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Paper 10
Date: October 4, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ENVIROTAINER AB,
Petitioner,

v.

DOUBLEDAY ACQUISITIONS, LLC,
Patent Owner.

IPR2022-00851
Patent 7,913,511 B2

Before KEN B. BARRETT, ERIC C. JESCHKE, and RICHARD H. MARSCHALL, *Administrative Patent Judges*.

JESCHKE, *Administrative Patent Judge*.

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

I. BACKGROUND

Petitioner, Envirotainer AB, filed a Petition to institute *inter partes* review of claims 1–19, 39, and 40 (the "challenged claims") of U.S. Patent No. 7,913,511 B2 (Ex. 1001, "the '511 patent"). Paper 2 ("Pet."). Patent Owner, DoubleDay Acquisitions, filed a Preliminary Response. Paper 7 ("Prelim. Resp."). With our authorization (Ex. 3001), Petitioner filed a Preliminary Reply (Paper 8, "Prelim. Reply") and Patent Owner filed a Preliminary Sur-reply (Paper 9, "Prelim. Sur-reply").

We have authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021) ("The Board institutes the trial on behalf of the Director."). *Inter partes* review may not be instituted "unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314. Upon consideration of the evidence and arguments in the record, for the reasons below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. We thus institute *inter partes* review on all challenged claims on all asserted grounds. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018); 37 C.F.R. § 42.108(a) ("When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.").

A. Related Proceedings

The parties identify a proceeding in the U.S. District Court for the Northern District of Georgia involving the '511 patent: *DoubleDay*

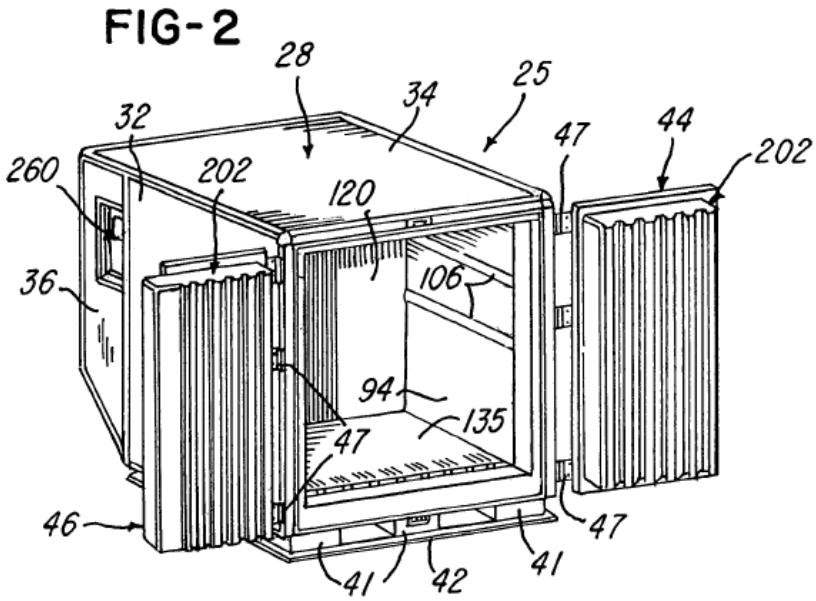
Acquisitions LLC d/b/a CSafe Global v. Envirotainer AB, No. 1-21-cv-03749 (N.D. Ga.), filed Sept. 10, 2021 (the "Georgia Litigation"). Pet. 106[1]; Paper 3 (Patent Owner's Mandatory Notice) at 2. The Georgia Litigation also involves U.S. Patent No. 7,263,855 B2 ("the '855 patent").

Petitioner also filed (1) a petition for *inter partes* review of claims 19–21, 23, 26–31, 33, 35–37, and 41 of the '855 patent in IPR2022-00292 ("the '292 IPR"), (2) a petition for claims 1, 2, 7–11, 30, and 31 of the '511 patent in IPR2022-00293 ("the '293 IPR"), and (3) a petition for *inter partes* review of claims 1–5, 7–36, 40, and 41 of the '855 patent in IPR2022-00864. *See* Pet. 106; Paper 3 at 1. We previously instituted *inter partes* review in the '292 IPR and the '293 IPR.

B. The '511 Patent

The '511 patent relates to cargo containers for transporting temperature-sensitive cargo. Ex. 1001, codes (54), (57).

Figure 2 is reproduced below:



[1] Although this page is identified as "1," it follows page 105.

Figure 2 is a perspective view of a cargo container with the doors in their open positions. Ex. 1001, 2:48–52. Cargo container 25 in Figure 2 includes shell-sub-assembly 50 as well as outer housing 28, which is "formed of sheet aluminum and aluminum corner trim and sometimes referred to as a 'can.'" *Id.* at 3:27–29. Outer housing 28 "includes opposite side walls 32, a removable top wall 34, a rear wall enclosure 36 and a bottom wall 38," shown in Figure 3.[2] *Id.* at 3:29–32. In addition, outer housing 28 is supported by hollow aluminum supports or legs 41, connected to aluminum base plate 42, that are arranged to allow container 25 to be raised with a forklift. *Id.* at 3:31–35. Outer housing 28 also supports swinging door units or assemblies 44/46, each of which are supported by hinges 47. *Id.* at 3:38–41.

[2] In this Decision, we omit emphasis on reference numerals and claim numbers in quotations from the '511 patent and prior art references.

Figure 6 is reproduced below:

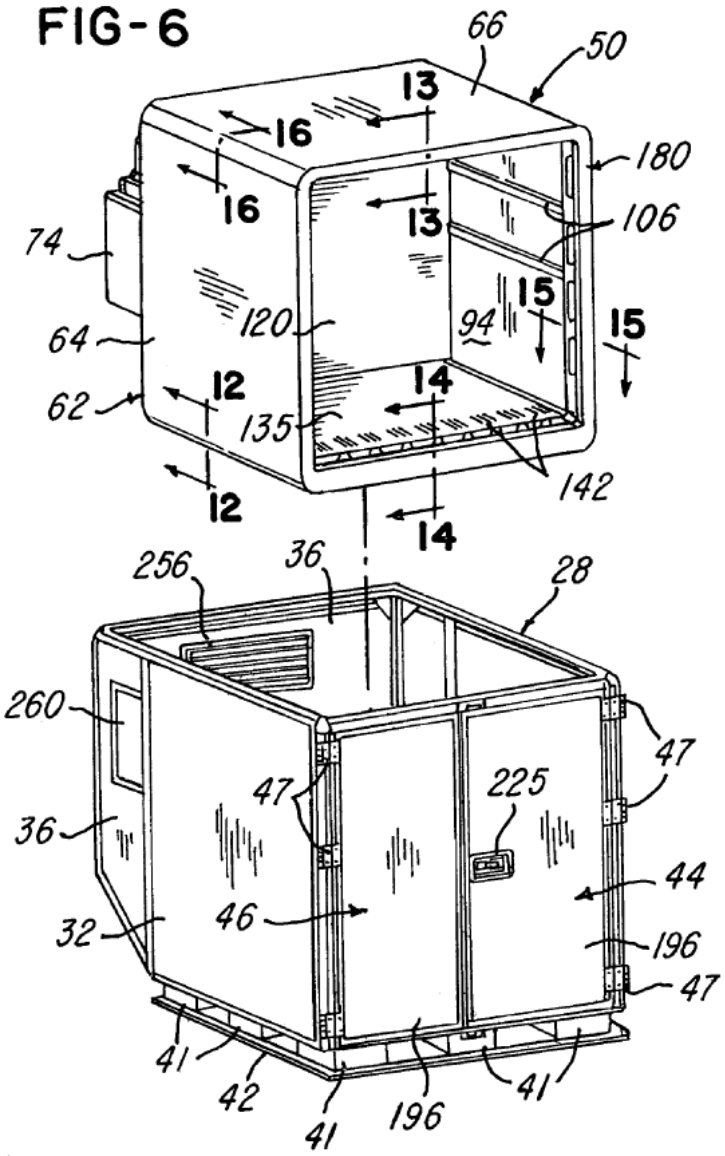


Figure 6 "is an exploded perspective view of the shell sub-assembly before being inserted into the outer housing assembly." Ex. 1001, 2:60–62. Referring to Figure 6, the '511 patent discloses that

> before the top wall 34 of the housing is installed, the housing 28 receives a shell sub-assembly 50[,] which includes a molded composite box-like outer shell 54 (FIGS. 5 & 6) and a molded composite box-like inner shell 56, shown exploded in FIG. 5.

Ex. 1001, 3:42–46.

Figure 5 is reproduced below:

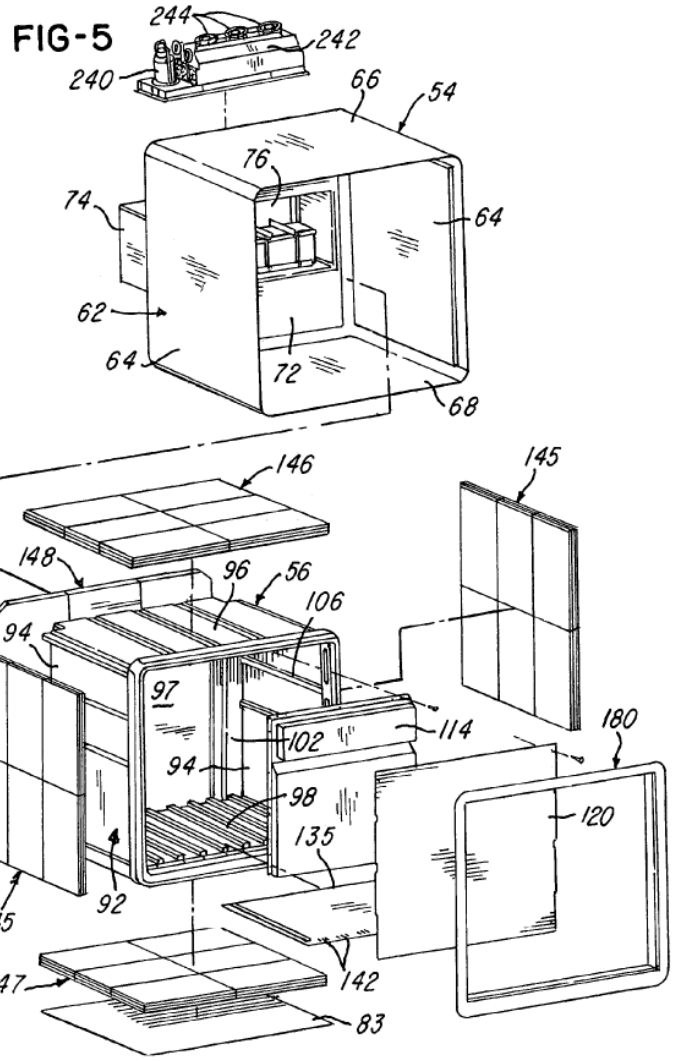
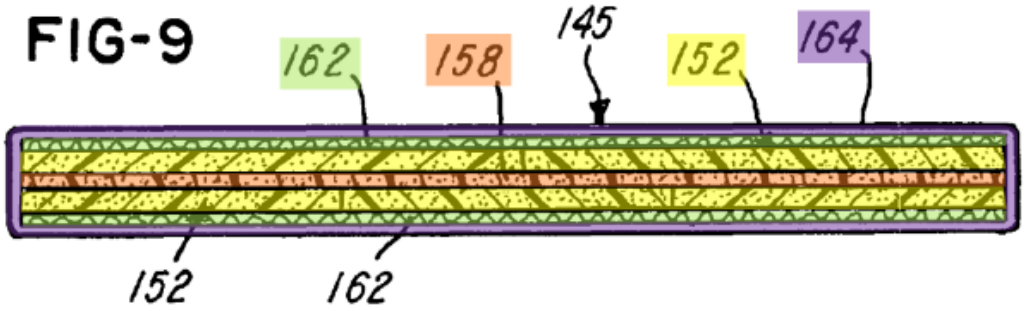


Figure 5 is an exploded view of a shell sub-assembly that is inserted into the outer housing assembly. *See* Ex. 1001, 2:57–59. Figure 5 shows molded composite box-like outer shell 54, which supports refrigeration compressor 240 and condenser 242 with a housing supporting fans 244. *See id.* at 3:42–46, 6:48–52. In addition, Figure 5 shows flat panel thermal insulation cartridges or cassettes 145–148, which "are confined or sandwiched" between the walls of outer shell 54 and inner shell 56. *Id.* at 4:60–63.

Figure 9 is reproduced below, with highlighting added by Petitioner:



Pet. 3. Figure 9 depicts a cross-section of an assembled insulation cartridge or cassette used in the walls of the shell sub-assembly. Ex. 1001, 2:65–3:2. In the annotated version of Figure 9, Petitioner added (1) orange highlighting to sheet 158 of expanded polystyrene foam, (2) yellow highlighting to two layers 152 of vacuum insulated panels, (3) green highlighting to two outer sheets 162 of extruded corrugated plastic, and (4) purple highlighting to flexible film 164 of fire-retardant plastic material. *See id.* at 5:7–15.

