.*, *with* Pet. 20. Petitioner's definition is flexible as it provides that "a higher level of training or practical experience might make up for less education, and vice-versa." *See* Pet. 20.

For this reason, we adopt Petitioner's proposed level of ordinary skill in the art. *Id.*

B. Claim Construction

In an *inter partes* review proceeding for a petition filed on or after November 13, 2018, a patent claim shall be construed 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). *See* 37 C.F.R. § 42.100(b). This rule adopts the same claim construction standard used by Article III federal courts (*see id.*), which follow *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) and its progeny. Under the *Phillips* standard, the words of a claim are generally given their "ordinary and customary meaning," which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *See Phillips*, 415 F.3d at 1312–13. If either party believes that a claim term requires an express construction, that party may propose a construction on its own. *See* Patent Trial and Appeal Board Consolidated Trial Practice Guide 44 (Nov. 2019) ("Guide"). We have considered the Petition, Patent Owner's Response, Petitioner's Reply, Patent Owner's Sur-Reply, and evidence cited therein, and do not discern a need to construe explicitly any claim language to resolve any disputed issue. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.,* 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("we need only construe terms 'that are in

controversy, and only to the extent necessary to resolve the controversy'") (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

C. Principles of Law

"In an . . . [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

Petitioner's challenges are based on obviousness. Pet. 23. A claim is unpatentable as obvious under 35 U.S.C. § 103(a) 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 the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *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 skill in the art; and (4) where in evidence, so-called secondary considerations. *Graham*, 383 U.S. at 17–18.

D. Ground 1: Rabbe, Yung, Gruenwald

Petitioner asserts that claims 1, 4, 5, 8, 9, and 12–15 are unpatentable as obvious over Rabbe, Yung, and Gruenwald. Pet. 23.

For the reasons discussed below, Petitioner has shown that claims 13–15, but not claims 1, 4, 5, 8, 9, and 12, are unpatentable as obvious over Rabbe, Yung, and Gruenwald.

1. Rabbe (Ex. 1005)

Rabbe is an English-language translation of French Patent Document FR 2547252. Ex. 1005, 1. Rabbe is titled "Protective Tray for Vehicle Interiors" and discloses "floor mats with raised edges, forming a tray and providing effective protection of the floors and side walls of vehicle interiors at the feet of the driver, of the passengers, as well as the trunks, against water, mud, snow and other soil." *Id.* at codes (54), (57). We reproduce Figure 3 of Rabbe, below:

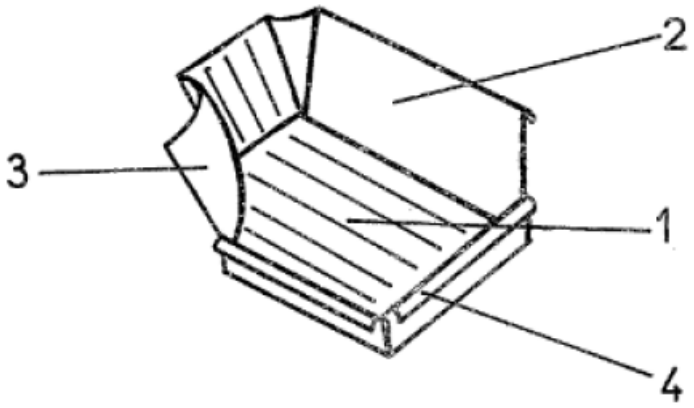


Figure 3 depicts Rabbe's protective tray with corrugated bottom, raised edges 2 "of unequal heights conforming to the interior contour of the vehicle, particularly the location of" wheels 3, and with flanges 4. *See id.* at 2:7–15.

2. Yung (Ex. 1006)

Yung is a U.S. Patent Application titled "Mat Used in Cars." Ex. 1006, code (54). Yung describes a floor mat with a middle plastic plate or layer that is "flexible, light weight, and waterproof Polyethylene (PE) or Polyethylene—Vinyl Acetate (EVA) foam." *Id.* ¶ 11. We reproduce Figure 3 of Yung, below:

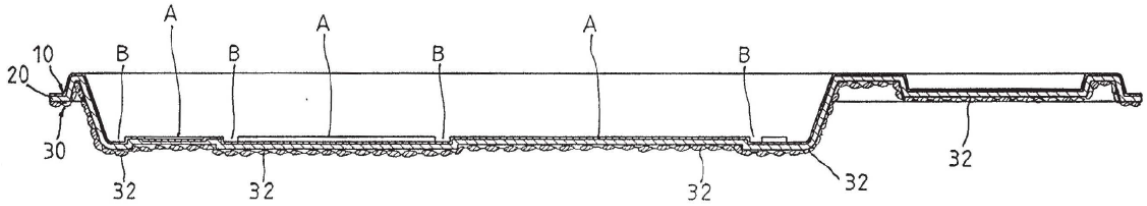


Figure 3 depicts a cross-sectional view of Yung's car mat. *See id.* ¶¶ 6, 8.

3. Gruenwald (Ex. 1007)[2]

Gruenwald is a book titled "Thermoforming: A Plastics Processing Guide." Ex. 1007, 1. Gruenwald discloses, in relevant part, reducing wall thickness in male and female molds (*id.* at 37–43), drape forming (*id.* at 162–163), billow drape forming (*id.* at 165), snap-back forming (*id.* at 166), reverse draw with plug-assist forming (*id.* at 167), and design considerations (*id.* at 183–186).

4. Independent Claim 13

In challenging claim 13, Petitioner submits that "[t]he analysis for 13[preamble] through 13[d] and 13[g] does not differ from 1[preamble] and 1[b]-1[f] and 1[g], so the analysis from claim 1 applies to corresponding elements of Claim 13." Pet. 58 (citing in part Ex. 1003 ¶ 175).

[2] We cite to Gruenwald's native page numbers.

We address the limitations of claim 13 with the understanding that Petitioner relies on the same analysis presented in challenging claim 1.

> *a) Preamble – A vehicle floor tray for installation by a consumer in a vehicle foot well, the vehicle floor tray formed from a sheet of polymeric material of substantially uniform thickness*[3]

In addressing the preamble of claim 13, vis-à-vis claim 1, Petitioner submits that "to the extent the preamble of claim [13] is limiting, the Rabbe-Yung-Gruenwald combination discloses the preamble." *See* Pet. 32; *see also id.* at 58 ("13[preamble] more broadly recites 'the vehicle floor tray *formed from a* sheet of polymeric material,' rather than 1[b]'s 'vehicle floor tray *molded from a* sheet of polymeric material.'"). In particular, to address the recited "floor tray formed from a sheet of polymeric material of substantially uniform thickness," Petitioner relies on a combination of Rabbe, Yung, and Gruenwald and submits that a skilled artisan would have used "a material of a substantially uniform thickness in thermoforming" Rabbe's floor tray. *See id.* at 34.

Petitioner cites to Rabbe's disclosure that Rabbe's "protective tray [is] produced from semi-rigid rubber or another material having the same properties." *Id.* at 33 (citing Ex. 1005, 1:16–18) (alteration in original).

Petitioner relies on Yung's disclosure of "an improved mat used in cars" that consists of "a middle Plastic . . . plate or layer" made from "a flexible, light weight, and waterproof Polyethylene (PE) or Polyethylene-

[3] Patent Owner argues the preamble of claim 13 is limiting. PO Resp. 8–9. Petitioner addresses the preamble "to the extent the preamble" is limiting. *See* Pet. 32 (addressing preamble of claim 1), 57–58 (addressing claim 13). For purposes of our analysis, we treat the preamble as limiting.

Vinyl Acetate (EVA) foam." *Id.* at 33–34 (citing Ex. 1006 ¶¶ 10–11) (emphasis omitted).

As to Gruenwald, Petitioner relies on Gruenwald's teaching of thermoplastic sheets used in thermoforming. *Id.* at 34. Dr. Koch testifies that polyethylene, or PE, "was a well-known thermoplastic . . . [and that a POSITA] would have understood that this thermoplastic was available in flat sheets of substantially uniform thickness." Ex. 1003 ¶ 129. Dr. Koch further testifies that a POSITA "would have had a reason to use a material of substantially uniform thickness in thermoforming." *Id.*

In combining the references, Petitioner reasons that a skilled artisan would have been motivated "to manufacture Rabbe's floor tray using a thermoforming process because of the suitability of thermoplastics and the thermoforming process to fulfill Rabbe's purpose." Pet. 47–48. As to the claimed "uniform thickness," Petitioner reasons that a skilled artisan "would have sought to control thinning during thermoforming, thus directing a POSA to achieve a thermoformed part of substantially uniform thickness." *Id.* at 49 (citing Ex. 1003 ¶ 155; Ex. 1007, 67).

After reviewing Petitioner's contentions and the supporting evidence, we agree that Petitioner establishes motivation to combine notwithstanding Patent Owner's numerous arguments, which we now address.

> *(1) Yung's intrinsic record reveals that Yung's flexible, universal floor mat was compression molded, not thermoformed as Petitioner alleged, using foamed materials. A POSITA would immediately recognize that Yung's mat is not thermoformable.*

Patent Owner argues that "the proposed Rabbe-Yung-Gruenwald combination does not teach a thermoformed vehicle floor tray as Petitioner alleges." PO Resp. 37. Patent Owner submits that "Rabbe's tray is made of semi[-]rigid rubber, which is not a thermoplastic and not thermoformable." *Id.* at 38. Patent Owner argues that Petitioner *misrepresented* that "Yung teaches thermoformed floor mats" and that Yung instead "teaches compression molding a three-layer laminate that includes a layer of PE foam or ethylene-vinyl acetate (EVA) foam." *Id.* (emphasis omitted). Patent Owner explains that "Yung describes a compression molded, one-size-fits-all mat used in cars—not a custom floor tray" (*id.* at 55) and that "a POSITA looking to Yung would have been led to compression molding, not thermoforming" and that "Yung's disclosure of waterproof foams would have precluded thermoforming" (*id.* at 56). *See also id.* at 64 ("Yung's mat is compression molded, not thermoformed, and that thermoforming Rabbe's tray could not be achieved using the foamed materials described in Yung.").

In support of Patent Owner's argument that Yung's floor tray is compression molded, Patent Owner cites to a foreign patent application (Ex. 2023, "the '432 application") in Yung's priority chain, and submits that "[t]he '432 application discloses no less than four different times that Yung's floor mat was compression molded." *Id.* at 39 (citing Ex. 2023, 3, 7, 10) (emphases omitted). Patent Owner explains that Yung discloses "PE and EVA foams," which "are different materials with different physical

properties from what Rabbe discloses and a POSITA would recognize that Yung's stated choice of material precludes thermoforming." *Id.* at 40 (emphasis omitted). Dr. Osswald testifies that a "POSITA would understand that a net fabric with yarns and threads can only shear, but not stretch" and that a POSITA would recognize that Yung's three-layer mat cannot be thermoformed. *Id.* at 40–41 (citing in part Ex. 2041 ¶ 134). Patent Owner further argues that "[i]t would not be possible to thermoform a foamed layer without damaging the fine foam structure of the material and leaving it inoperable for its intended purpose" because "[t]hermoforming such a material would destroy the fragile closed-cell structure upon application of heat and vacuum during the process, rendering the floor mat no longer impermeable to water." *Id.* at 41–42 (citing Ex. 2041 ¶¶ 132, 136, 143, 148, 154); *see also id.* at 57 ("Foamed PE and EVA have different properties that PE, and very different properties from thermoset rubber") (emphasis omitted).

In response to Patent Owner's argument, Petitioner submits that Rabbe discloses materials useful in thermoforming and that "a POSA would have considered Rabbe's teachings to include thermoplastic elastomers." Pet. Reply 14. Petitioner further contends that "Yung is not limited to polyethylene foam" and that Yung "broadly provides polyethylene or EVA foam as examples of its middle plastic layer without limiting the polyethylene to a polyethylene foam." *Id.* at 17 (emphasis omitted).

We agree with Petitioner.

As to Patent Owner's assertion that "Rabbe's tray is made of semi[-]rigid rubber, which is not a thermoplastic and not thermoformable" (PO Resp. 38), Patent Owner's interpretation of Rabbe is too narrow. Rabbe

discloses that its tray is "produced from semi-rigid rubber *or another material having the same properties*." Ex. 1005, Abstr. (emphasis added). Rabbe's material properties include a material that is flexible and waterproof. *See id.* (describing a tray that is flexible and protects the vehicle interior from water). Based on this disclosure, we find that Rabbe teaches, more generally, flexible trays that are waterproof. Having weighed and considered the competing testimony of the parties' experts, we credit Dr. Koch's testimony on this point, namely, paragraphs 80–83 of Exhibit 1041. Specifically, we agree with Dr. Koch's testimony that Rabbe's teaching of other materials "having the same properties" would have led a POSITA to consider using thermoplastics. Ex. 1041 ¶ 80.

As to Patent Owner's assertion that Yung is limited to teaching compression molding of polyethylene foam (*see* PO Resp. 38–42), we disagree. Again, Patent Owner's interpretation of the prior art, in this case, Yung, is too narrow. Having weighed the competing testimony of the parties' experts, we credit Dr. Koch's testimony to the same. Ex. 1041 ¶¶ 92–95. Specifically, we credit Dr. Koch's testimony that a "POSA would have viewed Yung's disclosure as encompassing a variety of polyethylene materials and readily selected an appropriate polyethylene for a floor tray." *Id.* ¶ 95.

