

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALLSTEEL INC.,
Petitioner,

v.

DIRTT ENVIRONMENTAL SOLUTIONS LTD.,
Patent Owner.

Case IPR2015-01691
Patent 8,024,901 B2

Before SALLY C. MEDLEY, SCOTT A. DANIELS, and
JACQUELINE T. HARLOW, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. 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 by a preponderance of the evidence that claims 1, 4–7, 9, 10, 14–20, and 25 of U.S. Patent No. 8,024,901 B2 are unpatentable.

A. Procedural History

Petitioner, Allsteel Inc., filed a Petition requesting an *inter partes* review of claims 1, 4–11, 13–23, and 25 of U.S. Patent No. 8,024,901 B2 (Ex. 1001, “the ’901 patent”). Paper 1 (“Pet.”). Patent Owner, DIRT Environmental Solutions Ltd., filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, on February 2, 2016, we instituted an *inter partes* review of claims 1, 4–7, 9, 10, 14–20, and 25, pursuant to 35 U.S.C. § 314. Paper 10 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 24 (“PO Resp.”)) and Petitioner filed a Reply (Paper 30 (“Pet. Reply”)). Petitioner filed a Motion to Exclude (Paper 34 (“Pet. Mot. to Exclude”)) paragraph 4 of Exhibit 2004 and Exhibit 2005 in its entirety. Patent Owner filed an Opposition to the Motion to Exclude (Paper 39 (“PO Exclude Opp.”)), and Petitioner filed a Reply (Paper 40 (“Pet. Exclude Reply”)).

Patent Owner filed a Motion to Exclude (Paper 36 (“PO Mot. to Exclude”)) portions of Exhibit 1030 and Petitioner’s Reply. Petitioner filed an Opposition to the Motion to Exclude (Paper 38 (“Pet. Exclude Opp.”)), and Patent Owner filed a Reply (Paper 41 (“PO Exclude Reply”)).

An oral hearing was held on October 13, 2016, and a transcript of the hearing is included in the record (Paper 43 (“Tr.”)).

B. Related Proceeding

The ’901 patent is involved in the following lawsuit: *DIRT Environmental Solutions Ltd. v. Allsteel Inc.*, No. 1:15-cv-04874 (N. D. Ill.).

Pet. 1. The '901 patent is the subject of three pending reissue applications: (1) 14/032,931, filed September 20, 2013; (2) 14/305,819, filed June 16, 2014; and (3) 14/681,874, filed April 8, 2015. Papers 4, 6.

C. The '901 Patent

The '901 patent relates to a reconfigurable wall system. Ex. 1001, Abstract. The wall system has at least one module having a front and rear surface and vertical end frames disposed on side edges of the module. *Id.* The vertical end frame of one module connects to a vertical end frame of another module through a removable connecting strip. *Id.*

Figure 1 is reproduced below.

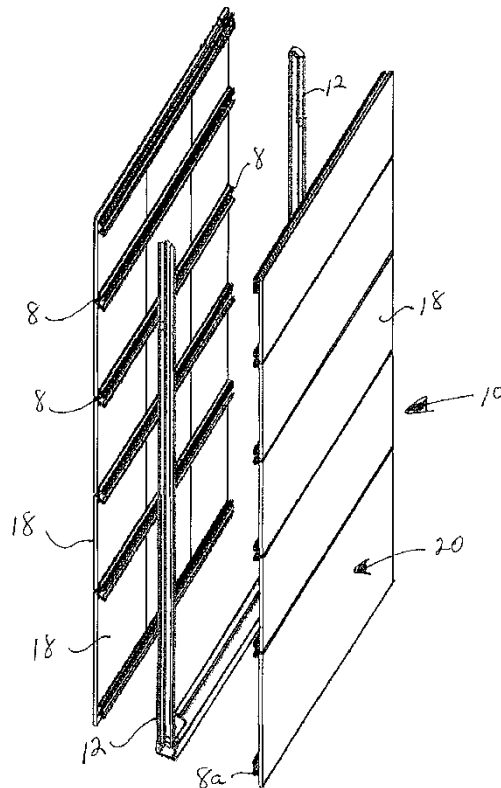


Figure 1 depicts a wall system 10

Figure 1 depicts a wall system 10 made up of one or more wall modules 20. *Id.* at 4:37–38. Each module 20 includes tiles 18, horizontal stringers 8, and a pair of vertical end frames 12. *Id.* at 4:39–45. A more detailed depiction of the horizontal stringers is shown in Figure 9 below.