C. Challenged Claims

Petitioner challenges claims 1–19, 39, and 40, of which claims 1, 14, 39, and 40 are independent. Claims 2–13 depend from claim 1, and claims 15–19 depend from claim 14. Independent claim 1 is reproduced below, with alphanumeric designations to identify each clause:

> 1. [**1.Pre**] A cargo container assembly adapted for transporting a temperature sensitive cargo supported by a pallet, [**1.A**] said assembly comprising a box-like composite outer shell having side, top and bottom walls of resin impregnated fibers and having a front opening and a moveable door assembly for closing said front opening, [**1.B**] a box-like composite inner shell within said outer shell and having side, top and bottom walls of resin impregnated fibers and spaced inwardly from the corresponding said side, top and bottom walls of said outer shell and defining a cargo receiving chamber, [**1.C**] thermal insulation material

> confined between the corresponding said side, top and bottom walls of said inner and outer shells, [**1.D**] and a refrigeration system connected to cool said chamber.

Ex. 1001, 8:64–9:9.[3]

D. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–19, 39, and 40 on the following grounds:

Claim(s) Challenged	35 U.S.C. §[4]	Reference(s)/Basis
1–4, 7, 8, 13–16, 19, 39, 40	103(a)	Sinclair,[5] Feldmeier[6]
5, 6, 17, 18	103(a)	Sinclair, Feldmeier, Ohnishi[7]
1, 5–7, 9, 10	103(a)	Loeffler,[8] Ohnishi

[3] We adopt and apply below Petitioner's designations for the elements of the challenged claims. *See, e.g.*, Pet. 15–20 (showing alphanumerical designations for the language in challenged claim 1).

[4] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Pub. L. No. 112-29, §§ 3(b)–3(c), 3(n)(1), 125 Stat. 284, 285–87, 293 (2011). Because there is no dispute that the challenged claims of the '511 patent have an effective filing date before March 16, 2013, we apply the pre-AIA versions of these statutes.

[5] GB 1,117,899, published June 26, 1968 (Ex. 1005, "Sinclair").

[6] International Publication No. WO 03/023157 A1, published March 20, 2003, and certified translation (Ex. 1006, "Feldmeier").

[7] EP 0 781 714 B1, published Oct. 1, 2003 (Ex. 1007, "Ohnishi").

[8] International Publication No. WO 2004/045987 A2, published June 3, 2004, and certified translation (Ex. 1008, "Loeffler"). Although the first-named inventor is Markus Löffler, we (like the parties) refer to this reference as "Loeffler."

Claim(s) Challenged	35 U.S.C. §[4]	Reference(s)/Basis
2, 3, 8, 11, 13–15, 17–19, 39, 40	103(a)	Loeffler, Ohnishi, Yamamoto[9]
1–3, 7, 9–15, 19, 39, 40	103(a)	Zupancich,[10] Bosher[11]
5, 6, 17, 18	103(a)	Zupancich, Bosher, Ohnishi

Petitioner supports its challenges with a declaration from Mr. Michael Jobin. Ex. 1003 ("Jobin Decl.").

II. DISCUSSION

A. Discretion Under 35 U.S.C. § 314(a) Based on Multiple Petitions

1. Legal Framework

The Board has discretion on whether to institute *inter partes* review. *See SAS Inst.*, 138 S. Ct. at 1356 (explaining that section "314(a) invests the Director with discretion on the question whether to institute review" (emphasis omitted)); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion."); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that under § 314(a), "the PTO is permitted, but never compelled, to institute an IPR proceeding"); *see also* 37 C.F.R. § 42.4(a) ("The Board institutes the trial on behalf of the Director.").

[9] EP 1 045 079 A2, published Oct. 18, 2000 (Ex. 1009, "Yamamoto").

[10] International Publication No. WO 2004/071885 A2, published August 26, 2004 (Ex. 1010, "Zupancich").

[11] US 5,791,150, issued August 11, 1998 (Ex. 1012, "Bosher").

When determining whether to exercise our discretion under § 314(a), we may consider the following non-exhaustive factors:

> 1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
>
> 2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
>
> 3. whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
>
> 4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
>
> 5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
>
> 6. the finite resources of the Board; and
>
> 7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha, IPR2016-01357, Paper 19 at 15–16 (PTAB Sept. 6, 2017) (precedential). The *General Plastic* factors are not dispositive, but part of a balanced assessment of the relevant circumstances in a proceeding, including the merits. Consolidated Trial Practice Guide 58 (Nov. 2019), https://www.uspto.gov/TrialPracticeGuide Consolidated ("TPG").

In addition, in deciding whether to exercise discretion to deny institution when a petitioner files two or more petitions challenging the same patent, we consider guidance in the Trial Practice Guide, which provides that

"one petition should be sufficient to challenge the claims of a patent in most situations" and that "multiple petitions by a petitioner are not necessary in the vast majority of cases." TPG 59. In such circumstances, a petitioner should provide:

> (1) a ranking of the petitions in the order in which it wishes the Board to consider the merits, if the Board uses its discretion to institute any of the petitions, and (2) a succinct explanation of the differences between the petitions, why the issues addressed by the differences are material, and why the Board should exercise its discretion to institute additional petitions if it identifies one petition that satisfies petitioner's burden under 35 U.S.C. § 314(a).

TPG 59–60. The Trial Practice Guide provides that "the Board recognizes that there may be circumstances in which more than one petition may be necessary" and that "two petitions by a petitioner may be needed, although this should be rare." *Id.* at 59.

2. Factual Background

Prior to discussing the arguments, we provide this table, which includes some of the relevant dates in the '293 IPR, the Georgia Litigation, and this proceeding, combined and in chronological order:

Event	Date
Filing of the Complaint in the Georgia Litigation	September 10, 2021 (Ex. 2005)
Filing of the Petition in the '293 IPR	December 17, 2021
Filing of the Initial Infringement Contentions in the Georgia Litigation	February 4, 2022 (Ex. 1023)
Filing of the Motion for Preliminary Injunction in the Georgia Litigation (alleging an earlier priority date for certain claims of the '511 patent)	March 3, 2022 (Ex. 1029)
Filing of Patent Owner's Preliminary Response in the '293 IPR	April 12, 2022

Filing of the Petition in this proceeding	April 14, 2022
Date of Institution in the ’293 IPR	June 8, 2022

With the filing of the Petition in this proceeding, Petitioner did not file a separate paper ranking the petitions in this proceeding and the ’293 IPR, but Petitioner did discuss differences between the petitions as well as why the Board should institute this proceeding despite having instituted in the ’293 IPR (*see* Pet. 97–103).

3. Analysis

Patent Owner argues that we should exercise discretion and deny the Petition in this proceeding under § 314(a). *See* Prelim. Resp. 8–28; Prelim. Sur-reply 1–7. Petitioner opposes. *See* Pet. 97–103; Prelim. Reply 1–7. Because many of the parties’ arguments on this issue are framed using the *General Plastic* factors, we frame the first part of the analysis similarly. In addition, we address certain arguments that do not fall within the *General Plastic* factors, in a section on “Other Considerations.” For the reasons discussed below, we are not persuaded that we should exercise discretion to deny institution under 35 U.S.C. § 314(a) based on multiple petitions.

a. The General Plastic *Factors*

As to the first *General Plastic* factor—whether the same petitioner previously filed a petition directed to the same claims of the same patent—Patent Owner argues there is “substantial overlap” between the claims challenged in this proceeding (claims 1–19, 39, and 40) and in the ’293 IPR (claims 1, 2, 7–11, 30, and 31). Prelim. Resp. 10–11 (quoting *Apple Inc. v. Koss Corp.*, IPR2022-00188, Paper 9 at 9 (PTAB Apr. 14, 2022)). Patent Owner further argues that the mere existence of non-overlapping claims is not relevant “in the absence of a reason why it is necessary for Petitioner to

challenge additional claims now." *Id.* at 12 (quoting *Pfenex Inc. v. Glaxosmithkline Biologicals SA*, IPR2019-01478, Paper 9 at 9 (PTAB Feb. 10, 2020)).

Petitioner argues that this factor favors institution because Patent Owner chose to assert in the Georgia Litigation additional claims identified after the filing of the Petition in the '293 IPR. Pet. 100 (citing *Volkswagen Grp. of Am., Inc. v. Carucel Invs., L.P.*, IPR2019-01573, Paper 7 at 7 (PTAB Jan. 22, 2020)). Petitioner also argues that the subject matter of the overlapping claims is different because Patent Owner interpreted its claims broadly and alleged an earlier priority date to eliminate as prior art some of the references asserted in the grounds of the '293 IPR. *Id*.

We agree with Patent Owner that there is substantial overlap between the claims challenged in this proceeding and in the '293 IPR. Of the nine claims challenged in the '293 IPR, seven are also challenged in this proceeding. Based on the overlap in the claims challenged in the '293 IPR and this proceeding, the first factor weighs in favor of exercising our discretion to deny institution.

We turn now to the second *General Plastic* factor—whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it. Patent Owner argues that Petitioner knew or should have known of all of the art asserted in this proceeding when the Petition in the '293 IPR was filed because the current art—all of which are issued patents or patent applications—could have been found with "reasonable diligence." Prelim. Resp. 14–15 (quoting *General Plastic*, Paper 19 at 20). Petitioner states the new references for this proceeding were "expeditiously" identified after Patent Owner asserted new

claims and argued an earlier priority date in the Georgia Litigation. Pet. 100–101.

We are persuaded by Patent Owner's argument as to this factor. Petitioner attempts to explain why it searched for additional references after the filing of the Petition in the '293 IPR, but does not explain why it could not have found those same references *in earlier searches* through the exercise of "reasonable diligence." *General Plastic*, Paper 19 at 20. This factor weighs in favor of exercising our discretion to deny institution.

As to the third *General Plastic* factor—whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition—Patent Owner correctly points out that Petitioner had access to Patent Owner's Preliminary Response in the '293 IPR *two days prior* to filing the Petition in this proceeding. *See* Prelim. Resp. 16–18. We are mindful of the fact, however, that an overlap of only two days distinguishes this case from situations in which a lengthy overlap allows more thorough "roadmapping" based on an earlier-filed document. *See, e.g.*, *General Plastic*, Paper 19 at 17 ("The absence of any restrictions on follow-on petitions would allow petitioners the opportunity to strategically stage their prior art and arguments in multiple petitions, *using our decisions as a roadmap*, until a ground is found that results in the grant of review." (emphasis added)); *see also* Pet. 102 (arguing that "Petitioner did not benefit from the POPR's positions [in the '293 IPR] filed just two days ago"). Overall, this factor weighs slightly in favor of exercising our discretion to deny institution.

We turn now to the fourth and fifth *General Plastic* factors, which we address together. As to the fourth factor—the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition—Patent Owner argues that Petitioner "waited four months" after filing the Petition in the '293 IPR to file the Petition in this proceeding. Prelim. Resp. 18–19. According to Patent Owner, Petitioner should have known of all the references relied on in this proceeding prior to filing the Petition in the '293 IPR. *See id.* As to the fifth factor—whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent—Patent Owner argues that, "[i]nstead of explaining why Petitioner delayed filing the second petition, Petitioner blames Patent Owner" for identifying new asserted claims and an earlier priority date in the Georgia Litigation. Prelim. Resp. 19–21.

Although we agree with Patent Owner as to the time elapsed between the Petitions and as to Petitioner's apparent knowledge of the references relied on in this proceeding, we do not find the fourth factor or the fifth factor from *General Plastic* as entirely relevant on the particular facts here. As discussed in more detail below, the primary reason for the Petition in this proceeding is the lack of foreseeability and timing of Patent Owner's argument as to an earlier priority date. In other words, this was *not* a situation in which Petitioner located new prior art and then delayed in filing a second petition, as generally contemplated in the context of these two factors. *See General Plastic*, Paper 19 at 10–11 ("With respect to factors 4 and 5, Petitioner provided no explanation in its Petition or in its Reply to Patent Owner's Preliminary Response of any unexpected circumstances that

prompted the new prior art searches, or for the delay."). For that reason, these factors do not weigh heavily in favor of exercising our discretion to deny institution.

We turn now to the sixth and seventh *General Plastic* factors, which we also address together. As to the sixth factor—the finite resources of the Board—Patent Owner argues that "Petitioner similarly ignores that the Board must expend significant resources to oversee and decide ***any*** IPR, regardless of its similarity to other proceedings" and argues that "Petitioner has not provided such a ranking of the merits of its serial petitions." Prelim. Resp. 22–23. Patent Owner also asserts that the merits of this Petition are weak. *Id.* at 23–24. Patent Owner does not directly address the seventh factor—the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

We agree with Patent Owner that instituting this proceeding would consume at least some additional resources of the Board, but, for the reasons below, we do not agree that the merits of the Petition overall are weak. These two factors weigh against exercising our discretion to deny institution.

b. Other Considerations

We now address the arguments that do not fall specifically within the list of non-exhaustive factors in *General Plastic*, but which are still relevant to the analysis under § 314(a). *See General Plastic*, Paper 19 at 18 (recognizing "that additional factors may arise in other cases for consideration, where appropriate" but that the *General Plastic* factors "at the very least, serve to act as a baseline of factors to be considered in our future evaluation of follow-on petitions"). One circumstance in which more than

one petition may be necessary is "when there is a dispute about priority date requiring arguments under multiple prior art references." TPG 59. The Petition in this proceeding presents precisely this scenario.