As to the '432 application, *even if* Yung taught only EVA and polyethylene *foams*—which we do not find—the record supports a finding that polyethylene foams may be thermoformed. *See* Pet. Reply 18 (finding the same in citing Exs. 1007, 1008). We find persuasive and credit Dr. Koch's testimony that "if Yung's foam materials can be compression molded without destroying its cell structure, as alleged by Dr. Osswald, then

thermoplastic foams must also be able to sustain the lower temperature and pressure conditions of thermoforming without losing its waterproof nature." Ex. 1041 ¶ 97. We further find persuasive and credit Mr. Strachan's testimony that thermoforming foam materials was commonplace before the time of the invention. *See* Ex. 1042 ¶¶ 82–90; *see also id.* ¶ 82 (testifying that thermoforming polyethylene foam was "commonplace before 2004"); *see also id.* ¶ 84 ("Long before 2004, thermoforming foams was well within the level of ordinary skill in the art."); *see also id.* ¶ 85 ("thermoforming foam materials without destroying the closed-cell structure was commonplace before 2004"). In particular, we credit Mr. Strachan's testimony that one could have thermoformed Yung's three-layer floor mat, as "Yung's polyester fabric (10) and net lining (30) would naturally stretch over the middle layer of polyethylene or EVA foam during the thermoforming process." *Id.* ¶ 83 (citing Ex. 1066, 4:43–46). Mr. Strachan's testimony is further supported by other substantial evidence of record. *See, e.g.*, Ex. 1058, 5 ("In view of PE foam's excellent thermoformability, it is highly suitable for trunk mats of cars with intricately shaped trunks (Fig. 5) . . . . Ford Europe has decided to adopt these mats on standard models beginning in 1976."); *see also* Ex. 1042 ¶ 84 (testifying to and referencing the same); *see also id.* ¶¶ 82–90 (testifying and citing evidentiary support that thermoforming fabric and foam materials was well known and well within the level of ordinary skill in the art at the time of the invention).

(2) Even if Rabbe, Yung, and Gruenwald were combined, there is no reasonable expectation of success to achieve the claimed invention

Patent Owner argues that even if Rabbe, Yung, and Gruenwald were combined, there is no reasonable expectation of success to achieve the claimed invention. PO Resp. 49. Patent Owner asserts that "PO invented, and patented, techniques making it possible to thermoform a vehicle floor tray that *closely conformed as claimed*." *Id.* at 51 (emphasis added). Patent Owner argues that Petitioner's contention that a POSITA would have had a reasonable expectation of success is unsupported. *Id.*

We disagree with Patent Owner's argument, as it focuses on the conformance limitations of claims 1–12, rather than the features recited in claim 13 (or of dependent claims 14 and 15). In particular, Patent Owner argues:

a. "[T]he techniques for forming a vehicle floor tray from a single sheet of thermoplastic material that conforms to the vehicle foot well as claimed (e.g., '*within one-eighth of an inch*' in specified portions) were not within the knowledge or skill set of a POSITA prior to October 2004." PO Resp. 51 (citing Ex. 2042 ¶ 92; Ex. 2043 ¶ 156) (emphasis added);
b. "PO's contributions to the field included not only the vehicle floor tray claimed in the '834 Patent but also the associated manufacturing techniques *enabling creation of a closely conforming floor tray*." PO Resp. 52 (emphasis added);
c. Arguing that even if coordinate measurement machines ("CMMs") existed, "it is not evidence that it was within the knowledge or skill of a POSITA to use such a machine to gather three-dimensional

data from a vehicle foot well, use that data to model the surface and manipulate the surface model to create a mold, and thermoform a vehicle floor tray having the specific features *recited in Claim 1*." PO Resp. 53–54 (emphasis added);

d. Arguing that Petitioner's evidence does not show how "three-dimensional data could be used to create a mold which a *closely conforming floor tray* could then be thermoformed." PO Resp. 53 (emphasis added);

e. Asserting that Petitioner's expert, "Dr. Koch[,] admitted that he 'can't recall a floor mat' that was constructed prior to October 2004 using a CMM machine that meets the *conformance limitations of the '834 Patent.*" PO Resp. 54 (citing Ex. 2039, 317:14–320:11) (emphasis added); and

f. "PO lays out a multistep, patented process that enables making a mold capable of producing a tray achieving the *claimed one-eighth inch tolerance.*" PO Resp. 55 (emphasis added).

Unlike claims 1–12, claim 13 does not recite language that requires any of its "walls" to closely conform or otherwise be within one-eighth of an inch from a foot well wall. *See* Ex. 1001, 20:4–24:3. Accordingly, Patent Owner's argument that a skilled artisan would not have had a reasonable expectation of success in combining Rabbe, Yung, and Gruenwald to arrive at the claimed *conformance* limitations is inapposite to claim 13.

(3) A POSITA would not have been motivated to thermoform Rabbe's tray based on Yung and Gruenwald

Related to Patent Owner's arguments discussed above (*see supra* § II.D.4.a.1), Patent Owner further argues that a "POSITA would not have been motivated to thermoform Rabbe's tray based on Yung and Gruenwald." PO Resp. 55. In presenting this argument, Patent Owner submits numerous sub-arguments, which we address individually, below.

First, Patent Owner reiterates that Yung is compression molded, and contends that thermoforming *would be cost prohibitive*. *Id.* Patent Owner further asserts that "Yung's disclosure of waterproof foams would have precluded thermoforming" (*id.* at 56) and that "[f]oamed PE and EVA have different properties than regular PE, and very different properties from thermoset rubber" (*id.* at 57) (emphasis omitted) and "thermoforming Rabbe's tray from Yung's PE or EVA foam *would not produce the waterproof product* Rabbe desires" (*id.* at 58 (emphasis added)).

We disagree with Patent Owner's assertions that thermoforming Yung's material would have been cost prohibitive and would have not produced a waterproof product. Rather, we agree with Petitioner that Patent Owner takes "a far-too-narrow approach to obviousness, bodily incorporating specific materials, arguing that Yung's tri-layer structure could not be thermoformed, and alleging that Yung's polyethylene was a foam and therefore could not be thermoformed." Pet Reply 11–12 (citing PO Resp. 40–42).

Yung broadly discloses that its "middle plastic plate or layer (20) as flexible, light weight, and waterproof Polyethylene (PE) or Polyethylene-Vinyl Acetate (EVA) foam." Ex. 1006 ¶ 11. We agree with and credit

Dr. Koch's testimony that a "POSA would have viewed Yung's disclosure as encompassing a variety of polyethylene materials." Ex. 1041 ¶ 95. We further agree with Dr. Koch that "both unfoamed and foamed polyethylene have been used in vehicle floor mats or related products." *Id.* (citations omitted). The evidence supports Dr. Koch's testimony. *See, e.g.*, Ex. 1057, 231 ("Polyethylene foams are used extensively in buoyancy applications because of their excellent water-resistant properties"); *see also* Ex. 1009, 0197 ("Polyethylene (PE) is . . . most often used in heavy-gauge thermoforming, primarily because of its very high melt strength, chemical resistance, and excellent outdoor weatherability").

As for cost, we further credit Dr. Koch's extensive testimony (Ex. 1041 ¶¶ 129–133) that using Yung's thermoplastic materials based on Gruenwald's thermoforming techniques would be a cost-effective way of manufacturing Rabbe's floor tray. *See* Ex. 1041 ¶¶ 129–133. We agree with Dr. Koch that thermoplastics represent mostly low-cost materials and that tooling costs can be low. *Id.* ¶ 129 (citing Ex. 1007, 184). Indeed, Gruenwald teaches that "[t]hermoplastics represent mostly low-cost materials" and that "[t]ooling costs can be low." Ex. 1007, 184.

Patent Owner further argues that "Rabbe's tray is designed to fold its walls down" and "[i]f rubber isn't used, the substitute material must have this same property—elasticity—otherwise, it could not perform its spring-back function." PO Resp. 59 (citations omitted). Patent Owner also argues that "foamed PE or EVA would create an unacceptable and easily abraded wear surface" and that a "PE foam would quickly fall apart in the hostile environment that Rabbe himself describes." *Id.*

As to elasticity and wear resistance, we disagree with Patent Owner's assertions. Rather, we agree with Petitioner that polyethylene, including polyethylene foams, may be both elastic and abrasion resistant. *See* Pet. Reply 21. Having weighed the competing evidence and testimony, we credit Dr. Koch's testimony in support of Petitioner's position. Ex. 1041 ¶¶ 112–115. In particular, we credit Dr. Koch's testimony that Patent Owner's arguments and testimony "focus granularly on some specific material rather than considering the general state of the art and the background knowledge that a POSA would bring in considering Rabbe, Yung, and Gruenwald." *Id.* ¶ 114. Indeed, polyethylene floor mats existed at the time of the invention of the '834 patent. *See, e.g.*, Ex. 1053, 2:52–61; *see also* Ex. 1058, 3–6.

Patent Owner further argues that "[e]ven if Yung disclosed forming a tray from a sheet of PE . . . , Petitioner has not shown that the mere disclosure of PE would have led a POSITA to thermoforming." PO Resp. 60. Patent Owner submits that "[n]either Petitioner nor Dr. Koch provides any explanation as to why a POSITA would turn to thermoforming had Yung in fact disclosed a sheet of PE, especially given that approximately 90% of PE grades are admittedly unsuitable for thermoforming." *Id.*

We disagree with Patent Owner's assertions, as Patent Owner fails to account for the creativity of a person of ordinary skill. *See* Pet. Reply 11–12 (arguing the same); *see also KSR*, 550 U.S. at 421 ("A person of ordinary skill is also a person of ordinary creativity, not an automaton."). Even if 90% of polyethylene grades were not suitable for thermoforming, we credit Dr. Koch's testimony that "[t]he thermoplastic materials in Yung's floor mat

are well suited for Rabbe's floor tray and thermoforming." Ex. 1041 ¶¶ 141–145. Specifically, we credit Dr. Koch's testimony that "it is well known that polyethylene foam can be thermoformed into a floor mat" and that "[p]olyethylene foam is well known for its thermoformability." *Id.* ¶ 142 (citing Ex. 1068, 23–27). We further credit Dr. Koch's testimony that an ordinarily skilled artisan "would have sought to use Yung's polyethylene material—foamed or unfoamed—for Rabbe's floor tray to provide a lightweight, durable, and waterproof material." *Id.* ¶ 128.

Patent Owner further argues that an ordinarily skilled artisan "would not be motivated to look to Yung's middle layer in isolation." PO Resp. 60. Patent Owner correctly points out that Yung discloses a three-layer floor mat with a polyester fabric, a middle plastic layer, and a net lining. *See id.* at 60–61 ("Yung's 'invention is novel in design by using the three [k]inds of material a polyester fabric (10), a plastic plate or layer (20), and a net lining (30)' that are bound to form 'a whole plate-shaped mat, and the mat (100) will not move on the carpet.'" (quoting Ex. 1006 ¶ 15) (alteration in original)). Patent Owner explains that Petitioner "fail[ed] to explain why a POSITA would have disregarded Yung's teachings about the advantages of its three-layer design. And looked only to Yung's middle layer." *Id.* at 61.

We disagree with Patent Owner's narrow reading of Yung, which we find does not fully appreciate what Yung would have taught to a skilled artisan at the time of the invention. *Even if* Yung's disclosed embodiment includes three layers, it nevertheless teaches a middle layer made of a waterproof, semi-rigid material, including polyethylene. *See* Ex. 1006 ¶ 11 ("The material of the above mentioned middle plastic plate or layer (20) as a flexible, light weight, and waterproof Polyethylene (PE) or Polyethylene—

Vinyl Acetate (EVA) foam."). Having weighed the competing evidence and testimony, we credit Mr. Strachan's testimony that "[t]he materials of Yung's tri-layer floor mat would have led a POSA to thermoforming." Ex. 1042 ¶¶ 75–81. We further credit Mr. Strachan's testimony that polyethylene, which Yung teaches, was "[c]ommonly used for heavy-gauge thermoforming . . . [and] possesses high impact strength, chemical resistance, and outdoor weatherability—all characteristics fitting for a vehicle floor mat." *Id.* ¶ 76 (citing Ex. 1009, 0197). Indeed, the evidence supports Mr. Strachan's testimony. *See, e.g.*, Ex. 1009, 0197 ("Polyethylene (PE) is the crystalline polymer most often used in heavy-gauge thermoforming, primarily because of its very high melt strength or hot strength . . . . High-density polyethylene (HDPE) has . . . exceptional impact strength, chemical resistance, and excellent outdoor weatherability.").

(4) Yung teaches away from thermoforming a floor tray that closely conforms

Patent Owner also asserts that Yung *teaches away* from thermoforming because Yung addresses the problem of floor mats sliding around "by compression molding a one-size-fits-all mat out of the tri-laminate material with a special bottom layer to create friction." PO Resp. 62 (citing Ex. 2041 ¶ 162). Patent Owner explains that "Yung's mat incorporates 'multiple foam particles' to create drag against the carpeting and keep the mat from moving." *Id.* (citing in part Ex. 1006 ¶¶ 6, 11). Patent Owner explains that the '834 patent, on the other hand, solves the same problem of "mats sliding around" "by having tray walls that conform 'within one-eighth of an inch' in specified portions to respective walls of the vehicle foot well." *Id.* (citing Ex. 2041 ¶ 161).

We disagree with Patent Owner's argument for at least two reasons.

First, Petitioner does not propose to incorporate Yung's under net lining 30 (with foam particles 32) into Rabbe's floor tray. *See* Pet. 37–38. Rather, Petitioner relies on Yung's teaching of a polyethylene middle layer (*id.* at 34) and a floor tray with curved transitions (*id.* at 37). Patent Owner's argument focusing on Yung's under net lining 30 (with foam particles 32) is inapposite to the challenge before us.

Second, a reference that "'does not criticize, discredit, or otherwise discourage investigation into' the claimed invention does not teach away." *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017); *see also* Pet. Reply 12 (arguing the same). Even if "Yung's mat incorporates 'multiple foam particles' to create drag against the carpeting and keep the mat from moving," as Patent Owner explains (PO Resp. 62), this teaching does not criticize, discredit, or otherwise discourage thermoforming Rabbe's floor tray, as Petitioner proposes (*see* Pet. 47–52). *See also* Pet. Reply 12 ("Yung's foam particles do not teach away from thermoforming a custom-fit floor tray.").