The record supports that Patent Owner's argument as to an earlier priority date for the challenged claims was first raised on March 3, 2022, more than *two months after* the filing of the Petition in the '293 IPR. If determined to be persuasive, Patent Owner's argument would eliminate four of the five grounds asserted in the '293 IPR (those relying on either Kuhn or Broussard). *See* Ex. 1029 at 22[12] (arguing that "the invention of challenged claims 1 and 2 predates both Kuhn and Broussard because the subject matter of those claims was conceived and reduced to practice at least as of November 17, 2004, before the priority date of either reference"). The remaining ground in the '293 IPR challenges only claims 1, 2, 8, 11, 30, 31 of the '511 patent. *See* IPR2022-00293, Paper 8 (Decision on Institution) at 8–9. The timing of Patent Owner's argument relative to the filing of the Petition in the '293 IPR weighs heavily against exercising our discretion to deny institution.

Although Patent Owner characterizes Petitioner's selection of references for the Petition in the '293 IPR as an "earlier strategic choice to rely on § 102(a) art" (Prelim. Resp. 20), we are more persuaded by Petitioner's view that Petitioner had no reason to *presume* a priority date for the challenged claims earlier than presented on the face of the '511 patent. *See* Pet. 100–101 ("When Petitioner filed IPR2022-00293 there was no indication PO would assert an earlier priority date—indeed PO did not

[12] We use the page numbering added by Petitioner (in the bottom right corner of each page).

timely identify its new priority theory by the related litigation deadline."). For example, even as of the filing date of Patent Owner's Initial Infringement Contentions in the Georgia Litigation—February 4, 2022—Patent Owner indicated reliance on an alleged priority date of June 8, 2005, which would not antedate either Kuhn or Broussard from the '293 IPR. *See* Ex. 1023 at 4 ("Pursuant to Local Rule 4.1(b)(5), the Asserted Patents are entitled to the benefit of priority of U.S. Patent Application No. 11/147,564, filed on June 8, 2005."), *cited at* Pet. 100–101. And, as noted in the table above, the filing date of Patent Owner's Initial Infringement Contentions in the Georgia Litigation was more than a month *after* the filing date of the Petition in the '293 IPR.

c. Conclusion

For these reasons, viewing the *General Plastic* factors and the unique factual scenario here as parts of a balanced assessment, we are not persuaded that we should exercise discretion to deny institution under 35 U.S.C. § 314(a) based on multiple petitions addressing the '511 patent.

B. Alleged Failure to Satisfy Statutory and Regulatory Requirements

Patent Owner argues that the Petition should be denied for failure to meet certain statutory and regulatory requirements. *See* Prelim. Resp. 28–38. We address each set of arguments in turn below.

1. Alleged Failure to Identify the Portions of the Challenged Claims Being Discussed

As the first of three sets of arguments, Patent Owner asserts that the Petition fails to adequately identify the portions of the challenged claims being discussed, thus leading to a lack of clarity. *See* Prelim. Resp. 30–34. Patent Owner first asserts that the "Petition is drafted in such a way as to

make it impossible to follow" in part because "the Petition relies extensively on abbreviations for the limitations of the '511 Patent's claims, such as [1.Pre], [14.B], and [40.D], even though there is no single place in the Petition that spells out which limitation corresponds to each abbreviation." *Id.* at 30.

In the first discussion of each challenged claim, Petitioner identifies each designation along with the related claim language before then using *only* the designation in subsequent discussions of that same claim language. For example, element 1.A is identified with its claim language in the context of the first asserted ground of Sinclair and Feldmeier (*see* Pet. 16) and then is identified *only* as 1.A in the context of the grounds of Loeffler and Ohnishi (*see* Pet. 43) as well as Zupancich and Bosher (*see* Pet. 67). Although Petitioner *could have*, for example, collected and restated all of the designations in the Claims Appendix at the end of the Petition or restated the claim language linked to each designation with each new asserted ground, we do not view the failure to do so as making the Petition "impossible to follow," as argued (*see* Prelim. Resp. 30) or hindering review in any way.

In this argument, Patent Owner also faults Petitioner for "regularly cit[ing] references by name, rather than by exhibit number or some other mechanism," which Patent Owner characterizes as "a particularly confusing practice here because there are two references that Petitioner simply calls 'Zupancich' – Ex. 1010, a WO publication, and Ex. 1011, a provisional application." Prelim. Resp. 32. We do not view this as "confusing and ambiguous." *Id.* Referring to the references by name adequately identifies them for review. Moreover, Petitioner *expressly identifies* Exhibit 1010 as "Zupancich" and Exhibit 1011 as the "Zupancich Provisional." *See* Pet. 9.

Next, Patent Owner contends that "the Petition frequently uses an '*id*.' citation when multiple references were the last cited. *See, e.g.,* Pet. at 11 (second paragraph showing '*Id*.' citation following citation to both 'Sinclair' and Ex. 1003)." Prelim. Resp. 32. We also do not view this as "confusing and ambiguous." *Id.* After a citation to "[Sinclair], 1:13-36, Fig. 1; Ex-1003, ¶165," Petitioner then states: "Sinclair's casings use 'laminated glass-fibre reinforced synthetic resin which provides a high degree of thermal insulation.' *Id.*, 1:49–56." Pet. 11 (underlining added to identify the "*Id.*" citation at issue). Based on both the quote from Sinclair in the second sentence and the repeated use of the "column:line" citation format, we view as sufficiently clear that the "*Id.*" at issue refers to Sinclair rather than Exhibit 1003.

Patent Owner also asserts as inadequate Petitioner's practice of relying on earlier discussions of other claim elements for certain later claim elements. *See* Prelim. Resp. 32–33. For example, for element 14.A in the asserted ground of Sinclair and Feldmeier, Petitioner references the earlier discussion of element 1.A. *See* Pet. 27. Given the similar claim language across many of the claims, on the facts here, we do not view this practice as leading to ambiguity as to Petitioner's positions.

2. Alleged Lack of Clarity Based on the Structure of the Petition

As its second argument, Patent Owner contends that Petitioner

> combine[s] an annotated synopsis characterizing each reference to Petitioner's benefit, generalized reasons to combine the references, and an often[-]absent discussion of the references themselves, that together completely blur the line between the actual teachings of each asserted reference, Petitioner's modifications to those teachings, and Petitioner's characterizations of those teachings.

Prelim. Resp. 34. According to Patent Owner, "[t]he result is that the final unpatentability analysis is two or three levels removed from the actual disclosure of the references." *Id.* (quotations omitted).

In support, however, Patent Owner does not identify *any specific discussions* of the subject matter of the claims, but rather generally cites to the overview of the relied-upon references and the discussion of the reasons to combine for each asserted ground. *See* Prelim. Resp. 34 (citing Pet. 11–15, 32–36, 38–42, 50–53, 61–66, 92–93). We do not view Patent Owner's generalized argument as adequately identifying a deficiency in the Petition. For example, in the discussion of claim 1 in the asserted ground of Zupancich and Bosher, Petitioner quotes from and specifically cites several teachings from the two relied-upon references. *See* Pet. 66–77; *cf.* Prelim. Resp. 34–35 ("Petitioner's disjointed web forces the Board to, at times, consider previously-discussed claims, other sections of the Petition, and paragraphs of the expert declaration, all ***while never actually citing or explaining the references themselves***.").

Patent Owner also highlights Petitioner's practice of eliminating spacing between certain words, such as using, for example, "Ex-1003" rather than "Ex. 1003" to cite to the Jobin Declaration. Prelim. Resp. 36; *see, e.g.*, Pet. 2 (citing "Ex-1003, ¶¶133-144"). According to Patent Owner, "doing this reduced the word count by 289 words" and, because "the Petition was less than 200 words under the word limit, had the citations been correctly spaced, the Petition would have exceeded the allowed word count." Prelim. Resp. 36.

We agree with Patent Owner on this issue. The Consolidated Trial Practice Guide provides that "[e]xcessive words in figures, drawings, or

images*, deleting spacing between words*, or using excessive acronyms or abbreviations for word phrases, in order to circumvent the rules on word count, may lead to a party's brief not being considered," and states that, "[i]f an opposing party raises a word count limit violation or abuse, the Board will consider such a violation or abuse on a case-by-case basis." TPG 40 (emphasis added).

Here, assuming Petitioner's certification of being 204 words under the 14,000-word limit (*see* 37 C.F.R. § 42.24(a)(1)(i))[13] and Patent Owner's assertion that proper citation format would have added 289 words to the Petition, Patent Owner has not adequately explained how the net 85-word overage amounts to undue prejudice. *See* TPG 40 ("If a party feels that it would suffer undue prejudice from an opposing party's alleged word count limit violation or abuse, that party should raise the issue with the Board promptly after discovering the issue."). Thus, we do not view denying the Petition on this basis as appropriate; instead, we permit Patent Owner an additional 250 words for any Patent Owner Response filed, for a total of 14,250 words. *See* 37 C.F.R. § 42.24(b)(2) (setting 14,000 words as the limit for a patent owner response to a petition for *inter partes* review). We also clarify to Petitioner that all future filings *must* use proper citation format with a space between "Ex." and the exhibit number; any future violations may result in the Board not considering the filing. *See* TPG 40.

[13] *See* TPG 40 ("Except in cases of obvious abuse, the Board will generally accept a party's certification of compliance with word count limits.").

3. Assertion that the Jobin Declaration Adds to the Alleged Lack of Clarity in the Petition

Patent Owner contends that the Petition should be denied due to improperly incorporating by reference aspects of the Jobin Declaration. *See* Prelim. Resp. 36–38 (discussing Pet. 30). As the only example of the alleged improper incorporation, Patent Owner highlights this discussion of element 39.D in the asserted ground of Sinclair and Feldmeier:

> Sinclair teaches a container for temperature sensitive cargo. Sinclair, 1:9-12. Sinclair includes a "refrigeration plant" for cooling ([1.C]), but as Mr. Jobin explains, POSAs understood that low ambient temperatures could reduce the temperature below an acceptable range for the cargo and container heating systems were known. Ex-1003, ¶¶238-240. Therefore, POSAs had reason to include a heating system with Sinclair. *Id.*

Pet. 30, *discussed at* Prelim. Resp 37. Cited paragraph 239 of the Jobin Declaration, in turn, provides:

> POSAs understood that transportation containers like Sinclair would be exposed to a wide range of ambient temperature conditions during transportation. Therefore, it would be expected and anticipated that the container may be exposed to ambient temperatures below the, often narrow, range of temperatures required inside the container for the temperature-sensitive cargo. Therefore, POSAs had reason to include a heating system to heat the chamber to avoid spoiling the cargo if it cools to a temperature below its allowed range. As described above in the Technical Background, temperature-control systems including both refrigeration and heating systems were well-known. *See* Bosher, 10:65–11:5 (explaining that a heater would be necessary if the ambient temperature dropped too low for the cargo); *see also* Technical Background, V.F.

Jobin Decl. ¶ 239. Patent Owner asserts as problematic Mr. Jobin's reference to Bosher—not ostensibly relied on in the asserted ground of

Sinclair and Feldmeier—as well as the cross-reference to section V.F of the Jobin Declaration.

Arguments and information that are not presented and developed in the Petition, but instead are incorporated by reference, are not entitled to consideration, as it is improper to incorporate by reference arguments from one document into another document. *See* 37 C.F.R. § 42.6(a)(3); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 at 7–10 (PTAB August 29, 2014) (informative) (discussing incorporation by reference). We do not view this example as improper incorporation by reference. As an initial matter, and as noted above, we do not institute in this proceeding based on a finding of a reasonable likelihood of prevailing in showing the obviousness of independent claim 39 in the asserted ground of Sinclair and Feldmeier, at issue in the discussion raised as problematic by Patent Owner.

Further, we note that Patent Owner does not argue that Petitioner has failed to adequately present a reason to combine Sinclair and Feldmeier in that asserted ground *absent* the allegedly improperly incorporated discussions of Bosher and the "Technical Background" section. At this stage of the proceeding, we do not view as improper Petitioner's reliance on Bosher as part of its reason to combine analysis.

4. Conclusion

For these reasons, these arguments by Patent Owner do not present any bases to deny the Petition in this proceeding.

C. The Level of Ordinary Skill in the Art

The level of ordinary skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261

F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *Id.*

Petitioner contends, with accompanying declaration testimony, that a person having ordinary skill in the art "would have at least a Bachelor's degree in mechanical or structural engineering, or related fields, and two years' experience designing structures with comparable mechanical and/or structural elements to the '511 Patent's subject matter." Pet. 10 (citing Jobin Decl. ¶¶ 23–26). Petitioner also states that "[a]dditional experience may compensate for less education." *Id.* (citing Jobin Decl. ¶¶ 23–26).

Patent Owner does not dispute Petitioner's proposed definition of the level of ordinary skill in the art, which appears consistent with the record at this stage of the proceeding, including the prior art. *See GPAC Inc.*, 57 F.3d at 1579. For purposes of this Decision, we adopt the definition of the level of ordinary skill in the art proposed by Petitioner.

D. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as

would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

Petitioner discusses two claim construction issues as to constructions that Patent Owner allegedly "implicitly advanced" in the Georgia Litigation. Pet. 6–7. First, Petitioner argues that Patent Owner alleged that "two layers of the same multi-layered wall can be the claimed 'outer' and 'inner' shells, and the 'spaced inwardly' limitation, found in all independent Challenged Claims, can be met by one layer of a wall being inwardly located from another layer of the same wall." Pet. 6–7 (citing Ex. 1023 (Patent Owner's preliminary infringement contentions in the Georgia Litigation) at 81–89). Second, Petitioner argues that Patent Owner alleged that "the 'substantially flat . . . layers each having a plurality of [VIPs]' limitations of Claims 3 and 14.C are met by a single VIP layer."[14] Pet. 7 (citing Ex. 1023 at 96–98). Patent Owner does not expressly address these claim construction issues in the Preliminary Response.

At this stage of the proceeding and based on the current record, we need not construe explicitly any of the claim language discussed in this section or any other claim terms because doing so would not change the outcome of the analysis below. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that "we

[14] "VIPs" refers to vacuum insulated panels.

need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).[15]

E. Asserted Obviousness of Claims 1–4, 7, 8, 13–16, 19, 39, and 40 Based on Sinclair and Feldmeier

Petitioner asserts that claims 1–4, 7, 8, 13–16, 19, 39, and 40 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Sinclair and Feldmeier. Pet. 1, 11–32. Patent Owner provides arguments specifically addressing this asserted ground. Prelim. Resp. 40–43. We first summarize aspects of the relied-upon references.

1. Sinclair

Sinclair "relates to containers, and in particular to thermally insulated containers suitable for use in the transport of refrigerated goods." Ex. 1005 at 1, ll. 9–12.

[15] Claim construction, in general, is an issue that may be addressed further at trial. Claim construction will be determined at the close of all the evidence and after any hearing. The parties are expected to assert all of their claim construction arguments and evidence in the Petition, Patent Owner's Response, Petitioner's Reply, Patent Owner's Sur-reply, or otherwise during trial, as permitted by our rules.

Figure 1 of Sinclair is reproduced below:

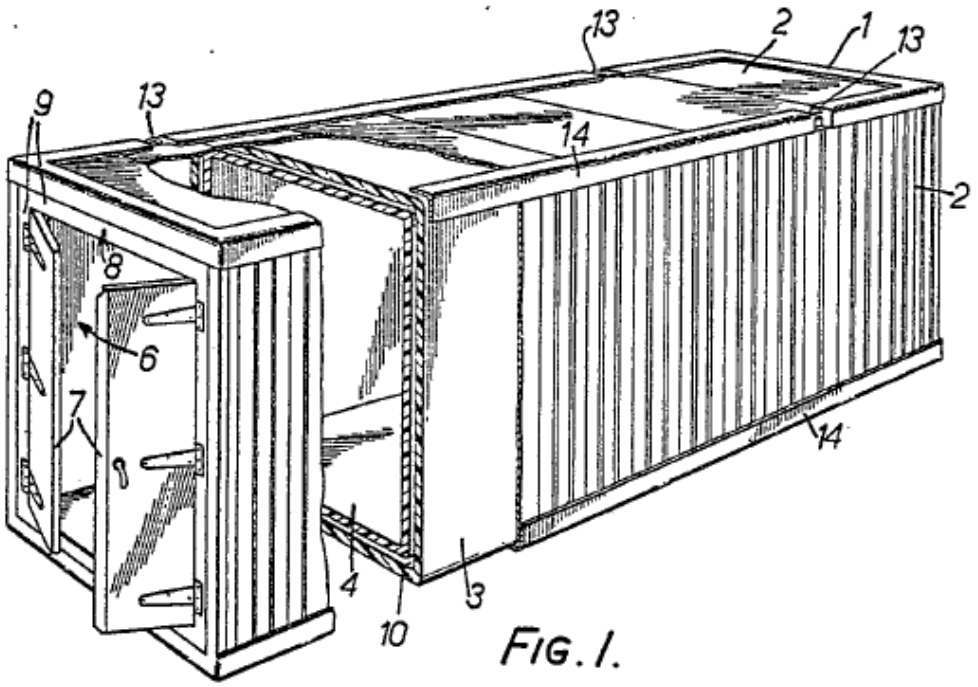


FIG. 1.

Figure 1 depicts "a perspective view of one container, with part broken away. Ex. 1005 at 2, ll. 11–12. Specifically, the depicted container "comprises an exterior casing 1 of box-like form which is rectangular in plan view and has substantially square ends one of which is closed and the other of which is open." *Id.* at 2, ll. 19–24. Sinclair discloses that exterior casing 1 "is externally metal clad at 2 and provided with an internal layer of thermal insulation, which may for example be a sprayed-on synthetic foam material 3." *Id.* at 2, ll. 24–27. In addition, Sinclair provides that "removable interior casing 4 of similar shape to the exterior casing 1 is dimensioned to fit within the latter" and that air space 10 "provides additional thermal insulation." *Id.* at 2, ll. 31–33, 42–47.

Figure 2 is reproduced below:

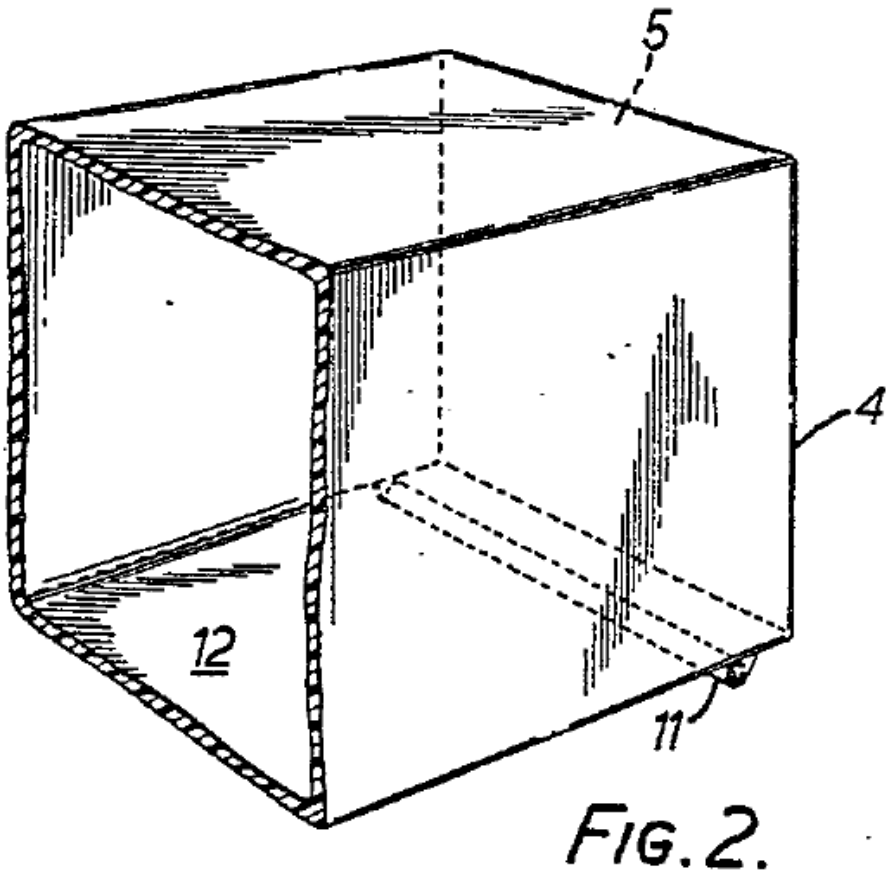


FIG. 2.

Figure 2 depicts a perspective view of interior casing 4. Ex. 1005 at 2, ll. 13–15, 31–33. Sinclair discloses that the container "may as usual be used in conjunction with a refrigeration plant to maintain a desired low temperature within the interior casing." *Id.* at 1, ll. 79–82.

2. Feldmeier

Feldmeier "relates to a panel for wall constructions that perform thermal insulation tasks." Ex. 1006 at 3.[16]

[16] For Feldmeier, we cite to the page numbers added by Petitioner prior to filing in this proceeding (at the bottom right corner of each page) rather than the page numbers native to Feldmeier (at the top of each page).

Figure 1 of Feldmeier is reproduced below:

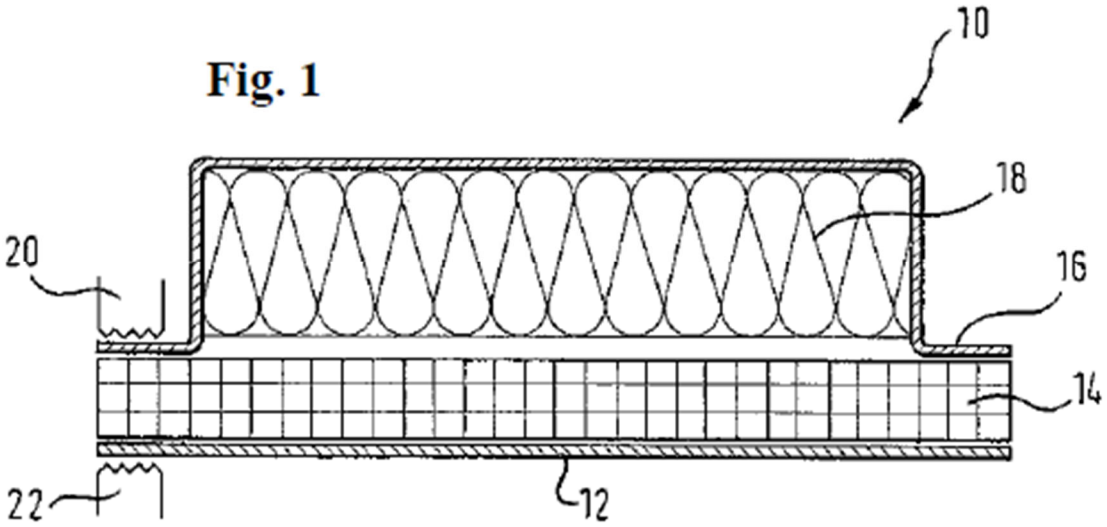


Figure 1 depicts a sectional view of a panel structure "with the vacuum insulation element arranged towards the outside." Ex. 1006 at 8. The panel structure shown in Figure 1 includes outer cover 12, vacuum insulated panel 14, inner cover 16, and insulating element 18. *Id.* at 10–11.

3. Analysis

a. Independent Claims 1, 14, 39, and 40

For independent claims 1, 14, 39, and 40, Petitioner contends that the proposed combination of Sinclair and Feldmeier discloses each limitation. Pet. 1, 14–20, 27–28, 29–32. Patent Owner (1) argues that Petitioner fails to show that the proposed combination discloses an "outer shell" and an "inner shell," both "of resin impregnated fibers," as required by claims 1, 39, and 40, and (2) Petitioner fails to show how or why one of ordinary skill in the art would have modified Sinclair to include insulating material "confined between" the walls of the "inner and outer shells," as recited in claims 14 and 40. *See* Prelim. Resp. 40–43. We address these arguments in turn.

(1) The "Resin Impregnated Fibers" Limitations

Independent claims 1, 39, and 40 each require that the "cargo container assembly" includes an "outer shell" having walls "of resin impregnated fibers" and an "inner shell within said outer shell" and having walls "of resin impregnated fibers" (together, the "resin impregnated fibers" limitations). *See* Ex. 1001, 8:66–67, 9:2–4, 13:31–32, 13:33–35, 13:44–46, 13:48–50. To address these limitations, Petitioner states that "Sinclair's exterior casing can be comprised of 'laminated glass-fibre reinforced synthetic resin" and states that "[l]aminated fiber reinforced resin is 'fiberglass,' which is a composite structure containing combined plastic resin and glass fibers, *i.e.*, 'resin impregnated fibers.'" Pet. 16 (citing Ex. 1005, 1:49–56; Jobin Decl. ¶ 180). According to Petitioner, Sinclair also teaches "an interior casing made of composite 'laminated glass-fibre reinforced synthetic resin." Pet. 18 (citing Ex. 1005, 1:49–56, 2:66–87; Jobin Decl. ¶¶ 184–185).

Patent Owner argues that Petitioner relies *only* on Sinclair for this requirement (as opposed to Feldmeier, the combination of Sinclair and Feldmeier, or modifying Sinclair in some way), and asserts that Sinclair does *not* disclose *both* an inner *and* outer shell of "resin impregnated fibers." *See* Prelim. Resp. 40–42.

At this stage of the proceeding, the record more strongly supports Patent Owner's view that Sinclair discloses that *only one* of the "exterior casing" *or* the "interior casing"—i.e., the identified "outer shell" and "inner shell," respectively—is made of the recited "resin impregnated fibers." *See*

Prelim. Resp. 40–41.[17] As noted by Patent Owner, Sinclair expressly states: "Either of the casings may provide the main structural strength . . . and the other casing may be manufactured from laminated glass-fibre reinforced synthetic resin." Ex. 1005, 1:43–55, *quoted at* Prelim. Resp. 41. On the current record, we preliminarily determine, in line with Patent Owner's argument, that Sinclair discloses *two alternative embodiments*: (1) one embodiment with a "metal clad" exterior casing and an inner casing "mainly for insulating purposes" (Ex. 1005, 2:19–24, 2:47–40) and (2) another embodiment that is "generally similar to the first container with the exception that the structural fabrication is provided by the interior casing 4 instead of the exterior casing 1, the latter being mainly for insulating purposes" (*id.* at 2:82–87). *See* Prelim. Resp. 41–42. At this stage of the proceeding, we preliminarily agree with Patent Owner that, "in neither embodiment does Sinclair teach a container that has ***both*** an inner and an outer casing made of resin impregnated fibers." *Id.* at 41.