(5) Gruenwald teaches away from thermoforming Rabbe's floor tray as claimed

Patent Owner argues that because "Yung's mat is compression molded . . . a POSITA . . . would have had no reason to look to Gruenwald's treatise on thermoforming." PO Resp. 64; *see also supra* § II.D.4.a.1 (addressing Patent Owner's argument that Yung's flexible, universal floor mat was compression molded, not thermoformed). Patent Owner explains that "Rabbe's tray walls can be folded down," but "Gruenwald *teaches away* from sheet thermoforming a floor tray that is designed to fold." *Id.* (citing

Ex. 2041 ¶¶ 168–171) (emphasis added). In support of this argument, Dr. Osswald testifies that "[a] tray-shaped product made of a thick thermoplastic material sheet is not foldable." Ex. 2041 ¶ 103. Patent Owner further explains that "[t]hermoforming Rabbe's trays would create points of failure at the sharp corners and at the approximately 90 degree edges going from the floor section to the wall sections." PO Resp. 67.

We disagree with Patent Owner.

Although Rabbe's tray walls are designed to fold, they fold to "enable[] the protective tray to be released for removal from the vehicle interior." Ex. 1005, 2:12–13; *see also* Pet. Reply 13 (pointing out the same). We agree with and credit Dr. Koch's testimony that

> The only folding that is needed is enough to remove the tray, and a POSA would recognize that bending the sides inward slightly is all that would be needed to remove it. That is, the purpose of the "fold" term in Rabbe is to allow the raised edges of Rabbe's floor tray to be flexed away from the sides of the vehicle footwell.

Ex. 1041 ¶ 151 (citing Ex. 1046, 88:15–16). We further agree with and credit Dr. Koch's testimony that "Gruenwald's heavy-gauge thermoforming techniques do not teach away from the flexibility needed for Rabbe's floor tray" (*id.* ¶ 153) and that "[a] POSA would have understood that thermoforming Rabbe's floor tray with the polyethylene (unfoamed or foamed) disclosed in Yung would have yielded raised edges that can flex away to promote handling of the floor mat" (*id.* ¶ 152).

(6) Petitioner has not identified a realistic motivation to combine

Patent Owner contends that "Petitioner has not identified a realistic motivation to combine." PO Resp. 68. In support of this argument, Patent

Owner asserts that "a POSITA would recognize that thermoforming Rabbe's trays would not be cost-effective" because "Rabbe's trays have severely 'unequal heights,' which would result in significant material waste." *Id.* at 68–69. Dr. Osswald testifies that thermoforming Rabbe's trays would result in "having to cut out a significant percentage . . . of the sheet" and Gruenwald's other attempts to control variations in wall thickness "also drives up the cost." Ex. 2041 ¶ 99; *see also* PO Resp. 69 (citing the same).

We disagree with Patent Owner's argument. *Even if* portions of Rabbe's tray had to be trimmed away as a result of the thermoforming process, such material would be recycled to avoid waste.

We credit Dr. Koch's testimony that "a POSA would have understood that the excess material—trim material—in a thermoforming process can be reused because it is a thermoplastic." Ex. 2041 ¶ 131 (citing Ex. 1008, 0055). The evidence cited by Dr. Koch supports his testimony. *See, e.g.*, Ex. 1008, 0055 ("The thermoforming industry has long been concerned about the use of the word 'scrap' to describe the non-product portion of the sheet. Thermoforming economics dictate that the non-product should be reground, mixed with virgin resin, and reprocessed into useful product."). Having weighed the competing testimony and evidence, we further credit Dr. Koch's testimony that "[f]or custom floor trays like Rabbe, thermoforming would have been the most cost-effective approach." Ex. 1041 ¶ 133.

Having considered Patent Owner's arguments and evidence, we agree with Petitioner that a skilled artisan would have manufactured Rabbe's floor trays using thermoforming as a low-cost method of manufacture. *See* Pet. 47–53; *see also* Ex. 1003 ¶ 152 ("[A] POSA would have turned to

references specifying known materials and known methods for cost-effective manufacturing of vehicle floor trays . . . . This would have led a POSA to Yung, which teaches that vehicle floor trays can be manufactured with rigid- or semi-rigid thermoplastic material."). We credit Dr. Koch's testimony that a "POSA would have also been aware of the numerous other prior-art floor trays made of thermoplastic material by the low-cost and versatile thermoforming process." Ex. 1003 ¶ 152. We also agree with Petitioner that the proposed modification would have yielded a floor tray that is "lightweight, durable, [and] waterproof" for easy removal and cleaning. *See* Pet. 52. Petitioner's reasoning for using thermoforming to manufacture Rabbe's floor tray is articulately reasoned and supported by the teachings of Yung, Gruenwald, Petitioner's testimony, and the other evidence of record.

(7) Summary of Preamble

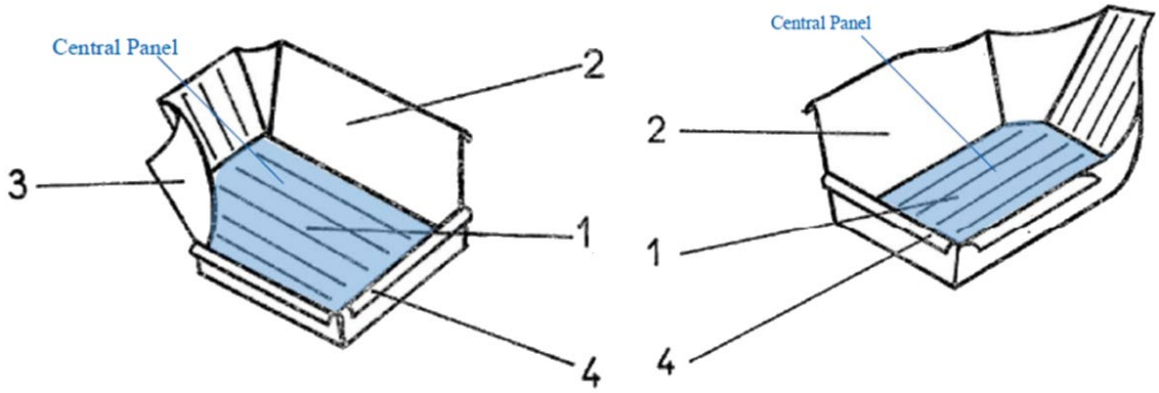
We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the subject matter recited in the preamble for the reasons stated by Petitioner in the Petition, which we adopt as our own findings, and as further supported by the testimony of Dr. Koch and Mr. Strachan.[4]

b) Element 13(a) – a substantially horizontal central panel

To address this limitation, Petitioner submits that "Rabbe's and Yung's central panels are 'substantially horizontal.'" Pet. 58 (citing Ex. 1005, Figs. 3–4). Petitioner submits an annotated version of Rabbe's

[4] *See supra* n.3.

Figures 3 and 4 to illustrate this assertion (*see id.* at 34), which we reproduce, below:



EX1005, FIGs. 3-4 (annotated).

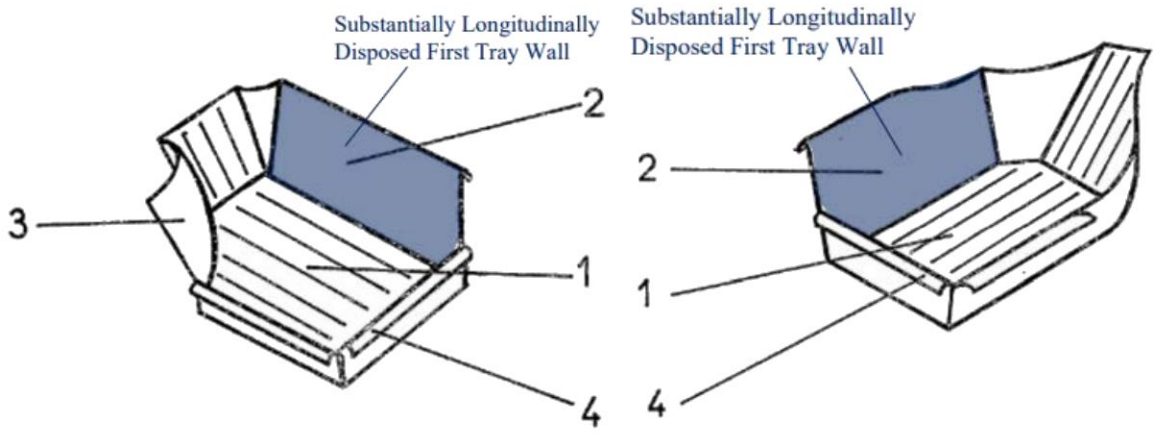
Figures 3 and 4 depict Rabbe's protective floor trays for the driver (left) and front passenger (right). *See* Ex. 1005, 2. Petitioner asserts that "Rabbe's central panel is at 1." Pet. 34.

Patent Owner does not dispute this assertion. *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe discloses a "substantially horizontal" central panel as required by claim element 13(a).

> *c) Element 13(b) – a first tray wall joined to the central panel by a curved transition, the first tray wall standing up from the central panel and being substantially longitudinally disposed*

To address this limitation, Petitioner submits an annotated version of Rabbe's Figures 3 and 4 (Pet. 36), which we reproduce, below:

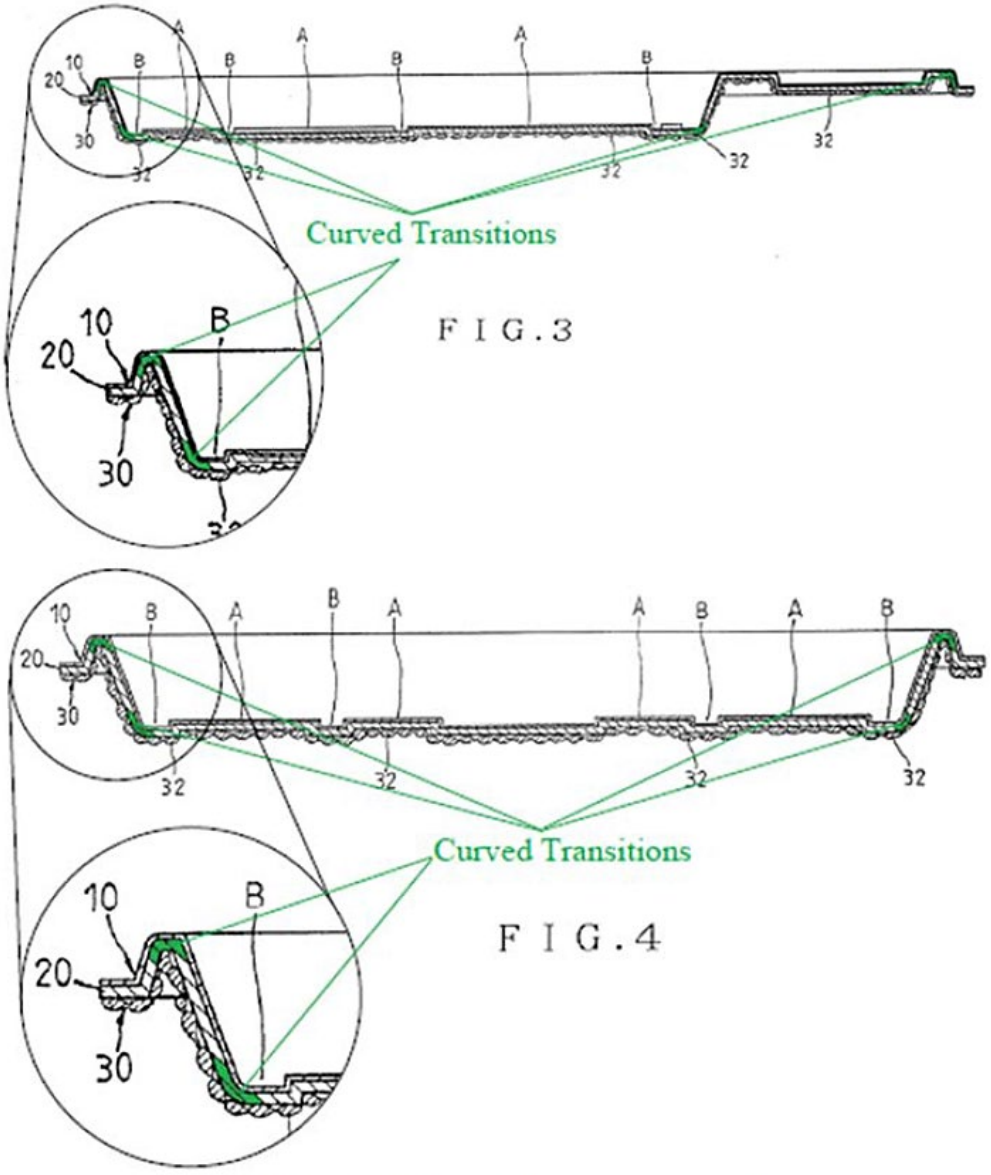


EX1005, FIGs. 3-4 (annotated).

Figures 3 and 4 depict Rabbe's protective tray positioned beneath the feet of the driver (left figure) and front passenger (right figure). *See* Ex. 1005, 2. Petitioner submits that "Rabbe's floor tray includes a substantially longitudinally disposed first tray wall (e.g., 2) joined to (and standing up from) the central panel." Pet. 36 (citing Ex. 1003 ¶ 134; Ex. 1005, Figs. 3–4). Petitioner further submits that "Rabbe's floor and side panels are 'semi-rigid rubber or another material having the same properties." *Id.* (citing Ex. 1005, Abstr., 1:16–19). Petitioner explains that a "POSA would have understood this describes integral construction, i.e., from a single material, formed or molded into the desired shape." *Id.* at 36–37.