(2) The Reasons to Combine Sinclair and Feldmeier

Independent claim 14 recites "vacuum insulated panel assemblies confined between the corresponding said side, top and bottom walls of said inner and outer shells" and independent claim 40 recites "thermal insulation material confined between the corresponding said side, top, bottom and rear walls of said inner and outer shells" (together, the "confined between" limitations). Ex. 1001, 10:20–22, 13:53–55. In the discussion of the reasons to combine Sinclair and Feldmeier, Petitioner states that "Sinclair discloses

[17] At this stage, Patent Owner does not challenge that Sinclair discloses the use of "resin impregnated fibers" in at least one of the "casings."

double-casing containers designed to protect their structure and cargo from damage, and teaches insulation in the clearance space between the walls of its casings" and adds that, although "Sinclair does not expressly disclose VIPs, [persons of ordinary skill in the art] had reason to consider Feldmeier's robust 'panel structures' (which include VIPs) to provide 'outstanding thermal insulation properties.'" Pet. 14 (citing Ex. 1005, 1:31–42, 1:49–56, 1:64–66; Jobin Decl. ¶ 173) (quoting Ex. 1006, code (57) & page 2). According to Petitioner, persons of ordinary skill in the art:

> had reason to use VIPs instead of Sinclair's synthetic sheets for insulation: there were finite insulation solutions, with different design considerations depending on need and cost. VIPs were known to provide greater insulation at a fraction of the weight and/or thickness of other solutions (Ex-1001, 4:63-5:2 (citing Day)). Switching out other forms of insulation for VIPs, such as those taught by Feldmeier, was mere routine optimization where POSAs reasonably expected success.

Pet. 14 (citing Jobin Decl. ¶¶ 173–179). Petitioner states that replacing Sinclair's insulation with Feldmeier's VIPs would "increase heat flow resistance and reduce reliance on Sinclair's active cooling system." Pet. 14–15 (citing Jobin Decl. ¶¶ 173–179). Petitioner adds that Feldmeier's "panel structures" are durable and that persons of ordinary skill in the art would have "understood these advantages were especially suited for Sinclair's container, which is susceptible to damage during transportation or from loading and unloading." Pet. 15 (citing Jobin Decl. ¶ 177). According to Petitioner, persons of ordinary skill in the art would have "had reason to implement Feldmeier's 'panel structure' between Sinclair's two casings to provide increased insulation, while still protecting the VIPs against damage (particularly when inserting or removing one Sinclair casing into or from the other)." *Id.* (citing Jobin Decl. ¶¶ 173–179).

Patent Owner argues that Petitioner has not explained how or why one of ordinary skill in the art would have modified Sinclair based on Feldmeier to locate the "vacuum insulated panel assemblies" (for claim 14) or "thermal insultation material" (for claim 40) as recited in the "confined between" limitations. *See* Prelim. Resp. 42–43. Specifically, Patent Owner argues that "the Sinclair structure is incompatible with placing VIPs" as allegedly proposed by Petitioner because of the rollers on the internal casing in Sinclair that allow the internal casing to be rolled into the external casing. *See id.* at 42 (citing Ex. 1005, 1:56–64). According to Patent Owner, Petitioner "does not explain how, if VIPs were inserted into Sinclair's air gap (where the rollers are located), the fragile VIPs would not be damaged when the inner casing was 'rolled' into the outer casing." *Id.* at 43. Patent Owner states, "[f]or example, if the rollers roll over the VIPs, . . . the weight of the container (even worse if loaded) would likely compress and break a VIP or at least rupture the vacuum seal, the critical feature of VIP performance" and that, "[a]lternatively, placing VIP between the rollers would either create, at the rollers, undesirable heat paths that Sinclair sought to eliminate in the first place or inhibit the ability to maintain the vacuum seal, defeating the very purpose of VIPs." *Id.*

The alleged technical issues raised by Patent Owner as to the proposed combination are fact-intensive and, at this point, the record on these issues is incomplete. Moreover, Petitioner has not had the opportunity to respond to the specific arguments raised by Patent Owner. We will consider the full record on these issues, as developed during trial, as part of our analysis in the final written decision. Because the Petition shows a reasonable likelihood that Petitioner would prevail with respect to at least

one of the challenged claims based on at least one of the asserted grounds (*see infra* § II.I.3.a.), we include claims 1, 14, 39, and 40 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

b. Claims 2–4, 7, 8, 13, 15, 16, and 19

For claims 2–4, 7, 8, 13, 15, 16, and 19, Petitioner contends that the proposed combination of Sinclair and Feldmeier discloses each limitation. Pet. 20–26, 28–29. Patent Owner does not present any arguments specifically addressing claims 2–4, 7, 8, 13, 15, 16, and 19 in the context of this asserted ground not addressed above. *See* Prelim. Resp. 40–43. We include claims 2–4, 7, 8, 13, 15, 16, and 19 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

F. Asserted Obviousness of Claims 5, 6, 17, and 18 Based on Sinclair, Feldmeier, and Ohnishi

Petitioner asserts that claims 5, 6, 17, and 18 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Sinclair, Feldmeier, and Ohnishi. Pet. 1, 32–38. Patent Owner does not present any arguments specifically addressing claims 5, 6, 17, and 18 in the context of this asserted ground, but rather, relies on the same arguments presented as to the prior ground. *See* Prelim. Resp. 40–43. We include claims 5, 6, 17, and 18 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

G. Asserted Obviousness of Claims 1, 5–7, 9, and 10 Based on Loeffler and Ohnishi

Petitioner asserts that claims 1, 5–7, 9, and 10 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Loeffler and

Ohnishi. Pet. 1, 38–50. Patent Owner provides arguments specifically addressing this asserted ground. Prelim. Resp. 44–47. We first summarize aspects of the relied-upon references.

1. Loeffler

Loeffler discloses air cargo containers for transporting temperature-sensitive goods. Ex. 1008, 3:3–20, 5:4–6.[18]

Figure 5 of Loeffler is reproduced below:

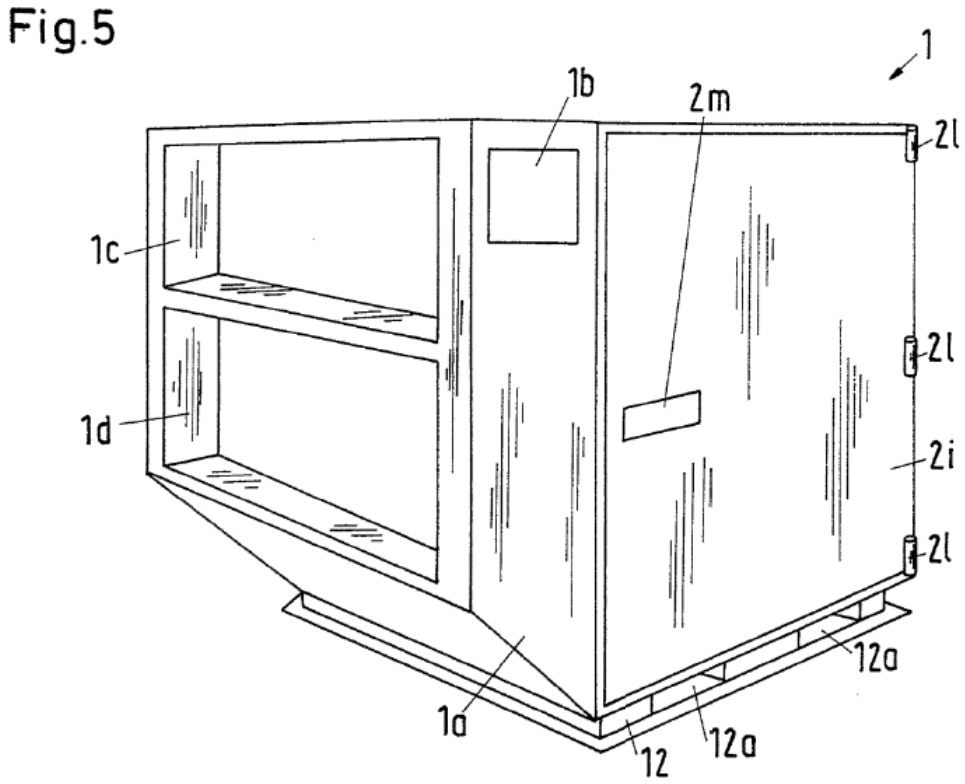


Figure 5 depicts a perspective view of an air cargo container with a refrigeration unit. Ex. 1008, 8:33–34. The depicted container has an

[18] For Loeffler, we cite to the page numbers added by Petitioner prior to filing in this proceeding (at the bottom right corner of each page) rather than the page numbers native to Loeffler (at the top of each page).

insulated housing 2 and cavities 1c and 1d for an air conditioning system and power supply. *Id.* at 14:17–26.

Figure 6 is reproduced below:

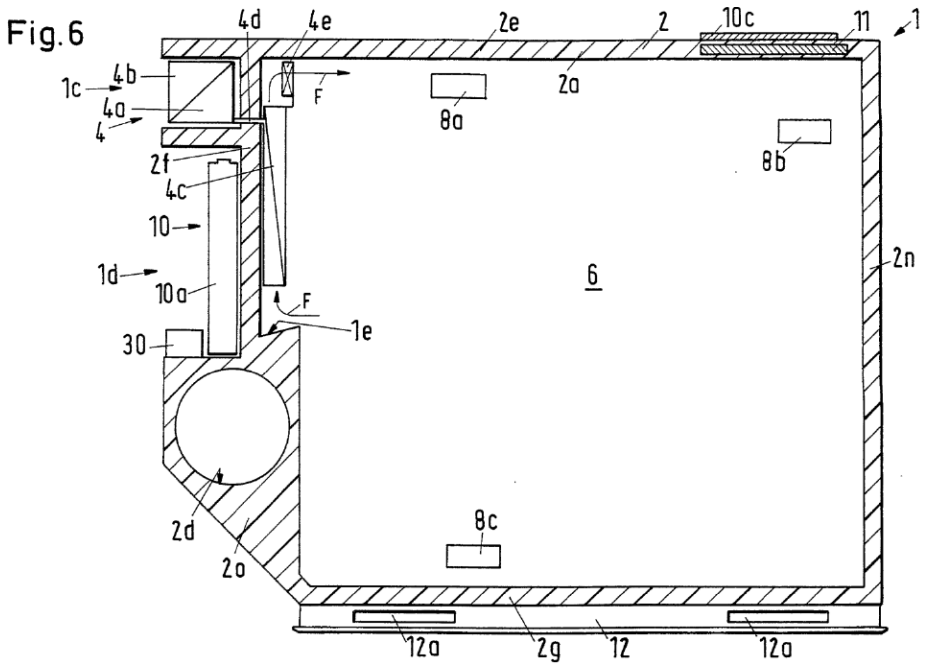


Figure 6 depicts a cross-sectional view of the air cargo container in Figure 5 above. Ex. 1008, 14:31–32. The cargo container shown includes air conditioning system 4 as well as insulated housing 2, which is "designed as an expanded single shell 2a," and is defined by top panel 2e, front panel 2f, bottom panel 2g, side panel 2h, loading opening 2i, and rear panel 2n. *Id.* at 14:31–34, 15:2–6. Loeffler discloses that "[i]t may also prove advantageous to expand vacuum insulation units 11 containing a partial vacuum into the container wall, in particular into the top panel 2e, in order to insulate the interior 6 exceptionally well against solar radiation coming from above." *Id.* at 15:26–29.

2. Ohnishi

Ohnishi teaches "a cargo container formed using FRP (fiber reinforced plastics) which is suitable as a container for freezing,

refrigerating, cold insulating or heat insulating in uses such as marine containers, truck containers, train containers and air containers." Ex. 1007 ¶ 1.

Figure 6 of Ohnishi is reproduced below:

FIG. 6

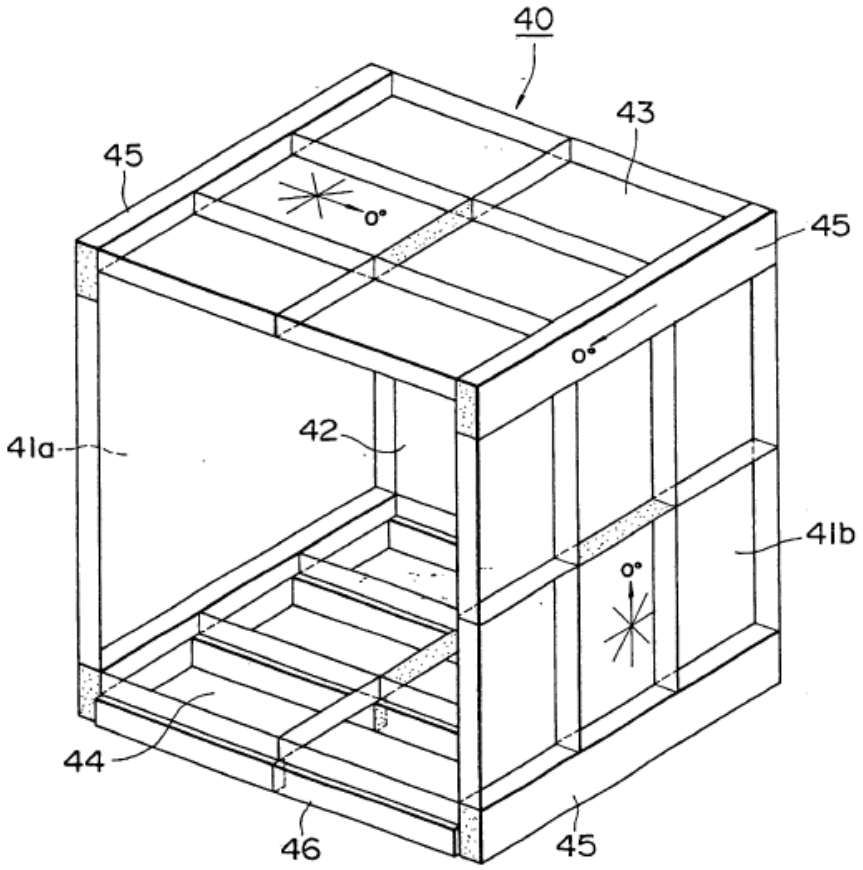


Figure 6 is a perspective view of a cargo container. Ex. 1007 ¶ 33. Container 40 in Figure 6 includes side walls 41a and 41b, rear wall 42, roof wall 43, and floor wall 44, and a door on the front side (not shown). *Id.* ¶ 65. Ohnishi discloses that "[e]ach wall is formed as a sandwich panel

including a core and FRP skins, and at least two walls adjacent to each other are formed integrally." *Id.*

Figure 7 of Ohnishi is reproduced below:

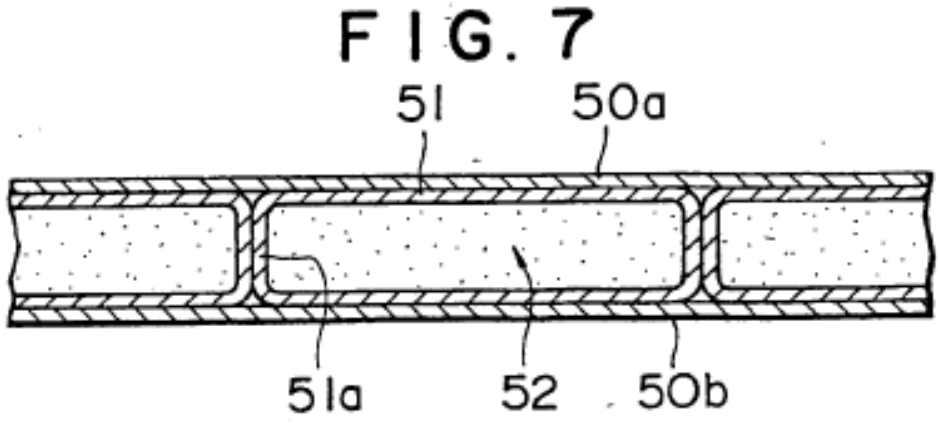


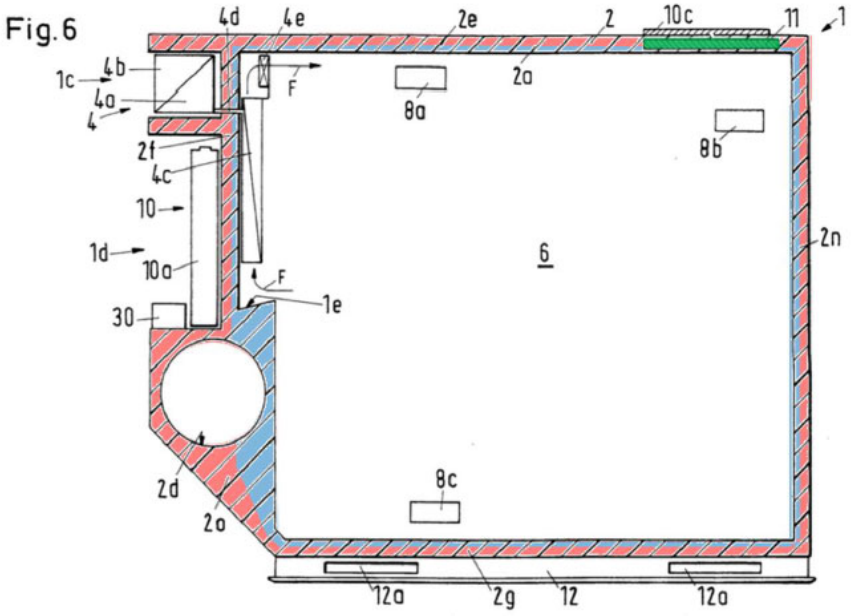
Figure 7 is a partial sectional view of a sandwich panel of the container in Figure 6. Ex. 1007 ¶ 33. Ohnishi's sandwich panel uses "[w]eb forming FRP members 51" between FRP skins 50a and 50b, and around polyurethane foam core 52. *Id.* ¶¶ 30, 66.

3. Analysis

a. Independent Claim 1

For independent claim 1, Petitioner contends that the proposed combination of Loeffler and Ohnishi discloses each limitation. Pet. 1, 41–46. Patent Owner argues that Petitioner fails to show that the proposed combination satisfies the "resin impregnated fibers" limitation (i.e., the requirement for an "outer shell" and an "inner shell," both "of resin impregnated fibers"). *See* Prelim. Resp. 44–47.

To address this limitation, Petitioner relies on Loeffler modified by Ohnishi. *See* Pet. 43–45 (citing Jobin Decl. ¶¶ 286–296). In support, Petitioner provides the following annotated version of Figure 6 of Loeffler:



Pet. 43, 45. Figure 6 depicts a cross-sectional view of the air cargo container in Figure 5. Ex. 1008, 14:31–32. In the annotated version of Figure 6 here, Petitioner added (1) blue shading to the inner portion of housing 2, (2) red shading to the outer portion of housing 2, and (3) green shading to vacuum insulation unit 11. Pet. 43, 45.

Referencing the claim construction discussion, Petitioner states that Patent Owner "alleges two layers of the same multi-layered wall can comprise the claimed 'outer' and 'inner' shells" and then Petitioner identifies the blue region in the annotated figure as an "inner shell" and the red region as an "outer shell." Pet. 43–45 (citing Pet. 6–7). Then, referencing the discussion of the reasons to combine, Petitioner states that one of ordinary skill in the art would have "had reason to modify Loeffler with Ohnishi's reinforced fiber panels to create a stronger and more durable container." Pet. 43 (citing Jobin Decl. ¶ 281; Pet. 41–42); *see also* Pet. 45 (citing Jobin Decl. ¶¶ 292–295) (similar statement for element 1B). In additional to the discussion of reasons to modify Loeffler based on Ohnishi,

Petitioner discusses why there would have been a reasonable expectation of success in the modification. *See* Pet. 41–42 (citing Jobin Decl. ¶¶ 278–281).

Patent Owner presents two arguments as to why Petitioner has allegedly failed to show that the proposed combination satisfies the "resin impregnated fibers" limitation in claim 1. *See* Prelim. Resp. 44–47. First, Patent Owner argues that Loeffler *alone* does not satisfy the "resin impregnated fibers" limitation, in part because "what Loeffler calls a 'shell' is insulation, not a composite shell of resin impregnated fibers as recited in the '511 claims." Prelim. Resp. 45; *see also id.* at 44–46 (entire argument). Petitioner, however, does not rely solely on Loeffler, but rather on Loeffler as modified by Ohnishi for the "resin impregnated fibers" limitation, as discussed above. *See* Pet. 43–45; *see also* Pet. 43 (Petitioner stating that one of ordinary skill in the art would have "had reason to modify Loeffler with Ohnishi's reinforced fiber panels to create a stronger and more durable container" (citing Jobin Decl. ¶ 281; Pet. 41–42)).

Second, Patent Owner acknowledges that "Petitioner purports to rely on Ohnishi to modify Loeffler" as to the limitation at issue, but argues that "all Petitioner says is [one of ordinary skill in the art] could modify Loeffler with Ohnishi 'to create a stronger and more durable container.'" Prelim. Resp. 46 (quoting Pet. 43) (citing Pet. 40–42). According to Patent Owner, "Petitioner provides no explanation of what modification is being made (*e.g.*, whether to modify Loeffler's 'covers' or 'shells' in some manner) and that alone shows that Petitioner has failed show a reasonable likelihood of demonstrating obviousness." *Id.* Patent Owner also argues that Petitioner provides "no explanation of why or how [one of ordinary skill in the art] would be motivated to try to insert a composite between the already

arranged inner and outer covers (including around the corners), as would be required by Petitioner's combination." *Id.* at 46–47.

We disagree with Patent Owner's summary of Petitioner's proposed reasons to modify Loeffler based on Ohnishi and the argument that the proposed modification lacks clarity. As summarized above, we understand Petitioner to propose modifying the blue and red regions of housing 2 in Loeffler (Figure 6) to construction those portions with Ohnishi's reinforced fiber panels. *See, e.g.*, Pet. 41 (discussing how one of ordinary skill in the art would have "understood that *constructing Loeffler's housing with Ohnishi's composite resin impregnated fibers*, would strengthen the housing, improve stability, and decrease its weight" (emphasis added) (citing Jobin Decl. ¶¶ 279–281). On this issue, we note that, at this stage of the proceeding, Patent Owner has not substantively challenged the "Reasons to Combine" section of the Petition as to this asserted ground and, instead, challenges one statement as to the reasons to combine in the discussion of element 1A. *See* Pet. 41–42; *see also* Prelim. Resp. 46 (quoting Pet. 43).

Because the Petition shows a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims based on at least one of the asserted grounds (*see infra* § II.I.3.a.), however, we include claim 1 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

b. Claims 5–7, 9, and 10

For claims 5–7, 9, and 10, Petitioner contends that the proposed combination of Loeffler and Ohnishi discloses each limitation. Pet. 46–50. Patent Owner does not present any arguments specifically addressing claims 5–7, 9, and 10 in the context of this asserted ground not already addressed

above. *See* Prelim. Resp. 44–47. We include claims 5–7, 9, and 10 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

H. Asserted Obviousness of Claims 2, 3, 8, 11, 13–15, 17–19, 39, and 40 Based on Loeffler, Ohnishi, and Yamamoto

Petitioner asserts that claims 2, 3, 8, 11, 13–15, 17–19, 39, and 40 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Loeffler, Ohnishi, and Yamamoto. Pet. 1, 50–61. Patent Owner provides arguments specifically addressing this asserted ground. Prelim. Resp. 44–49. We first summarize aspects of Yamamoto.

1. Yamamoto

In this asserted ground, Petitioner relies on Yamamoto, in addition to Loeffler and Ohnishi (summarized above (*see supra* § II.G.1–2)). Yamamoto "relates to a wall including a vacuum insulation panel (member) to be used in a heat insulating transportation container of a vehicle enabling cold reservation and refrigeration." Ex. 1009 ¶ 1.

Figure 1 of Yamamoto is reproduced below:

Fig. 1

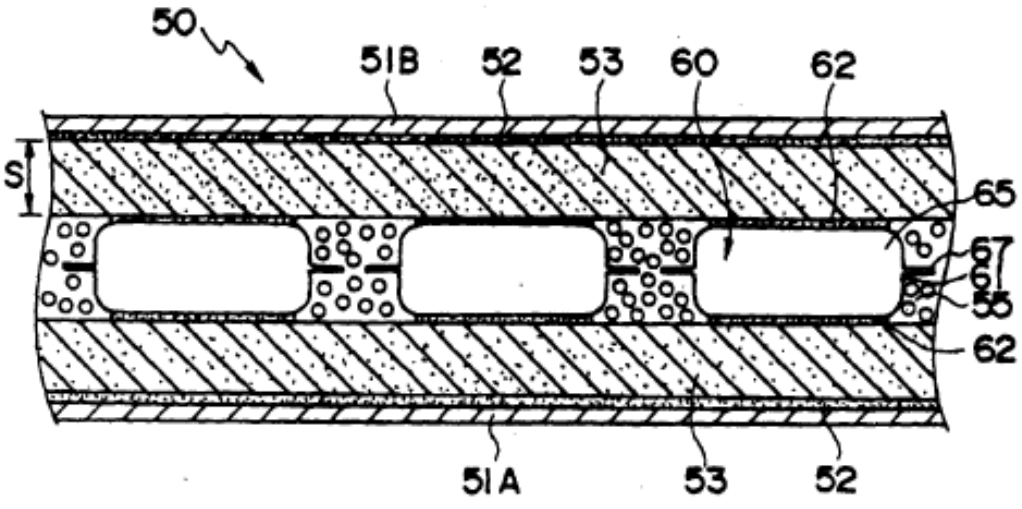


Figure 1 is a cross-sectional view of a heat insulating wall. Ex. 1009 ¶ 5. Depicted wall 50 "comprises a first panel 51A and a second panel 51B acting as an outer panel and an inner panel, a slab material 53 made of a heat insulating material, and a vacuum insulation member 60." *Id.* ¶ 8.