To address the claimed "curved transition" between the central panel and first tray wall, Petitioner relies on Gruenwald's teaching of avoiding sharp corners and using rounded edges to improve stiffness. *See id.* at 37 (citing Ex. 1007, 37, 53). Gruenwald teaches, "Sharp corners can lead to web formation on tall male molds and also carry the danger of brittle failure of the part. Rounded edges improve stiffness, reduce molded-in stresses, and are more likely to prevent warpage." Ex. 1007, 53. Petitioner also

submits an annotated version of Yung's Figures 3 and 4 to address the claimed curved transitions (Pet. 38), a copy of which we reproduce, below:



EX1006, FIGs. 3-4 (annotated).

Figures 3 and 4 depict "an improved mat used in cars" consisting of upper polyester fabric 10, middle plastic plate or layer 20, and under net lining 30. Ex. 1006 ¶ 10. According to Petitioner, and as shown in the annotated figures, "Yung discloses curved transitions along all sides of the central panel." Pet. 37 (citing in part Ex. 1003 ¶ 137).

> In combining the cited art, Petitioner reasons that a skilled artisan thermoforming Rabbe's floor tray using the thermoplastic materials disclosed by Yung would have been motivated to implement curved transitions between the central panel and the upwardly extending panels as explicitly taught in the thermoforming art. This is consistent with Yung's curved transitions at all sides of the central panel and with the principles of thermoforming disclosed by Gruenwald, e.g., avoiding "sharp corners." Doing so would have simply been applying a known technique (curved transitions) to a known product (thermoformed vehicle floor tray) that yielded predictable results (vehicle floor tray with curved transitions between the central panel and sidewalls *to improve stiffness and reduce failure points*).

Id. at 38–39 (citing Ex. 1003 ¶ 138; Ex. 1007, 37, 53, 163) (emphasis added).

Patent Owner argues that the "Rabbe-Yung-Gruenwald combination does not teach first, second, and third tray walls 'joined' with each other and a central panel of the tray by curved transitions integrally formed from a single sheet of polymeric material of substantially uniform thickness as claimed." PO Resp. 43–44. In support of this argument, Patent Owner presents two separate sub-arguments, which we address separately.

(1) Rabbe discloses an assembly, not an integrally formed tray

Patent Owner asserts that Rabbe discloses an assembly, not an integrally formed tray, and that "Rabbe, properly translated, describes its floor tray as an 'assembly,' which suggests to a POSITA that Rabbe contemplated assembling his tray from multiple pieces of rubber (e.g., using well-known and commonly available adhesives)." PO Resp. 44 (citing Ex. 2041 ¶¶ 84–85) (emphasis omitted). Dr. Osswald testifies that a

POSITA would have recognized that Rabbe's trays preclude integral formation, due to the presence of undercuts, flanges, and "abrupt, straight corner[s]." *See id.* at 45–47 (citations omitted).

We disagree with Patent Owner's position that the presence of the word "assembly" in Rabbe teaches that Rabbe's floor tray is comprised of multiple pieces that are adhered to one another. *See* Pet. Reply 15 (arguing the same). We find no disclosure in Rabbe that describes stitching or otherwise adhering rubber pieces to form its tray. *See* Ex. 1041 ¶ 65 (finding the same).

Rather, we agree with Petitioner that Patent Owner's "attempt to limit Rabbe's floor tray to a thermoset stitched or glued from separate pieces finds no support in Rabbe and ignores that thermoforming floor trays was 'within the basic knowledge of a POSA.'" Pet. Reply 15. We credit Dr. Koch's testimony that Rabbe does not teach a floor tray assembled by multiple pieces. Ex. 1041 ¶¶ 64–66. In particular, we credit Dr. Koch's testimony that "[t]he noun 'assembly,' when referring to a part, does not suggest a specific manufacturing process, and thus does not require that the part was assembled from separate pieces. Instead, 'assembly' is a term used in the industry to refer generically to a finished product, however it is made." *Id.* ¶ 64.

As to Dr. Osswald's testimony regarding the presence of undercuts, sharp corners, and flanges, which teach that Rabbe's floor tray is not integrally formed, we disagree. Rather, we agree with and credit Dr. Koch's testimony that Rabbe's floor tray, even with the supposed sharp corners, deep draws, and undercuts, can be thermoformed. *Id.* ¶¶ 84–91; *see also, e.g.*, *id.* ¶ 87 ("flanges can easily be thermoformed. . . . Prior art references,

such as Bailey [Ex. 1053], disclose thermoformed products with similar flanges" (citing Ex. 1053, 6:1–33, Fig. 4; Ex. 1008, 0516–0517)). We further credit Mr. Strachan's testimony that thermoforming parts with undercuts was commonplace at the time of the invention. *See* Ex. 1042 ¶¶ 66–69; *see also id.* ¶ 67 ("a POSA would have understood how to account for undercuts by making modifications to the thermoform mold . . . it was commonplace before 2004.").

(2) The combination of Rabbe, Yung, and Gruenwald does not disclose the claimed integrally formed panels

Patent Owner submits that "Rabbe's rubber trays are obviously not made of thermoplastic materials and . . . contain features that a POSITA would understand preclude the use of thermoforming." PO Resp. 48 (citing in part Ex. 2041 ¶ 102) (emphasis omitted). Patent Owner argues that "a POSITA would not have been led to thermoforming based on Rabbe's disclosure . . . [a]nd there is nothing in Petitioner's combination of references that supports thermoforming Rabbe's tray in order to arrive at the claimed integral panels formed from a single sheet of thermoplastic material." *Id.* (citing Ex. 2041 ¶¶ 95–105).

As explained similarly above, we disagree with Patent Owner's assertions that Rabbe's trays cannot be made of thermoplastic materials and that the cited references, namely Yung and Gruenwald, do not support Petitioner's reasoning for manufacturing Rabbe's tray by thermoforming. *See supra* § II.D.4.a. To reiterate, we credit Dr. Koch's testimony that Rabbe's teaching of other materials "having the same properties" would have led a POSITA to consider using thermoplastics. Ex. 1041 ¶ 80. We

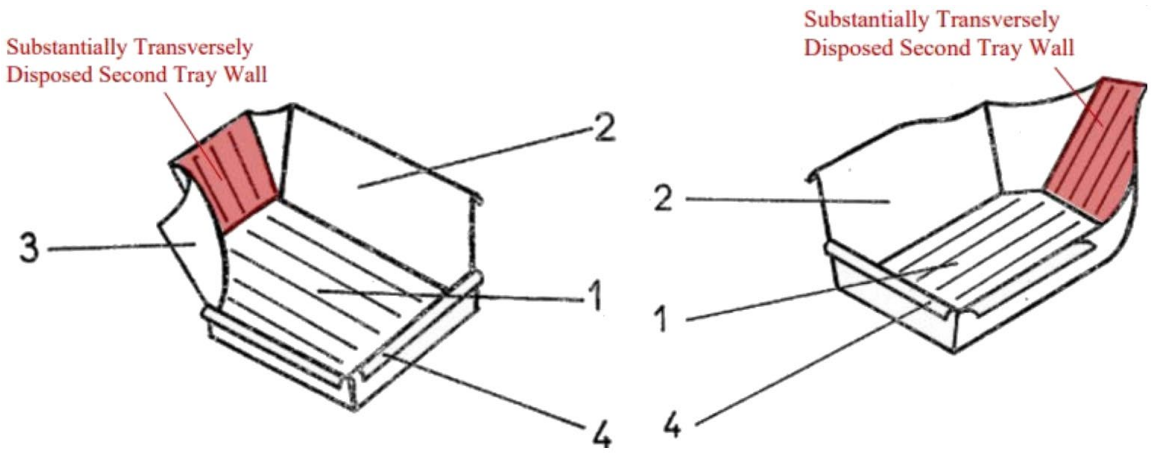
agree with Petitioner that a skilled artisan would have manufactured Rabbe's floor trays using thermoforming as a low-cost method of manufacture. *See* Pet. 47–53; *see also* Ex. 1003 ¶ 152.

(3) Summary of Element 13(b)

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(b) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

d) Element 13(c) – a second tray wall joined to the central panel and to the first tray wall by respective curved transitions, the second tray wall standing up from the central panel and being substantially transversely disposed

Petitioner submits that Rabbe discloses a second tray wall joined to (and standing up from) the central panel and to the first tray wall by respective curved transitions. *See* Pet. 39. To illustrate this position, Petitioner submits an annotated version of Rabbe's Figures 3 and 4 (*id.* at 40), which we reproduce below:



EX1005, FIGs. 3-4 (annotated).

According to Petitioner, the Figures 3 and 4 depict second tray walls standing up from central panel 1. *See* Pet. 40.

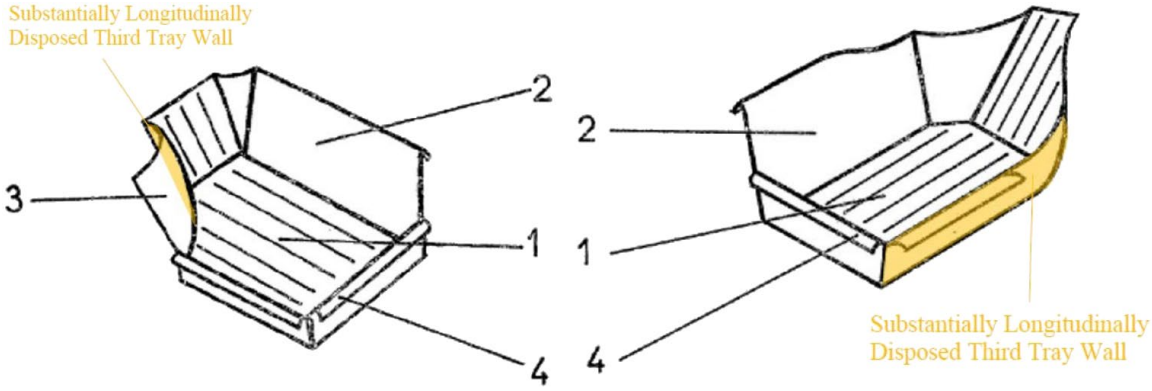
As with Element 13(b), Petitioner also cites to Yung's "curved transitions" and Gruenwald's teaching of avoiding sharp corners and reasons that a skilled artisan would have further modified Rabbe's floor tray to further implement additional "curved transitions" in order to improve stiffness and reduce failure points. *See* Pet. 41–42.

Patent Owner does not present additional arguments contesting Petitioner's position as to Element 13(c). *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(c) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

e) Element 13(d) – a third tray wall joined to the central panel and to the second tray wall by respective curved transitions, the third tray wall standing up from the central panel and being substantially longitudinally disposed

Petitioner submits that "Rabbe discloses a substantially longitudinally disposed third tray wall joined to (and standing up from) the central panel and to the second tray wall by respective curved transitions." Pet. 42 (citing Ex. 1003 ¶ 142). Petitioner submits annotated versions of Rabbe's Figures 3 and 4 (*id.*), which we reproduce below:



EX1005, FIGs. 3-4 (annotated).

Petitioner submits that these figures depict third tray wall (identified with reference numeral 3 in the left figure) joined to central panel 1 and second tray wall. *See* Pet. 42.

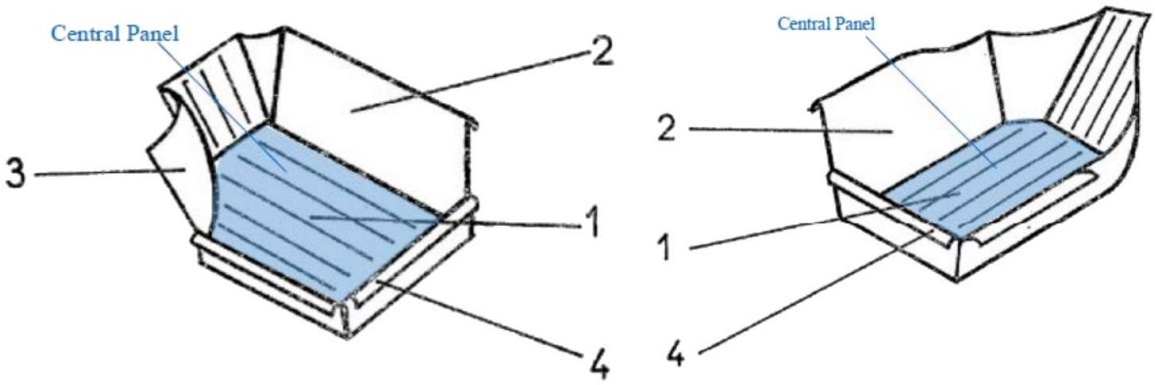
Petitioner also cites to Yung's "curved transitions" and Gruenwald's teaching of avoiding sharp corners and reasons that a POSITA would have further modified Rabbe's floor tray to have additional curved transitions in order to improve stiffness and reduce failure points. *See id.* at 43.

Patent Owner does not present additional arguments contesting Petitioner's position as to Element 13(d). *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(d) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

f) Element 13(e) – the central panel having a general portion with an upward facing general surface and a reservoir portion with an upwardly facing general surface, the general surface of the reservoir portion disposed vertically below the general surface of the general portion

Petitioner submits that "both Rabbe and Yung disclose a central panel having a general portion with an upward facing general surface" and submits annotated versions of Rabbe's Figures 3 and 4 to illustrate. Pet. 59. We reproduce those annotated figures, below:

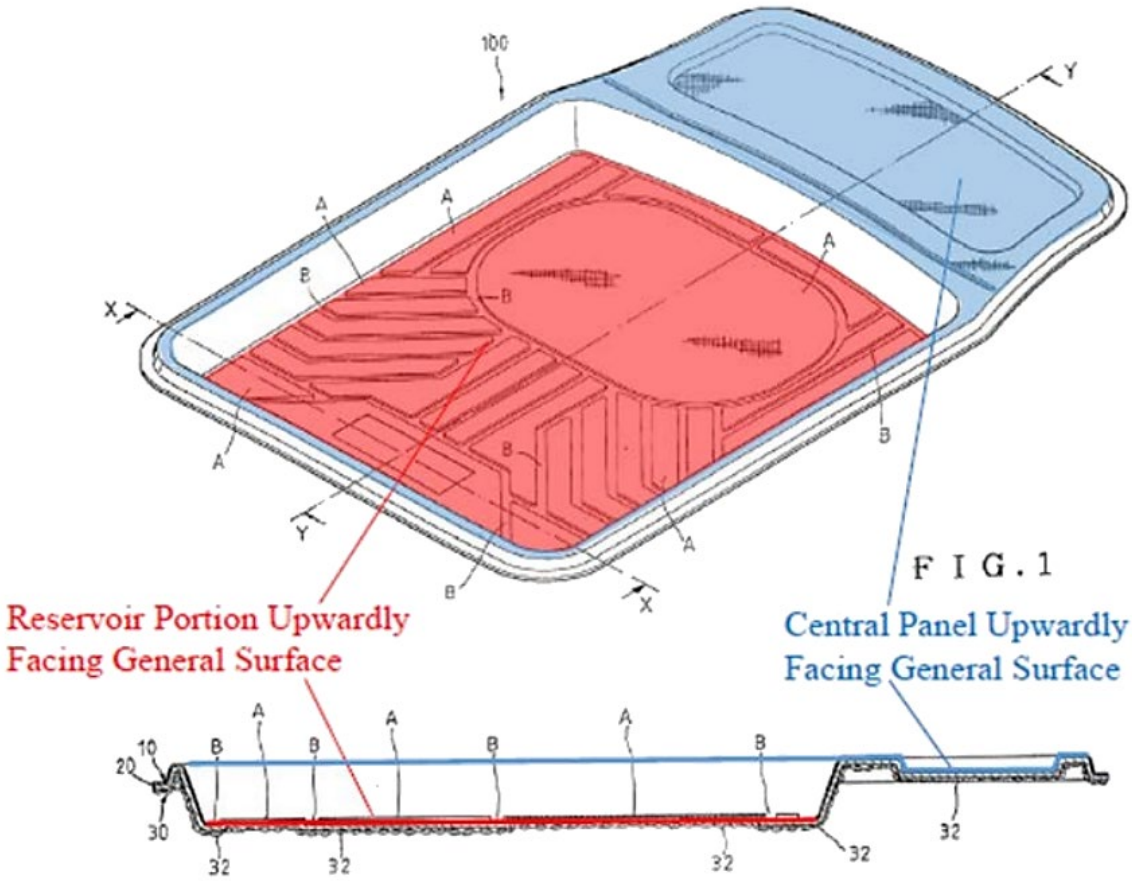


EX1005, FIGs. 3-4 (annotated).

As shown above, Petitioner submits that Rabbe's "central panel" 1 has an upward facing general surface. *See id.* Petitioner acknowledges, however, that "[w]hile Rabbe discloses protecting the vehicle interior from water, mud, etc., and having portions of the floor tray at different heights

(corrugations), it does not expressly disclose a reservoir." *Id.* (citing Ex. 1005, Abstr., 2:7–9).

Petitioner submits that Yung discloses a reservoir. *See id.* (citing Ex. 1006 ¶¶ 12–13; Ex. 1003 ¶ 177). Petitioner submits an annotated version of Yung's Figures 1 and 3 (*id.* at 60), which we reproduce, below:



EX1006, FIG. 3 (annotated).

As shown above, Petitioner submits that Figures 1 and 3 depict Yung's reservoir portion with an upwardly facing general surface (shown in red) that

is disposed vertically below the general surface of the central panel's general portion (shown in blue). *See id.* at 59–60.

In combining Rabbe with Yung's teachings, Petitioner reasons that "[a] POSA would have been motivated to dispose the reservoir below other parts of the floor tray because water naturally flows to the lowest area, so locating the reservoir in a recessed or lower area is a logical design choice." *Id.* at 60 (citing in part Ex. 1003 ¶ 177, Ex. 1019).

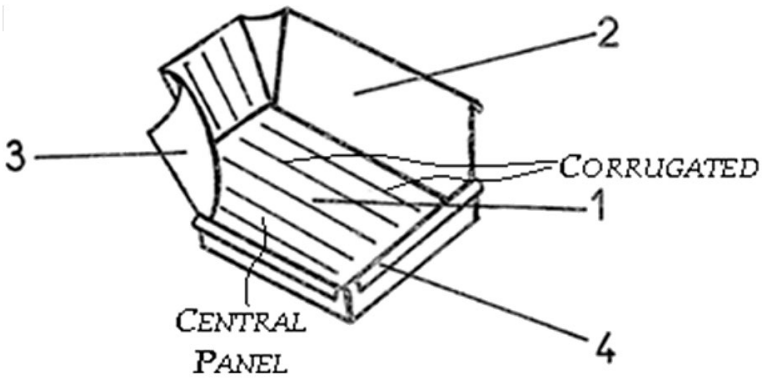
Patent Owner does not present additional arguments contesting Petitioner's position as to Element 13(e). *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(e) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

g) Element 13(f) – plurality of elongate, spaced-apart, hollow baffles formed within the reservoir portion to stand up from the general surface of the reservoir portion

Petitioner submits an annotated version of Rabbe's Figure 5 to address this limitation. Pet. 61. We reproduce that annotated figure, below:

RABBE – FIG. 3



EX1005, FIG. 3.

Petitioner submits that annotated Figure 5 depicts Rabbe's central panel includes corrugations that are "elongate, spaced-apart surfaces that elevate the vehicle occupant's feet above the bottom surface of the central panel." *See id.*

Petitioner also submits that Yung discloses similar structure, submitting an annotated version of Yung's Figure 1 (*see* Pet. 61–62), a copy of which we reproduce, below:

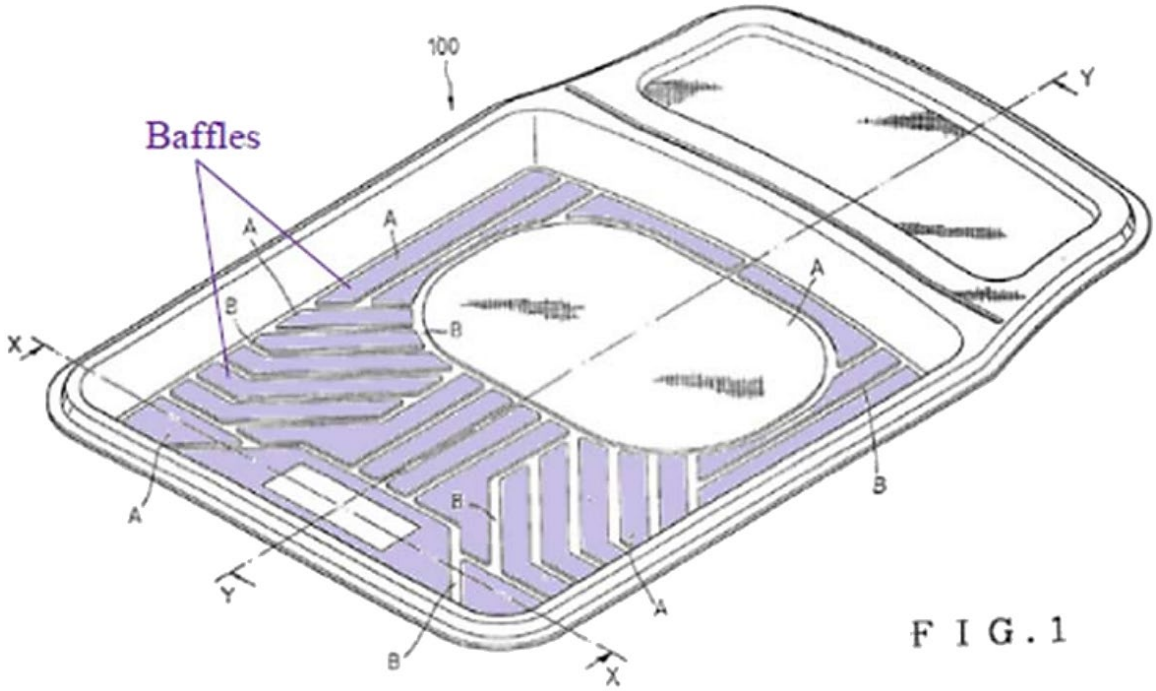


FIG. 1

EX1006, FIG. 1 (annotated).

Figure 1 "is a perspective view of the improved mat used in cars" of Yung's invention. Ex. 1006 ¶ 6. Yung discloses that "[t]here are multiple symmetrical bevel grooves formed between [] umbos naturally, and the grooves are downward . . . [and] can collect the muck on the shoes." *See id.* ¶ 5. Petitioner submits that Yung's "umbos" are "elongated, spaced-apart surfaces that stand up from the general surface of the reservoir portion that elevate the vehicle occupant's feet above fluid in the reservoir." Pet. 61 (citing in part Ex. 1006 ¶ 13). Petitioner also submits that "Yung's baffles are also hollow" and that "hollow features are part of thermoforming." *Id.* at 62 (citing in part Ex. 1003 ¶¶ 67–77).

In combining Rabbe with Yung, Petitioner reasons that a POSITA would have modified Rabbe's protective tray "to include well-known hollow

baffles, for example reducing weight and cost." *Id.* (citing in part Ex. 1003 ¶ 181). Dr. Koch testifies to the same. Ex. 1003 ¶ 181.

Patent Owner does not present additional arguments contesting Petitioner's position as to Element 13(f). *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(f) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

> *h) Element 13(g) – each of the general portion of the central panel, the reservoir portion of the central panel, the baffles and the first, second and third tray walls having an outer surface adapted to face a respective surface of a vehicle foot well and an inner surface opposed to the outer surface, a thickness measured between the respective inner and outer surfaces of the first tray wall, second tray wall, third tray wall, general portion of the central panel, reservoir portion of the central panel and the baffles being substantially uniform throughout the tray*

Petitioner reasons that a POSITA, when thermoforming Rabbe's tray, would have achieved "a thermoformed part having substantially uniform thickness throughout." Pet. 44 (citing in part Ex. 1007, 167). Petitioner reasons that Gruenwald discloses thermoforming methods, including billow drape forming, vacuum snap-back forming, and plug assist forming "to control thinning and produce parts having a uniform wall thickness." *See id.* (citing Ex. 1003 ¶ 146). Based on Gruenwald's teachings, Petitioner reasons that "a POSA would have been motivated to reduce thinning and achieve a

substantially uniform thickness because thinning creates weak areas in thermoformed products." *Id.* at 45 (citing in part Ex. 1003 ¶ 147).

Patent Owner does not present additional arguments contesting Petitioner's position as to Element 13(g). *See generally* PO Resp.

We find that Petitioner has established by a preponderance of the evidence that Rabbe in view of Yung and Gruenwald satisfies the limitations recited in Element 13(g) for the reasons and supporting evidence identified by Petitioner in the Petition, which we adopt as the basis of our own findings.

i) Secondary Considerations (claims 13–15)[5]

Notwithstanding what the teachings of the prior art would have suggested to one skilled in the art, objective evidence of non-obviousness ("secondary considerations") may lead to a conclusion that the challenged claims would not have been obvious. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Objective evidence of non-obviousness "may often be the most probative and cogent evidence in the record" and "may often establish that an invention appearing to have been obvious in light of the prior art was not." *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012).

To be relevant, evidence of non-obviousness must be commensurate in scope with the claimed invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011). Thus, to be accorded substantial weight, there must be a *nexus* between the merits of the claimed invention and the evidence of secondary

[5] In the spirit of brevity, we address the secondary considerations evidence as it applies to each of claims 13–15 here.

considerations. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). Nexus is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining non-obviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

Patent Owner submits that the manufacture and sale of its WeatherTech floor trays and molds provide the following evidence of non-obviousness: (1) long felt but unresolved need (PO Resp. 75–77); (2) commercial success (*id.* at 77–78); (3) industry praise (*id.* at 78–79); (4) competitor licenses to the '834 patent (*id.* at 80); and (5) failure of others (PO Sur-Reply 41).

(1) Nexus

Petitioner contends that Patent Owner did not show a nexus. Pet. Reply 25.

As to claims 13–15, we agree.

Patent Owner's evidence is not commensurate in scope with the invention recited in claims 13–15, and is not relevant to these claims. *See Kao*, 639 F.3d at 1068. Although Patent Owner submits two claim charts matching the features of its WeatherTech product to claim 1 of the '834 patent (Exs. 2132, 2133), Patent Owner *does not* submit a claim chart for claim 13, 14, or 15 of the '834 patent[6]; *see also* PO Sur-Reply 39 ("A nexus is established if the claim reads on the product . . . Claims 1, 5, and 9 require that a specified portion of an outer surface of the tray walls be within

[6] Patent Owner submits a *partial* claim chart for claim 13 of U.S. Patent No. 8,336,944 B2 (Ex. 2133, 15), but not for claim 13 of the '834 patent.

one-eighth of an inch of respective footwell walls."). Although we are not aware of a requirement to submit a claim chart to establish nexus, Patent Owner does not connect the limitations of claims 13–15 to its secondary consideration evidence. Rather, Patent Owner's evidence of non-obviousness points to features not recited in claims 13–15, namely, the close-conformance of the WeatherTech floor tray to a vehicle's interior. As our reviewing court instructed us in *Fox Factory*, even if we assume that the WeatherTech product falls within the scope of claims 13–15, due to the breadth of these claims, the WeatherTech product is not coextensive with these claims because the evidence of non-obviousness focuses on the close conformity of the tray walls to the vehicle foot well. *See Fox Factory, Inc. v. SRAM, LLC*, 813 Fed. App'x 539, 542 (Fed. Cir. 2020) ("a product is not coextensive with a claimed invention simply because it falls within the scope of the claim"); *see also SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1319 (Fed. Cir. 2015) ("If a product both embodies the claimed features and is coextensive with the claims at issue, a nexus is presumed. In other words, a nexus exists if the commercial success of a product is limited to the features of the claimed invention." (citation and quotation marks omitted)).