2. Analysis

a. Independent Claims 14, 39, and 40

For independent claims 14, 39, and 40, Petitioner contends that the proposed combination of Loeffler, Ohnishi, and Yamamoto discloses each limitation. Pet. 1, 58–61. Patent Owner (1) argues, as to claims 39 and 40, that Petitioner fails to show that the proposed combination satisfies the "resin impregnated fibers" limitation for the same reasons discussed above in the prior asserted ground (*see supra* § II.G.3.a), and (2) argues, as to claims 14 and 40, that Petitioner fails to show how or why one of ordinary skill in the art would have modified Loeffler to satisfy the "confined between" limitations (i.e., the requirements for insulating material "confined between" the walls of the "inner and outer shells"). *See* Prelim. Resp. 44–49. Because the discussion above addresses Patent Owner's arguments as to the "resin impregnated fibers" limitation (*see supra* § II.G.3.a), we turn below to Patent Owner's second argument addressing the "confined between" limitations.

In the discussion of the reasons to further modify Loeffler, as modified by Ohnishi, with Yamamoto, Petitioner states that "Loeffler contemplates VIPs between its shells" and adds that one of ordinary skill in the art would have "had reason to look to Yamamoto for a more advanced VIP construction: it teaches improved VIPs with superior ('quadrupled') insulating properties, within a foam and panel structure for enhanced

protection." Pet. 52 (citing Ex. 1008, 13:26–29, claim 10; Jobin Decl. ¶ 324; Ex. 1009, 2:12–3:3, 3:32–53, 4:47–6:37; 8:35–40). According to Petitioner, one of ordinary skill in the art would have also "had reason to modify Loeffler's insulation because Yamamoto teaches its VIP configuration solves problems specific to mobile containers, such as Loeffler's air cargo containers." *Id*. (citing Ex. 1009, 3:23–53, 4:47–58). Thus, Petitioner states, one of ordinary skill in the art would have "had reason to adapt Loeffler's insulation (including VIPs) within its shells to include Yamamoto's multiple VIP structure." *Id.* (citing Jobin Decl. ¶ 324). Petitioner also provides reasons one of ordinary skill in the art would have reasonably expected success in the modification. *See* Pet. 53 (citing Jobin Decl. ¶¶ 325–328).

Patent Owner argues that Petitioner has not explained how or why one of ordinary skill in the art would have modified Loeffler based on Ohnishi and Yamamoto to satisfy the "confined between" limitations recited in claims 14 and 40. *See* Prelim. Resp. 47–49. Specifically, Patent Owner argues that "Loeffler is incompatible with using VIPs at all" in that, first, "[i]f one were to try to push VIPs into the gaps between Loeffler's inner and outer covers 2b and 2c, including around corners where the sides meet the top or bottom, the VIPs would be destroyed." *Id.* at 47, 48. Second, Patent Owner contends that "many of the features extolled in Loeffler are not compatible with VIPs because there are structures in and on the walls (where the VIPs would be located) that could damage the VIPs" and that "Loeffler describes ducts, sensors and fixtures in or on the walls that would pose significant risk to VIPs embedded in the walls." *Id.* at 48 (citing Ex. 1008). According to Patent Owner, "any combination with Loeffler cannot simply use VIPs" because "significant modifications must be made." *Id.* at 49.

As an initial matter, we question whether the proposed modification involves "push[ing] VIPs into the gaps between Loeffler's inner and outer covers 2b and 2c, including around corners where the sides meet the top or bottom," as argued by Patent Owner. Prelim. Resp. 48. Indeed, neither section of the Petition addressing reasons to combine (*see* Pet. 41–42, 52–53) reference covers 2b and 2c from Loeffler. Further, the alleged technical issues raised by Patent Owner as to the proposed combination are fact-intensive and, at this point, the record on these issues is incomplete. Petitioner has not had the opportunity to respond to the specific arguments raised by Patent Owner. We will consider the full record on these issues, as developed during trial, as part of our analysis in the final written decision.

Because the Petition shows a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims based on at least one of the asserted grounds (*see infra* § II.I.3.a.), however, we include claims 14, 39, and 40 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

b. Dependent Claims 2, 3, 8, 11, 13, 15, and 17–19

Petitioner asserts that claims 2, 3, 8, 11, 13, 15, and 17–19 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Loeffler, Ohnishi, and Yamamoto. Pet. 1, 52–58, 59. Patent Owner does not present any arguments specifically addressing claims 2, 3, 8, 11, 13, 15, and 17–19 in the context of this asserted ground, but rather, relies on the same arguments presented as to the prior ground. *See* Prelim. Resp. 44–49. We include claims 5, 6, 17, and 18 in the context of this asserted ground in the

instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

I. Asserted Obviousness of Claims 1–3, 7, 9–15, 19, 39, and 40 Based on Zupancich and Bosher

Petitioner asserts that claims 1–3, 7, 9–15, 19, 39, and 40 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Zupancich and Bosher. Pet. 13, 61–92. Patent Owner provides arguments specifically addressing this asserted ground. Prelim. Resp. 50–54. We first summarize aspects of the relied-upon references.

1. Zupancich

Zupancich discloses "an insulated cargo container." Ex. 1010 ¶ 2. Figure 1 of Zupancich is reproduced below:

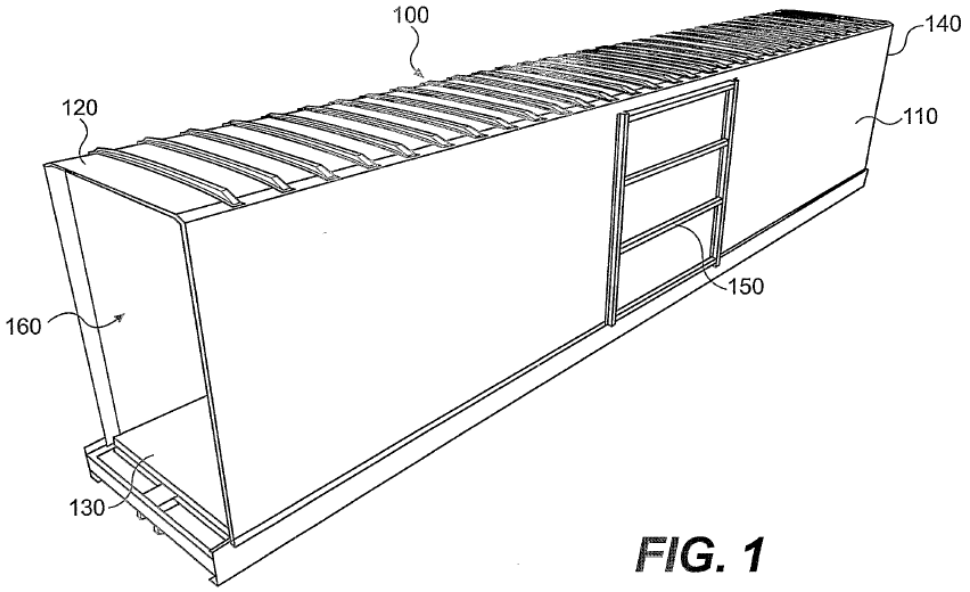


FIG. 1

Figure 1 is an isometric view of an insulated or refrigerated boxcar. Ex. 1010 ¶ 13. Boxcar 100 includes wall panels 110, roof 120, floor 130, end walls 140, and door 150. *Id.* ¶ 46. Zupancich discloses that "[w]all panels 110, roof 120, floor 130, and end walls 140 combine to form an

enclosure 160." *Id.* In addition, Zupancich discloses the possibility of a "void to allow for insertion of a refrigeration unit." *Id.* ¶ 87.

Figure 2A is reproduced below:

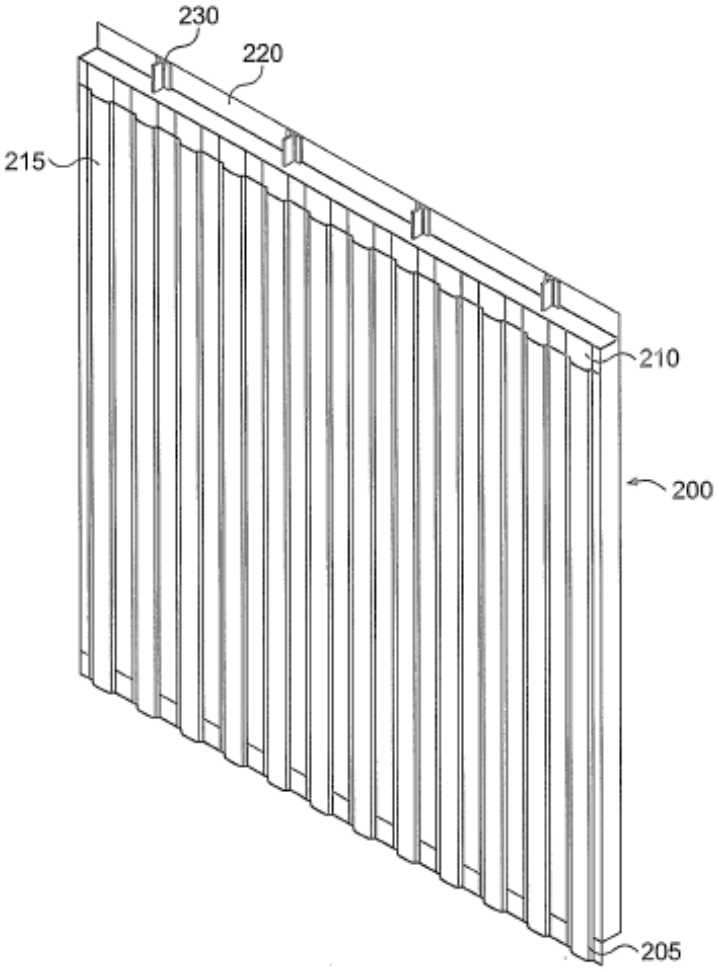


FIG. 2A

Figure 2 depicts an isometric view of an insulated wall panel. Ex. 1010 ¶ 14. Zupancich discloses that, "in one implementation, an insulated wall panel 200 includes an interior panel 205, an insulation layer 210, an exterior panel 220, and structural members 230." *Id.* ¶ 49. Interior panel 205 and exterior panel 220 each may be constructed of "fiber-reinforced plastics." *Id.* ¶¶ 50, 55.

Figure 2H is reproduced below:

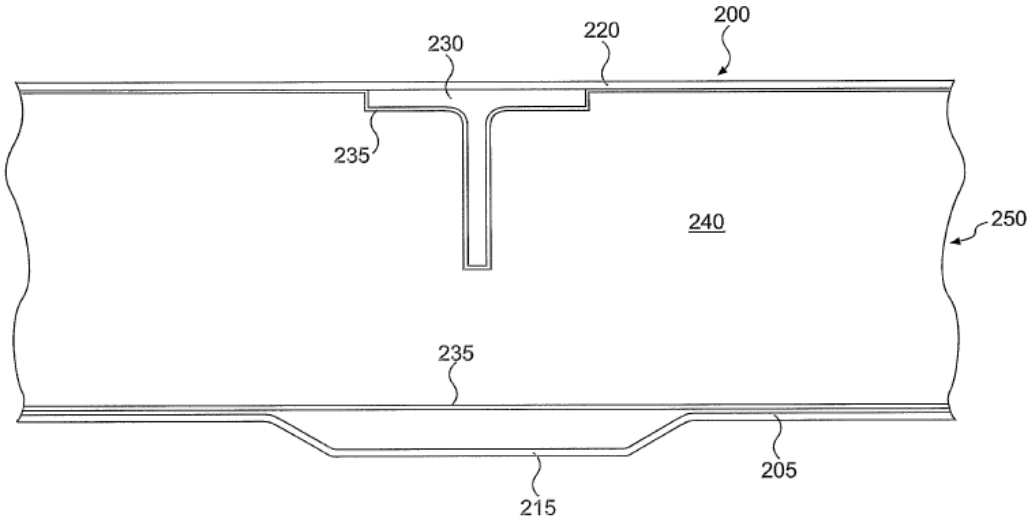


FIG. 2H

Figure 2 depicts "an enlarged top view of a portion of an insulated wall panel." Ex. 1010 ¶ 21. Insulated wall panel 200 includes interior panel 205, exterior panel 220, and vacuum insulated panel 250. *Id.* ¶ 57.

2. Bosher

Bosher discloses "pallet based refrigerated transportation systems." Ex. 1012, 1:5–8.