As explained in more detail below, Patent Owner's secondary consideration evidence focuses on the *close conformity* of the tray to the vehicle foot well, features that are *not* recited in claims 13–15. *See, e.g.*, PO Resp. 70 ("customers are willing to pay a premium for WeatherTech floor trays that actually fit like a glove" (emphasis omitted)); *see also* Ex. 1001, 22:56–24:3 (claims 13–15).

Accordingly, Patent Owner has failed to establish it is entitled to a presumption of nexus between the invention recited in claims 13–15 and the

objective evidence of non-obviousness.

(2) Long felt but unresolved need

In presenting its "long felt but unresolved need evidence," Patent Owner submits that prior floor mats had "['limited customer acceptance because of their loose fit' and tendency to 'rattle, deform, shift and flop about.'" PO Resp. 75 (quoting Ex. 1001, 1:45–2:12). Mr. Sherman testifies that "[w]hile some prior art floor trays were advertised as having a 'perfect' or 'exact' fit . . . it was universally recognized in the industry that this was mere puffery." Ex. 2043 ¶ 161; *see also* PO Resp. 76 (quoting the same). Patent Owner further submits that "[o]thers tried, but failed, to create a tray that closely conformed to the sides of the foot well" (*id.* (citing Ex. 1001, 1:58–2:16)) and that "[t]he '834 Patent solved this long-felt 'need . . . for a floor tray that will have a more exact fit to the vehicle foot well" (*id.* (citing Ex. 1001, 2:12–16, 2:28–33)).

As shown above, the long-felt need demonstrated by Patent Owner's evidence relates entirely to the *closely-conforming* floor tray, a feature not recited in claims 13–15.

(3) Commercial success

Patent Owner submits that "[t]he commercial success of WeatherTech's vehicle floor trays since their introduction in 2004 is incredible." PO Resp. 77 (citing Ex. 2042 ¶¶ 73–85). In support of the commercial success argument, Patent Owner explains that "[t]his is primarily due to one reason—the way WeatherTech's trays fit in the vehicle for which they were custom manufactured." *Id.* at 78 (citing Ex. 2042 ¶¶ 81–85).

Mr. Granger testifies that "[c]onsumer reviewers often point out the closeness of fit as the salient characteristic of the part, or as the reason for purchase." Ex. 2042 ¶ 83; *see also id.* ¶ 84 ("The biggest reason for the WeatherTech FloorLiner's commercial success . . . is that they 'fit' the foot wells for which they were custom-designed, to a degree not achieved by competitors.").

As explained above, the evidence of commercial success of the WeatherTech floor trays leads us to find that the commercial success is due to the *close-conformity* of the trays in the foot well, a feature not recited in claims 13–15.

(4) Industry praise

Patent Owner submits that "[i]ndustry participants have praised WeatherTech's® floor trays for features described and claimed in the '834 Patent—including closeness of fit, the baffle/reservoir arrangement, and panel arrangement." PO Resp. 78 (citing Ex. 2043 ¶¶ 169–171). Mr. Sherman testifies, "In my opinion, this praise stemmed from the combination of the claimed features—close conformance, an effective panel arrangement, and integration of the baffles and reservoir—in a single tray product." Ex. 2043 ¶ 170. Mr. Sherman further testifies that "[t]he automotive accessories industry has also praised the close conformance of WeatherTech's® trays to the surface of the vehicle foot well." *Id.* ¶ 171.

Although Mr. Sherman's testimony makes a reference to "integration of the baffles and reservoir" (Ex. 2043 ¶ 170), Yung disclosed a floor tray with integrated baffles and reservoir before the date of the invention. *See, e.g.*, Ex. 1006, Figs. 1, 3, 4; *see also* Pet. 61–62 (referencing Ex. 1006,

Fig. 1, in asserting the same). Because the integration of the baffles and reservoir already existed, "industry praise of what was clearly rendered obvious by published references is not a persuasive secondary consideration." *Bayer Healthcare Pharms., Inc. v. Watson Pharms., Inc.*, 713 F.3d 1369, 1377 (Fed. Cir. 2013).

We find that the industry praise cited by Mr. Sherman and Patent Owner relates specifically to the "close conformance of WeatherTech's® trays to the surface of the vehicle foot well" (Ex. 2043 ¶ 171), a feature not recited in claims 13–15. The evidence supports this finding. *See, e.g.*, Ex. 2054, 1 (describing WeatherTech products to "fit every contour of the floor as precisely as you can imagine" and "stay in place like part of the floor"); *see also* Ex. 2055, 1–2 ("Digital laser measurements of interior surfaces offer a consistently perfect fit" that "accurately and completely lines up to fit all vehicles" and "give[s] absolute protection of your vehicle."). Mr. Sherman testifies, "In my opinion, this praise for the close conformance of the WeatherTech floor trays—which embody the conformance of the '186 and '834 claims—provides additional evidence that the invention claimed in the '186 and '834 Patents would not have been obvious." Ex. 2043 ¶ 171.

As explained above, the industry praise of the WeatherTech floor trays is due to the close-conformity of the trays in the foot well, a feature not recited in claims 13–15.

(5) Competitor Licenses

Evidence that competitors or customers have licensed a patent may provide probative and cogent evidence of non-obviousness of the claims at

issue. *Institut Pasteur & Universite Pierre et Marie Curie v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013). Patent Owner cites to two settlement agreements with patent licenses and submits that "[t]his licensing activity favors a finding of nonobviousness." PO Resp. 80.

Petitioner argues that "[l]icenses intended to resolve litigation are not persuasive evidence of nonobviousness without affirmative evidence that the license has a nexus to the merits of the claimed invention." Pet. Reply 28 (citing *In re Cree, Inc.*, 818 F.3d 694, 703 (Fed. Circ. 2016)).

Although Patent Owner submitted into evidence two settlement agreements (Exs. 2050, 2051), we agree with Petitioner that Patent Owner fails to provide affirmative evidence that the settlement agreements, which include patent licenses, have a nexus to the merits of the claimed invention. *See* Pet. Reply 28. The settlement agreements license multiple patents, not just the '834 patent, and broadly include any patent that issues from U.S. Application No. 10/976,441. Ex. 2050 §§ 1.3, 1.8; Ex. 2051 §§ 2, 6. No information is provided about critical details of the licenses—such as the relative contributions of each of the patents, let alone specific claims, in the portfolio to the value of the licenses—such that we could discern whether the licensee took the license "out of recognition and acceptance of the subject matter" of claims 13–15 of the '834 patent, or something else. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *see also Unified Patents, LLC v. Synkloud Technologies, LLC*, 2021 WL 841367, *17 (PTAB March 5, 2021).

Accordingly, we do not find Patent Owner's license agreement evidence persuasive in establishing nonobviousness.

(6) Failure of others

In the Patent Owner Sur-Reply, Patent Owner argues, "There is evidence of a new secondary consideration—failure of others. Mr. Sherman's company tried and failed to use a CMM to scan a footwell and produce a custom made floor tray." PO Sur-Reply 41 (citing Ex. 1047, 166:13–167:16 (Sherman deposition)).

Patent Owner's *Sur-Reply* argument pertaining to "failure of others" is untimely. PO Sur-Reply 41. "Patent Owner is cautioned that any arguments for patentability not raised in the response may be deemed waived." Paper 11, 8; *see also In re NuVasive, Inc.*, 842 F.3d 1376, 1380–81 (Fed. Cir. 2016) (holding that an argument not presented in a patent owner's response is waived); *Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (holding that the Board was not obligated to consider an "untimely argument"). Because Patent Owner did not rely upon *failure of others* in its Response (*see* PO Resp. 70–80), Patent Owner has waived that argument and we do not consider it further in our analysis.

(7) Summary of Secondary Considerations (claims 13–15)[7]

For the reasons discussed above, we do not find a nexus between Patent Owner's evidence of nonobviousness and claims 13–15. We, therefore, accord little to no weight to this evidence in assessing the obviousness of these claims.

[7] *See supra* n.5 (addressing the secondary considerations of claims 13–15 collectively for brevity).

j) Summary of Independent Claim 13

After considering the evidence and arguments of both parties, and for the reasons set forth above, we agree with Petitioner and determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that independent claim 13 of the '834 patent is unpatentable over Rabbe, Yung, and Gruenwald.

5. Dependent Claim 14

Claim 14 depends from claim 13 and further recites,

> wherein the central panel has a forward region with an upward facing general surface and a rearward region, the reservoir portion being disposed in the rearward region, the general surface of reservoir portion being disposed below the general surface of the forward region.

Ex. 1001, 24:4–9.

In addressing claim 14, Petitioner relies on Yung's teachings, submitting an annotated version of Yung's Figures 1 and 3 (Pet. 65), which we reproduce, below:

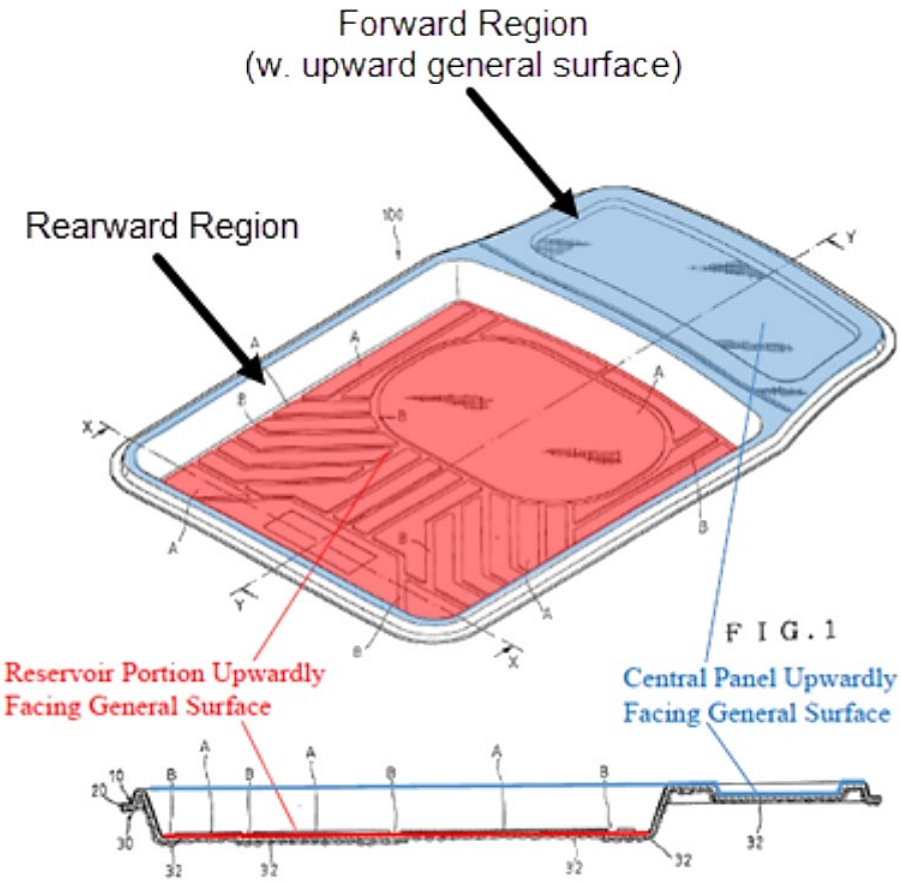


FIG. 1

FIG. 3

EX1006, FIGs. 1, 3 (annotated).

According to Petitioner, Figures 1 and 3 depict a "shallow plate-shaped object" in the forward region (shown in blue) and a "plate shaped object" in the rearward region (shown in red). Pet. 65 (emphasis omitted). Petitioner submits that the forward plate-shaped object provides an area for people to step on. *Id.*

Yung discloses that

> As figures shown that the mat **(100)** of this invention is a plate-shaped object, and there is a shallow plate-shaped object at the front flange of the mat. *The plate-shaped object and the*

> *shallow plate-shaped object are for people to step on*. The mat can be placed freely depends on the locations of the front seat and rear seat.

Ex. 1006 ¶ 12 (second emphasis added).

In combining Rabbe with Yung, Petitioner reasons that "a POSA would have been motivated to include the 'shallow plate-shaped object' (forward region) to provide an area 'for people to step on.'" Pet. 66 (citation omitted).

Patent Owner does not present additional arguments contesting Petitioner's position as to claim 14. *See generally* PO Resp.; *see also supra* § II.D.4.i.7 ("we do not find Patent Owner's evidence of nonobviousness persuasive with respect to claims 13–15.").

We are persuaded by Petitioner's argument and evidence and find that Petitioner has established by a preponderance of the evidence that Rabbe as modified based on Yung's teachings satisfies the limitations recited in claim 14. Petitioner has met its burden of showing, by a preponderance of the evidence, that claim 14 of the '834 patent is unpatentable over Rabbe, Yung, and Gruenwald.

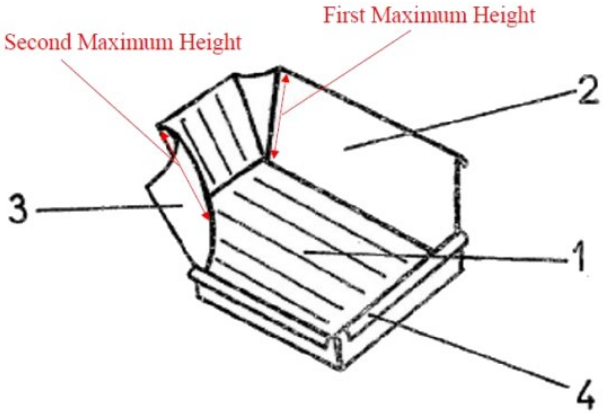
6. Dependent Claim 15

Claim 15 depends from claim 13 and further recites,

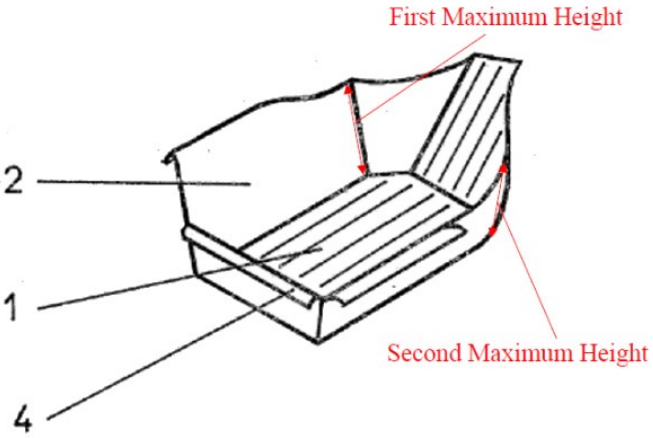
> wherein the first and third tray walls each have an upper margin, a first maximum height of the first tray wall measured from the central panel to the upper margin of the first tray wall, a second maximum height of the third tray wall measured from the central panel to the upper margin of the third tray wall, a forward end of the first tray wall joined to the second tray wall throughout the first maximum height, a forward end of the third tray wall joined to the second tray wall throughout the second maximum height.

Ex. 1001, 24:10–19.

In challenging claim 15, Petitioner submits that the "Rabbe-Yung-Gruenwald combination renders" claim 15 obvious. Pet. 57 (referencing in part Petitioner's challenge of claim 4). Petitioner further submits that Rabbe's "triangularly-shaped and trapezoid-shaped portions in Figures 3 and 4 of Rabbe" disclose the claimed features. *See id.* at 55 (citing in part Ex. 1003 ¶ 170). Dr. Koch submits an annotated version of Rabbe's Figures 3 and 4 (Ex. 1003 ¶ 169) to illustrate these assertions, a copy of which we reproduce below:



EX1005, FIG. 3 (annotated).



EX1005, FIG. 4 (annotated).

As shown in the above figures, and according to Dr. Koch,

> Rabbe discloses that the first tray wall has a first maximum height between the central panel and the upper margin, the third tray wall has a second maximum height between the central panel and the upper margin, a forward end of the first tray wall is joined to the second tray wall throughout the first maximum height, and a forward end of the third tray wall is joined to the second tray wall throughout the second maximum height.

Ex. 1003 ¶ 170.

Patent Owner does not present additional arguments contesting Petitioner's position as to claim 15. *See generally* PO Resp.; *see also supra* § II.D.4.i.7 ("we do not find Patent Owner's evidence of nonobviousness persuasive with respect to claims 13–15.").

We are persuaded by Petitioner's argument and evidence and find that Petitioner has established by a preponderance of the evidence that Rabbe discloses the limitations recited in claim 15. Petitioner has met its burden of showing, by a preponderance of the evidence, that claim 15 of the '834 patent is unpatentable over Rabbe, Yung, and Gruenwald.

7. Independent Claims 1, 5, and 9

a) "One-Eighth Inch" Conformance Limitations

Independent claim 1 requires "at least 90 percent of that one-third of the outer surfaces of the first, second and third tray walls which are closest to the respective top margins of the first, second or third tray walls being within one-eighth of an inch of the respective foot well walls." Ex. 1001, 20:36–40. Independent claims 5 and 9 recite similar limitations by requiring at least "90 percent of [] one-half of the outer surfaces" (claim 5) or "50 percent of the outer surfaces" (claim 9) of the first, second, and third tray

walls to be "within one-eighth of an inch of the respective foot well walls." *See id.* at 21:30–35 (claim 5), 22:26–28 (claim 9).

Notably, the prosecuting patent examiner allowed the claims because the prior art before the Examiner (not including Rabbe) "fail[ed] to disclose or render obvious at least 90 percent of that one-third of the outer surfaces of the first, second and third tray walls which are closest to the respective top margins of the first, second or third tray walls being within one-eighth of an inch of the respective foot well walls." Ex. 1002, 42 (Reasons for Allowance).

(1) Petitioner's Position

Petitioner submits that Rabbe discloses these limitations. *See* Pet. 45 (citing Ex. 1003 ¶ 149); *see also id.* at 53–54 ("The analysis for Claim 1 applies to Claim 5"); *see also id.* at 54 ("The analysis from Claim 1 applies to Claim 9"). In support of these assertions, Petitioner cites to Rabbe's disclosure on page 1, lines 1–6. *Id.* at 46 (citing Ex. 1005, 1:1–6). We reproduce that portion of Rabbe, below:

> The purpose of the present invention is the protection of the floors and side walls of vehicle interiors; it concerns automobile floor mats, in the form of a tray, *the sides of which perfectly conform to the contour of the vehicle interior at the feet of the driver*, those of front and rear passengers as well as front or rear trunks, for the purpose of ensuring effective protection against any soiling.

Ex. 1005, 1:1–6 (emphasis added). Dr. Koch testifies that "Rabbe discloses that the *sides of the floor tray* '*perfectly conform to the contour of the vehicle interior at the feet of the driver.*'" Ex. 1003 ¶ 149 (quoting Ex. 1005, 1:1–6) (emphasis added).

Throughout the Petition, Petitioner submits that "a POSA would have understood that Rabbe's 'perfect' conformation and the panels being 'pressse[d] . . . against the side walls of the vehicle' discloses or at least suggests" the claimed limitations. *See, e.g.*, Pet. 54 (alterations in original).

As a reminder, Rabbe is an English-language translation of French Patent Document FR 2547252. Ex. 1005, 1.

(2) Parties' Dispute

Patent Owner argues that "Petitioner's obviousness challenge is based on [a] deeply flawed English translation of Rabbe" and that "Rabbe conveys an entirely different meaning than Petitioner alleged and defeats Petitioner's obviousness arguments." PO Resp. 13. Patent Owner argues that Petitioner's translation that the "*sides*" "perfectly conform to the contour of the vehicle interior" is wrong, and the correct translation is that the "*flanges*" "perfectly conform to the contour of the vehicle interior." *See id.* at 14–15 (emphasis altered). To support this position, Patent Owner submits a portion of the cross-examination testimony of Petitioner's translator, asserting that the "translator admitted his translation was incorrect." *Id.* at 15 (citing Ex. 2040, 32:7–16). The cited portion of the cross-examination is as follows:

> Q. Okay. Do you believe that you should have translated "rebords" to mean "flanges" there, consistent with your other four translations of the word "rebords"?
>
> A. I do.
>
> Q. Excuse me?
>
> MR. WALTERS: Sorry. I just wanted to get my objection on the record. You can answer, Mr. Dawson.

> A. Yes. I do believe it should have been "flanges" to be consistent.

Ex. 2040, 32:7–16.

Based on the translation error, Patent Owner submits that "Rabbe does not disclose that the *sides* of its floor tray, which Petitioner equates to the claimed first and second tray walls, 'perfectly conform to the contour of the vehicle interior at the feet of the driver' as Petitioner contends." PO Resp. 15 (emphasis added).

Petitioner does not dispute Patent Owner's assertion. *See* Pet. Reply 4. Instead of disputing Patent Owner's assertion that Petitioner's translator erred, Petitioner submits that "[e]ven under [Patent Owner's] translation, Rabbe discloses the conformance limitations." *Id.* at 4. Petitioner explains that "[o]ther portions of the original Rabbe translation . . . show that Rabbe discloses the conformance limitations." *Id.* (citing Ex. 1041 ¶¶ 20–22). In particular, Petitioner submits the following disclosure within Rabbe:

> (1) Rabbe's raised edges are "presse[d] . . . against the walls," "conform to the topography of the interior and do not change the aesthetics desired by the manufacturer";
>
> (2) Rabbe's "raised edges (2) of unequal heights conform[] to the interior contour of the vehicle";
>
> (3) Rabbe's protective tray "conforms to the contour of the vehicle interior"; and
>
> (4) The "thinness of the material used only encroaches on a few millimeters of the space designed by the vehicle manufacturer, and thus does not change the desired aesthetic aspect."

Id. at 5 (citing Ex. 1005, Abstr. 2:7–9, 1:16–20, 2:24–26) (alterations in original). Petitioner explains that "because Rabbe's 'raised edges' are

'presse[d] . . . against the walls,' a POSA would have understood Rabbe's tray walls have substantial contact with the vehicle footwell." *Id.* (citing in part Ex. 1041 ¶ 22) (alterations in original). Petitioner further explains that "because the floor tray 'only encroaches on a few millimeters of the space' in the footwell, the material thickness and gap between the material and the footwell would have to be at most a few millimeters." *Id.* at 5–6 (citing Ex. 1005, 1:24–26; Ex. 1041 ¶¶ 22–25). Based on these disclosures, Petitioner submits that "Rabbe expressly teaches that its tray walls conform to the footwell such that any gap would be less than 1/8 inch." *Id.* at 6 (Ex. 1041 ¶ 23).

(3) Analysis

We agree with Patent Owner.

Turning to Petitioner's challenge, we find that Petitioner's initial translation of Rabbe was incorrect, and that Rabbe *does not disclose* the *sides* of its tray as "perfectly conform[ing] to the contour of the vehicle interior." Without this disclosure, we do not find Rabbe as satisfying the precise conformance limitations required in independent claims 1, 5, and 9.

Independent claim 1 requires a conformance of "at least 90 percent of [] one-third of the outer surfaces of the first, second and third tray walls which are closest to the respective top margins of the first, second or third tray walls being within one-eighth of an inch of the respective foot well walls." Ex. 1001, 20:36–60. Independent claims 5 and 9 recite similar limitations. *See id.* at 21:30–35 (claim 5), 22:26–28 (claim 9). Rabbe, properly translated, does not disclose a tray with *sidewalls* that meet these specific conformance limitations. Instead, and as Petitioner acknowledges, Rabbe discloses a tray with *raised edges* that are pressed against the walls.

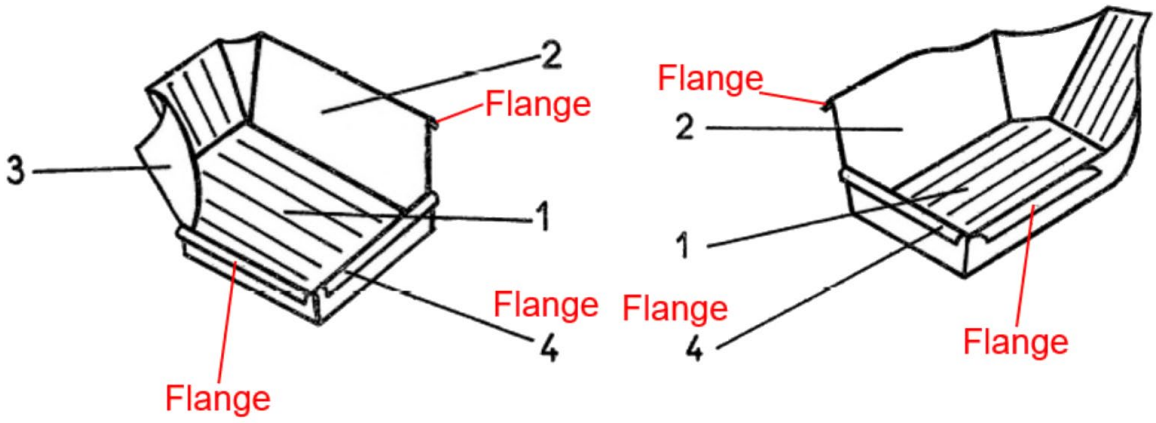
Pet. Reply 5 (citing Ex. 1005, Abstr.). Even if the *raised edges* of Rabbe's tray conform to the interior of the vehicle, this does not satisfy the specific conformance limitations of the first, second, and third tray walls required by the claims. We agree with Patent Owner that "Rabbe's references to raised edges (and in other places, flanges or rims), refer to the *upper perimeter of the tray*," not the first, second, or third tray walls. *See* PO Sur-Reply 16 (emphasis altered); *see also In re Robinson*, 173 F.2d 356, 358 (CCPA 1949) ("terms must be translated in view of the context in which they are used"). As shown in Rabbe's Figures 3 and 4 (annotated versions reproduced below), the rear wall and the two side walls of Rabbe's tray include a flange (denoted by reference numeral 4) positioned at the upper perimeter of the tray walls.

To reiterate, although Rabbe discloses that the "*flanges*" "perfectly conform to the contour of the vehicle interior," Rabbe does not explicitly disclose the "*sides*" to "perfectly conform to the contour of the vehicle interior." PO Resp. 14–15; *see also* Ex. 2040, 32:7–16 (Petitioner's translator acknowledging during cross-examination that Rabbe, *when properly translated*, states that the "flanges," not "sides," "perfectly conform to the contour of the vehicle interior").

Having weighed the competing testimony and evidence, and after reading the parties' translations in view of the context of the Rabbe disclosure (*Robinson*, 173 F.2d at 358), we credit Mr. Sherman's testimony (Ex. 2043) and Dr. Osswald's testimony (Ex. 2041) that only Rabbe's flanges 4 perfectly conform to the vehicle interior. In particular, we credit Mr. Sherman's testimony that "a POSITA would not understand Petitioner's translation of Rabbe to disclose, teach, or suggest the conformance

limitations of the . . . '834 Patent[]." Ex. 2043 ¶ 99. We further credit Mr. Sherman's testimony that "[a] POSITA would have understood that Rabbe's tray is 'retained' in the vehicle interior by the *rims* [or flanges] pressing against the vehicle interior." *Id.* ¶ 106 (citing Ex. 2024, Abstr., 12:7) (emphasis added). In our view, Mr. Sherman's testimony is supported by Petitioner's own translation of Rabbe, which, according to Petitioner, "discloses that '[t]he rigidity of the material used presses the unit against the side walls of the vehicle[']" and that "'the rigidity presses the raised edges against the walls.'" Pet. 46 (quoting Ex. 1005, 1:19–20, Abstr.). When Rabbe's outwardly-protruding flanges 4 (as shown in Rabbe's Figures 3 and 4) are viewed in light of this translation, Patent Owner's testimony is more credible.