Figure 8 of Bosher is reproduced below:

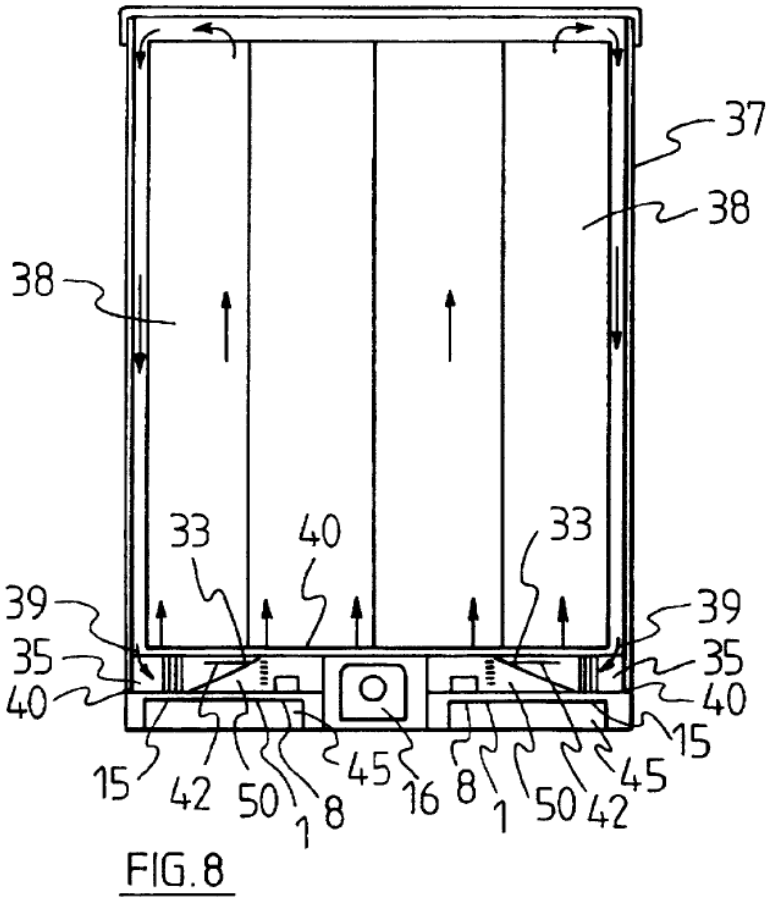


FIG. 8

Figure 8 depicts a side view of a refrigeration unit and a pallet. Ex. 1012, 4:25–29. Depicted refrigeration unit 1 includes exhaust fans 8, condenser intakes 9, condenser 10, and compressor 16. *Id.* at 5:63–65.

3. Analysis

a. Independent Claim 1

For independent claim 1, Petitioner contends that the proposed combination of Zupancich and Bosher discloses each limitation. Pet. 2, 65–77. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Petitioner also articulates reasons to combine the relied-upon aspects of Zupancich and Bosher. Pet. 65–66.

Patent Owner (1) argues that Petitioner has not shown that Zupancich discloses "a box-like . . . outer shell having side, top and bottom walls" and "a box-like . . . inner shell within said outer shell and having side, top and bottom walls" as recited in claim 1 and (2) argues that Petitioner has not shown that Zupancich is prior art to the challenged claims. *See* Prelim. Resp. 50–54.

We have reviewed Petitioner's contentions with respect to claim 1, and for the reasons below, we determine that the Petition shows a reasonable likelihood that Petitioner would prevail in demonstrating that claim 1 would have been obvious based on Zupancich and Bosher. We address in turn below each of Patent Owner's arguments.

(1) The "Shell" Limitations

Independent claim 1 recites an "a box-like . . . outer shell having side, top and bottom walls" and "a box-like . . . inner shell within said outer shell and having side, top and bottom walls." Ex. 1001, 8:66–67, 9:2–4 (together, the "shell" limitations). As the recited "outer shell," Petitioner identifies "at least a portion of exterior panel 220" shown in Figures 2A and 2H above. *See* Pet. 68 (highlighting exterior panel 220 in Figures 2A and 2H in red). As the recited "inner shell," Petitioner identifies interior panel 205 in wall panel 200 shown in Figures 2A and 2H above. *See* Pet. 70–71 (highlighting interior panel 205 in Figures 2A and 2H in blue). Petitioner also states that "[e]ach of Zupancich's walls—side, top, and bottom—includes an exterior panel that 'combine to form an enclosure 160" and that "Zupancich's enclosure is 'box-like.'" Pet. 68 (citing Ex. 1010, Figs. 1 & 2H, ¶¶ 46–48; Ex. 1011 at 5–13, 29–31; Jobin Decl. ¶¶ 398–399); *see also* Pet. 72 (citing Jobin Decl. ¶ 406 as to why the identified "inner shell" is also "box-like").

Patent Owner argues that Petitioner has not shown that Zupancich discloses the "shell" limitations. *See* Prelim. Resp. 50–51. Specifically, Patent Owner argues that Petitioner addresses the "shell" limitations "solely by discussing the side walls in Zupancich and claiming that this disclosure alone discloses the limitations." *Id.* at 50 (citing Pet. 67–72, 89, 90, 91–92). Stated differently, Patent Owner asserts that, although the "shell" limitations "expressly require a floor and roof with particular attributes, Petitioner ***never*** addresses the floor and roof disclosed in Zupancich." *Id.* According to Patent Owner, Petitioner "misreads a single passage in paragraph [048] of Zupancich to argue that the same structure of the sidewalls in Zupancich can be used in the floor and bottom." *Id.* (citing Pet. 68, 72). Patent Owner argues that the relevant passage in paragraph 48 indicates that "its invention covers any combination of what it describes as the walls, roof and floor – not that the parts are interchangeable" and that "Petitioner never cites nor discusses the description of the separate roof or floor structures in Zupancich" as to the "shell" limitations. *Id.* at 51.

As noted by Patent Owner, Petitioner *does* rely on teachings related to "insulated *wall* panel 200" as to the "shell" limitations (*see* Pet. 67–72), but we do not agree with Patent Owner that those teachings do not apply to the recited "top and bottom walls." Paragraph 48 of Zupancich provides as follows, with the passage highlighted by Patent Owner shown in italics:

> Implementations of wall panels 110, roof 120, floor 130, end walls 140, and door 150 consistent with embodiments of the invention are described in detail below. It should be understood that *any combination of the wall panels 110, roof 120, floor 130, end walls 140, and door 150 described below might be used to construct a cargo container consistent with the present invention*.

Ex. 1010 ¶ 48 (emphasis added). The next paragraph and several following then discuss certain insulated *wall* panels shown in Figures 2A–2H, relied upon by Petitioner as to the "shell" limitations. *See* Ex. 1010 ¶¶ 49–57. Zupancich then provides separate discussions of other panels: sidewalls in Figures 3A–3C (*id.* ¶¶ 58–60); floors in Figures 4A–4C (*id.* ¶¶ 61–71); roofs in Figures 5A–5D (*id.* ¶¶ 72–80); doors in Figures 6A–6I (*id.* ¶¶ 81–86); and end panels in Figures 7A–8B (*id.* ¶¶ 87–100).

With this additional background, we understand Patent Owner to view the highlighted statement from paragraph 48 as indicating that Zupancich's teachings *include* (1) a cargo container with sidewall panels as disclosed (for example) in paragraphs 49–60, a floor as disclosed (for example) in paragraphs 61–71, a roof as disclosed (for example) in paragraphs 72–80, a door as disclosed (for example) in paragraphs 81–86, *and* end panels as disclosed (for example) in paragraphs 87–100, *but as not including* (2) a cargo container in which the sidewall panels as disclosed in paragraphs 49–60 are used for the sidewalls, floor, roof, door, *and* end panels. Petitioner, in contrast, views Zupancich as including both possibilities. *See* Pet. 73 ("Zupancich teaches all of its container walls (side, top, and bottom) can be constructed with its insulated wall panel structure." (citing Ex. 1010 ¶ 48, Fig. 2A; Ex. 1011 at 5, 28; Jobin Decl. ¶ 410)).

The record more strongly supports Petitioner at this stage of the proceeding. For example, in cited paragraph 410 of his Declaration, Mr. Jobin states that one of ordinary skill in the art would have interpreted paragraph 48 of Zupancich as showing that, "[f]or instance, Zupancich's roof design could be used for multiple walls, or its floor structure could be used for all walls, not just the floor, and so on." Jobin Decl. ¶ 410, *cited at*

Pet. 73. Patent Owner, in contrast, has solely attorney argument as to the proper understanding of paragraph 48. *See Elbit Sys. of Am., LLC v. Thales Visionix, Inc.*, 881 F.3d 1354, 1359 (Fed. Cir. 2018) (rejecting attorney argument as to the alleged understanding of one of skill in the art on an issue when no evidence was presented). Moreover, paragraph 101 of Zupancich supports Petitioner's understanding of the relevant passage from paragraph 48, with paragraph 101 stating that "cargo containers consistent with the invention may include *any combination of the described insulated panels*." Ex. 1010 ¶ 101 (emphasis added). For these reasons, at this stage of the proceeding and on the current record, we determine that Petitioner has made a sufficient showing that Zupancich discloses the "shell" limitations.

(2) The Status of Zupancich as Prior Art to the Challenged Claims

Patent Owner also argues that Petitioner has not shown that Zupancich is prior art to the challenged claims. *See* Prelim. Resp. 51–54. For the reasons below, on the current record, we disagree with Patent Owner.

We first discuss the effective filing date(s) of the Challenged Claims. The filing date of the application issuing as the '511 patent is August 22, 2007, and the '511 patent identifies as a continuation-in-part of U.S. application no. 11/147,564, filed on June 8, 2005. *See* Ex. 1001, codes (22), (63). Petitioner states that, "for purposes of this IPR only, Petitioner assumes the '511 Patent's priority is November 18, 2004 (even though that date is incorrect)." Pet. 6 (citing Jobin Decl. ¶¶ 86, 87, 144–147).

In the Preliminary Response, Patent Owner states that it "has evidence establishing invention of the Challenged Claims in this proceeding prior to the international filing date of Zupancich of February 13, 2004," but states that, because "the Board deferred addressing invention dates for the '511

Patent claims prior to institution in IPR2022-00293, Patent Owner does not rely on that prior invention evidence here." Prelim. Resp. 52 (citing Ex. 1029; Ex. 2004 (Petitioner's Reply ISO Motion for Preliminary Injunction, April 22, 2022)). Patent Owner asserts that "institution in view of Zupancich would be futile" (*id.*), but Patent Owner does not actually present evidence *in this proceeding* to support that position. On the current record, and for purposes of this Decision only, we apply Petitioner's *assumed* effective filing date of November 18, 2004, for the challenged claims.

We turn now to the effective filing date of Zupancich, which is an international application published under the Patent Cooperation Treaty, with a publication date of August 26, 2004, and a filing date of February 13, 2004. *See* Ex. 1010, codes (12), (22), (43). Zupancich claims priority to U.S. provisional application No. 60/447,002, filed on February 13, 2003 (Ex. 1011 (the "Zupancich Provisional")). *See* Ex. 1010, code (30). Petitioner asserts that Zupancich is prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and 102(e). Pet. 9. Petitioner also asserts that Zupancich is prior art based on the 2003 filing date of the Zupancich Provisional. Pet. 9–10.

Patent Owner argues that Zupancich is not entitled to the filing date of the Zupancich Provisional. *See* Prelim. Resp. 52–54. Even if Patent Owner's argument is correct, however, even the publication date of Zupancich (August 26, 2004) predates the assumed effective filing date of November 18, 2004, for the challenged claims. Thus, at this stage of the proceeding, the record more strongly supports Petitioner's position that Zupancich is prior art to the Challenged Claims.

(3) The Additional Limitations of Claim 1

Patent Owner does not offer any arguments specifically addressing the remaining limitations of claim 1 or Petitioner's reasons to modify Zupancich based on Bosher as proposed. *See* Prelim. Resp. 50–54. We have reviewed these aspects of Petitioner's contentions, and determine that the Petition provides a sufficient showing, at this stage of the proceeding, that the combination of Zupancich and Bosher satisfies each limitation and that one of ordinary skill in the art would have had reason to combine the references as proposed, with a reasonable expectation of success. *See* Pet. 65–77.

(4) Conclusion

For the reasons above, we determine, based on the current record, that the Petition shows a reasonable likelihood that Petitioner would prevail in demonstrating that claim 1 would have been obvious based on Zupancich and Bosher.

b. Claim 2, 3, 7, 9–15, 19, 39, and 40

For claims 2, 3, 7, 9–15, 19, 39, and 40, Petitioner contends that the proposed combination of Zupancich and Bosher discloses each limitation. Pet. 20–32. Patent Owner does not present any arguments specifically addressing claims 2, 3, 7, 9–15, 19, 39, and 40 in the context of this asserted ground not already addressed above. *See* Prelim. Resp. 50–54. We include claims 2, 3, 7, 9–15, 19, 39, and 40 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

J. Asserted Obviousness of Claims 5, 6, 17, and 18 Based on Zupancich, Bosher, and Ohnishi

Petitioner asserts that claims 5, 6, 17, and 18 of the '511 patent would have been obvious under 35 U.S.C. § 103(a) based on Zupancich, Bosher,

and Ohnishi. Pet. 2, 92–94. Patent Owner does not present any arguments specifically addressing claims 5, 6, 17, and 18 in the context of this asserted ground, but rather, relies on the same arguments presented as to the prior ground. *See* Prelim. Resp. 50–54. We include claims 5, 6, 17, and 18 in the context of this asserted ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; 37 C.F.R. § 42.108(a).

III. CONCLUSION

For the reasons above, we determine that the Petition shows a reasonable likelihood that Petitioner would prevail with respect to at least one of challenged claims 1–19, 39, and 40 of the '511 patent. At this stage of the proceeding, no final determination has yet been made with regard to the patentability of any of the challenged claims or any underlying factual or legal issues, including the construction of claim terms. The final determination will be based on the record as developed during the *inter partes* review.

IV. ORDER

Accordingly, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is hereby instituted as to claims 1–19, 39, and 40 of the '511 patent on all asserted grounds;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, *inter partes* review shall commence on the entry date of this Decision, with notice hereby given of the institution of a trial; and

FURTHER ORDERED that Patent Owner is permitted 250 additional words for any Patent Owner Response filed.

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