To illustrate these points, we reproduce Dr. Osswald's annotated version of Rabbe's Figures 3, and 4, below:



Dr. Osswald submits annotated versions of Rabbe's Figures 3 (above left) and 4 (above right). Ex. 2041 ¶ 114. We credit Dr. Osswald's testimony that "[a]s can be seen from Figures 3 and 4 of Rabbe above, flanges 4 are disposed on the outer area of the upper perimeter of Rabbe's tray such that

flanges 4, not the sides, would contact the walls of the vehicle foot well." *Id.* ¶ 115 (emphasis added). We further credit Dr. Osswald's testimony that

> A POSITA would have recognized that the arrangement of flanges in Rabbe's tray would prevent the reinforced sides of the tray from "closely conforming" to the sides of the vehicle foot well . . . with specified portions being "within one-eighth of an inch" of respective foot well walls as required by the '834 Patent. Specifically, a POSITA would understand that when a flange or retentive shape 4 contacts the foot well wall, the retentive shape pushes the side panel ***away*** from the adjacent foot well and prevents that side panel from closely conforming to the surface of the vehicle foot well walls as required by . . . the '834 Patent.

Id.

We further disagree with Petitioner's position that because the floor tray "only encroaches on a few millimeters of the space" in the footwell, "the material thickness and gap between the material and the footwell would have to be at most a few millimeters." Pet. Reply 5–6 (emphasis omitted). We do not find Rabbe's disclosure of "a few millimeters" to refer specifically to the distance separating the tray walls from the vehicle's foot well, thus satisfying the claimed conformance limitations. When reviewing the translated sentence in full context (*Robinson*, 173 F.2d at 358), Rabbe discloses that the "*thinness of the material used only encroaches on a few millimeters of the space* designed by the vehicle manufacture, and thus does not change the desired aesthetic aspect." Ex. 1004, 1:24–26 (emphasis added). Although we find this particular sentence to be somewhat ambiguous, we are more inclined to find the disclosure of "a few millimeters" to refer to the "thinness of the material," rather than the gap between the floor tray's walls and the foot well. *See* PO Sur-Reply 15 (arguing the same). Even construing this sentence in a light most favorable

to Petitioner, however, we find that it fails to satisfy the precise language recited in limitation 1(h).

Accordingly, we do not find Rabbe's reference of a floor tray that is only "a few millimeters" in thickness, thereby "only encroach[ing] a few millimeters of the space," as satisfying the precise requirement that "at least 90 percent of that one-third of the outer surfaces of the first, second and third tray walls which are closest to the respective top margins of the first, second or third tray walls being within one-eighth of an inch of the respective foot well walls." Ex. 1001, 20:36–40 (claim 1); *see also id.* at 21:30–35 (claim 5, reciting a similar limitation), 22:26–28 (claim 9, reciting a similar limitation).

Petitioner also argues that Patent Owner "has not established any criticality to the 1/8 inch tolerance limitations in claims 1, 5, and 9, and it *would have been obvious* to optimize the tray to fit as closely as desired." Pet. Reply 6 n.4 (citing Ex. 1003 ¶ 163; Ex. 1041 ¶ 24) (emphasis added).

Petitioner's obviousness argument is untimely.

In the Petition, Petitioner *does not* reason that it would have been obvious to modify Rabbe's floor tray to meet the conformance limitations. *See, e.g.*, Pet. 46 ("A POSA would have understood that Rabbe's 'perfect' conformation to the vehicle interior was well within one-eighth of an inch because 'perfect' conformity would have left little or no space between the vehicle foot well and the outer surface of the floor tray."); *see also, e.g., id.* at 45 ("Rabbe . . . discloses 1[h]."). Despite Dr. Koch's *supplemental* testimony that "[o]ptimizing a tray until it fits as closely as desired would have been obvious, as I explained in my original declaration," we disagree with Dr. Koch that he "explained [this] in [his] original declaration."

Ex. 1041 ¶ 24 (citing Ex. 1003 ¶ 163). To illustrate, we reproduce the *entirety* of the cited portion of Dr. Koch's original testimony, below:

> Additionally, given the relatively low cost of thermoforming molds, a POSA would have had the ability to make several molds for different vehicle interiors (or different areas of a vehicle's interior), and to also adjust the moldmaking process to achieve even greater conformity with the vehicle interior. Indeed, the inventor in Rabbe achieved a "perfect" level of conformity in a manner that "does not change the desired aesthetic aspect" of the vehicle as designed by the manufacturer.

Ex. 1003 ¶ 163.

We find nothing in the Petition (Pet. 45–46) or in Dr. Koch's original testimony (Ex. 1003 ¶ 163) to support Petitioner's (and Dr. Koch's) *new position* that "it would have been obvious to optimize the tray to fit as closely as desired." Pet. Reply 6 n.4 (citing Ex. 1003 ¶ 163; Ex. 1041 ¶ 24). Petitioner's Reply is not the place to raise new arguments or evidence. *See* 37 C.F.R. § 42.23(b) ("A reply may only respond to arguments raised in the corresponding opposition or patent owner's response"); *see also Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1363 (Fed. Cir. 1999) ("A party's argument should not be a moving target."). Accordingly, we do not consider Petitioner's new theory of obviousness as it is outside the scope of a proper reply under Rule 42.23(b).

For the foregoing reasons, Petitioner failed to prove by a preponderance of the evidence that independent claims 1, 5, and 9 satisfy the recited tray walls being within one-eighth of an inch of their respective foot well walls.

b) Summary of Independent Claims 1, 5, and 9

Weighing all the evidence presented by the parties, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 1, 5, and 9 would have been obvious over Rabbe, Yung, and Gruenwald.

8. Dependent Claims 4, 8, and 12

Claims 4, 8, and 12 depend from claims 1, 5, and 9, respectively. Ex. 1001, 20:57–22:55. Petitioner's arguments with respect to these claims do not overcome the deficiencies in Petitioner's challenge addressed above with respect to claims 1, 5, and 9. *See* Pet. 55–57 (relying on the same analysis of independent claims 1, 5, and 9 when addressing the features of dependent claims 4, 8, and 12). Accordingly, Petitioner has not demonstrated by a preponderance of the evidence that claims 4, 8, and 12 would have been obvious over Rabbe, Yung, and Gruenwald.

9. Summary of Ground 1

Petitioner has not demonstrated by a preponderance of the evidence that claims 1, 4, 5, 8, 9, and 12 would have been obvious over Rabbe, Yung, and Gruenwald. Petitioner has demonstrated, however, that claims 13–15 would have been obvious over Rabbe, Yung, and Gruenwald.

E. Ground 2: Rabbe, Yung, Gruenwald, Sturtevant

Petitioner contends that claims 2, 3, 6, 7, 10, and 11 are unpatentable as obvious over Rabbe, Yung, Gruenwald, and Sturtevant. Pet. 66.

Claims 2, 3, 6, 7, 10, and 11 depend from one of claims 1, 5, and 9. *See* Ex. 1001, 20:41–22:46. In addressing the limitations of these dependent

claims, Petitioner relies on the additional teachings of Sturtevant, but otherwise relies on the same analysis in addressing the limitations of independent claims 1, 5, and 9. *See* Pet. 66–82.

For the same reasons Petitioner has not demonstrated by a preponderance of the evidence that claims 1, 5, and 9 are unpatentable, we also determine that Petitioner has not demonstrated by a preponderance of the evidence that dependent claims 2, 3, 6, 7, 10, and 11 would have been obvious over Rabbe, Yung, Gruenwald, and Sturtevant.

III. MOTION TO STRIKE

A. Introduction

With our authorization (Paper 69), Patent Owner filed a Motion to Strike (Paper 72, "Motion" or "Mot."), in which Patent Owner seeks to strike portions of Petitioner's Reply Brief and certain expert declarations cited therein. *See* Mot. 1. Patent Owner asserts that Petitioner submitted fifty-five new exhibits with its Reply, and "43 of Petitioner's 55 new exhibits (78%) could have been filed with the Petition, but were not." *Id.* Patent Owner explains that the Reply "includes improper new arguments, rationales, and theories that should be stricken because they were not presented or developed in the Petition." *Id.* at 2. Patent Owner asks that we "strike the Reply in whole or in part and any evidence in support of arguments that are either new or incorporated by reference." *Id.* at 15.

Petitioner opposes the Motion. Paper 74 ("Opposition" or "Opp."). In its Opposition, Petitioner explains that "a petitioner has latitude to expand on arguments in the petition, respond to patent owner's arguments, and show the state of the art, as [Petitioner] did here. And a petitioner may also submit

evidence to support these arguments and confirm obviousness, as [Petitioner] did here." *Id.* at 5.

Patent Owner also filed a reply to the Opposition. Paper 75. In its reply to the Opposition, Patent Owner disputes Petitioner's characterization that the arguments and evidence submitted with Petitioner's Reply are permissible. *See id.* at 1 ("[Petitioner's] attempts to explain away its new arguments are unavailing.").

We deny Patent Owner's Motion.

B. Analysis

Even if we agree with Patent Owner that Petitioner's Reply contains new evidence and argument, "striking the entirety or a portion of a party's brief is an exceptional remedy that the Board expects will be granted rarely." Guide 80. Our Guide also provides that "the Board is capable of identifying new issues or belatedly presented evidence when weighing the evidence," without granting the exceptional remedy of striking Petitioner's Reply. *See id.*

Here, we acknowledge that at least part of Petitioner's Reply contains untimely new argument. *See supra* § II.D.7.a.3 (quoting Pet. Reply 6 n.4). Specifically, Petitioner buried a new and untimely argument in a footnote within its Reply Brief. *See id.* In this footnote, Petitioner argued, for the first time, that "it would have been obvious to optimize the tray to fit as closely as desired." *Id.* In that instance, we did not consider Petitioner's belatedly-presented argument and evidence as untimely and outside the scope of a proper reply. *See id.* (citing 37 C.F.R. § 42.23(b)).

We further agree with Petitioner, however, that its Reply Brief includes permissible evidence and argument in response to Patent Owner's Response and to further expound upon theories raised in the Petition. *See* Opp. 3–4; *see also, e.g.*, *supra* § II.D.4.a.3 (agreeing with Petitioner's Reply Brief explanation that "Patent Owner[']s Response] takes 'a far-too-narrow approach to obviousness, bodily incorporating specific materials, arguing that Yung's tri-layer structure could not be thermoformed, and alleging that Yung's polyethylene was a foam and therefore could not be thermoformed'" (quoting Pet. Reply 11–12 (citing PO Resp. 40–42))). Indeed, our reviewing court makes clear that Petitioner "may introduce new evidence after the petition stage if the evidence is a legitimate reply to evidence introduced by the patent owner." *Anacor Pharms., Inc. v. Iancu*, 889 F.3d 1372, 1380–81 (Fed. Cir. 2018); *see also* Opp. 3 (arguing the same). Striking Petitioner's Reply Brief in light of this permissible argument and evidence would likely invite unfavorable criticism from our reviewing court. *See, e.g.*, *Ericsson Inc. v. Intellectual Ventures I LLC*, 901 F.3d 1374, 1381 (Fed. Cir. 2018) (vacating and remanding the Board's decision for failing to consider portions of petitioner's reply brief because the reply properly "expand[ed] the same argument made in its Petition" instead of providing a new theory); *see also* Opp. 2–3 (arguing the same).

We further note that Patent Owner filed its Sur-Reply and addressed Petitioner's Reply in its subsequent paper. *See, e.g.*, PO Sur-Reply 14 ("The Petition did not rely upon all the '[o]ther portions' of Rabbe that [Petitioner] belatedly asserts satisfy the 'substantially conforming' limitations" (*comparing* Pet. Reply 5, *with* Pet. 36–42)). As such, Patent Owner had adequate opportunity to respond to Petitioner's Reply and any evidence cited

therein. *See Telefonaktiebolaget LM Ericsson v. TCL Corporation*, 941 F.3d 1341, 1345 (Fed. Cir. 2019) ("[T]he Board did not abuse its discretion in admitting the Michel Declaration, for when the challenged evidence is reasonably viewed as material, and the opponent has adequate opportunity to respond and to produce contrary evidence, the interest of justice weighs on the side of admitting the evidence.").

For the foregoing reasons, we deny Patent Owner's Motion to Strike in its entirety.

IV. CONCLUSION

Weighing the evidence of the disclosure of the references, the competing testimony, and the reasoning to combine the references, we determine that Petitioner has shown by a preponderance of the evidence that claims 13–15 of the '834 patent are unpatentable. Petitioner has not shown that claims 1–12 of the '834 patent are unpatentable.

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 4, 5, 8, 9, 12–15	103	Rabbe, Yung, Gruenwald	13–15	1, 4, 5, 8, 9, 12
2, 3, 6, 7, 10, 11	103	Rabbe, Yung, Gruenwald, Sturtevant		2, 3, 6, 7, 10, 11
Overall Outcome			13–15	1–12

V. ORDER

Accordingly, it is:

ORDERED that claims 13–15 of the '834 patent have been shown to be unpatentable;

FURTHER ORDERED that claims 1–12 of the '834 patent have not been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Strike (Paper 74) is denied; and

FURTHER ORDERED that any party seeking judicial review must comply with the notice and service requirements of 37 C.F.R. § 90.2.[8]

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

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