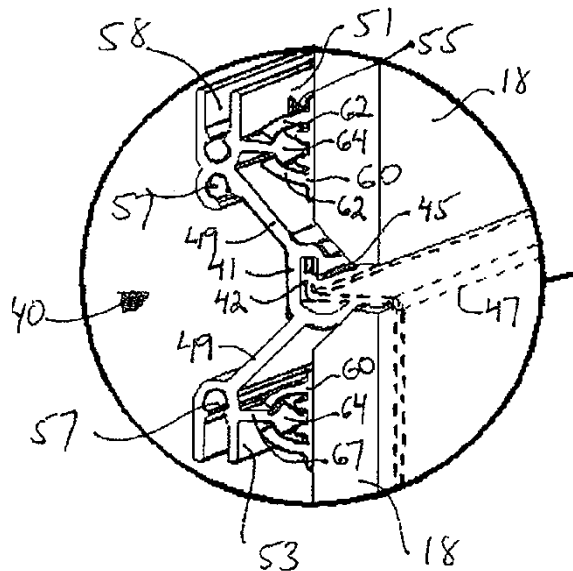


Figure 9

Figure 9 shows a detailed view of a horizontal stringer

Each horizontal stringer is spaced apart at intervals along the height of the module for strength and rigidity. *Ex.1001*, 4:54–55. Stringer 40, referred to as cantilever channel stringer, may include channel portion 41 to support objects. *Id.* at 4:55–57. Channel portion 41 includes an L-shaped slot 42 adapted to receive L-shaped hook 45 formed on a wall accessory 47. *Id.* at 6:22–26. Stringer 40 also includes tile support 55 on upper 51 and lower 53 portions of the stringer. *Id.* at 6:26–30. Web 49 connects channel portion 41 to upper and lower portions 51 and 53 respectively. *Id.* at 6:22–28. Tile support 55 is mounted above and below channel portion 41 and is the connection point for the tiles 18 that are mounted above and below channel portion 41. *Id.* at 6:28–37. Tiles include connector strip 60 which

in turn includes a pair of opposed flexible arms 62 to snap-fit with an arrow shaped bead 64 along the edge of flanges 67 which extends the length of the upper and lower portions 51 and 53 of the stringer. *Id.* Stringers are connected to end frames 12 by fasteners, such as threaded screws. *Id.* at 4:62–63.

D. Illustrative Claim

Claim 1 is the sole independent claim and is reproduced below.

1. A movable reconfigurable wall system comprising:
 - a) at least one wall module having a front and rear surface and top, bottom, right side and left side edges, said at least one wall module having:
 - i) a vertical end frame disposed adjacent to each of said right and left side edges, each vertical end frame having a first vertically extending flange and a spaced apart second vertically extending flange thereon, each of said first vertically extending flange and said second vertically extending flange having a beaded portion, the beaded portion on one of said first vertically extending flange or said second vertically extending flange extending toward the front surface of the wall module and the beaded portion on the other of said first vertically extending flange or said second vertically extending flange extending toward the rear surface of the wall module;
 - ii) a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges; and
 - iii) an aesthetic surface affixed to said stringers; and
 - b) a removable connecting strip having a pair of spaced apart flexible arms, each arm having a beaded portion thereon, the beaded portion of one of said arms being adapted to connect releasably to the beaded portion of one of said first vertically extending flange or said second vertically extending flange on said vertical end frame and the beaded portion of the other of said arms being adapted to connect releasably to the beaded portion of a corresponding opposed vertically extending flange on a separate vertical end frame of a

second wall module, a wall bracket, a finishing trim or a connection post to hold one of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together, the beaded portions of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange fitting inside the arms of said connecting strip to hold said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together thereby releasably connecting said at least one wall module to the other of said second wall module, wall bracket, finishing trim or connection post.

Ex. 1001, 9:45–10:21.

E. Grounds of Unpatentability

We instituted an *inter partes* review of claims 1, 4–7, 9, 10, 14–20, and 25 on the following grounds:

References	Basis	Challenged Claims
Raith ¹ and EVH ²	§ 103(a)	1, 6, 7, and 15–18
Raith and Yu ³	§ 103(a)	1, 4, 5, and 9
Raith and MacGregor ⁴	§ 103(a)	1, 4, 10, 19, and 20
Raith, MacGregor, and Rozier ⁵	§ 103(a)	25
Raith, EVH, and Dixon ⁶	§ 103(a)	14

¹ U.S. Patent No. 4,438,614, issued Mar. 27, 1984 (Ex. 1003) (“Raith”).

² Publicly available file contents for U.S. Application 10/027,872, published as US 2002/0121056 A1, and made publicly available Sept. 5, 2002 (Ex. 1004) (“EVH”).

³ U.S. Patent No. 6,161,347, issued Dec. 19, 2000 (Ex. 1005) (“Yu”).

⁴ U.S. Patent Publication No. 2003/0154673 A1, published Aug. 21, 2003 (Ex. 1006) (“MacGregor”).

⁵ U.S. Patent No. 5,881,979, issued Mar. 16, 1999 (Ex. 1007) (“Rozier”).

⁶ U.S. Patent No. 4,277,920, issued July 14, 1981 (Ex. 1008) (“Dixon”).

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016). Under the broadest reasonable interpretation, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). It is improper to add an extraneous limitation into a claim, i.e., one that is added wholly apart from any need for the addition to accord meaning to a claim term. *See, e.g., Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988).

“horizontal stringer”

In the Decision on Institution, based on the arguments presented by Petitioner in the Petition and by Patent Owner in its Preliminary Response, we interpreted the above quoted claim 1 term to mean “a horizontal structural support.” Dec. 8. Patent Owner argues that the interpretation is

incorrect, and that “horizontal stringer” means “a horizontal member that is supported above the ground by opposing vertical members and that provides structural support to the vertical members.” PO Resp. 6–10.⁷ Petitioner agrees with our interpretation (*see, e.g.*, Pet. Reply 18 (arguing that the ordinary meaning of “horizontal stringer,” is a “horizontal structural support”)), and further argues that at the very least the “above the ground” part of Patent Owner’s proposed interpretation should be rejected (*id.*).

We begin with the language of claim 1, the sole independent claim. Claim 1(a)(i) recites a wall module having a vertical end frame disposed adjacent to each of the right and left side edges of the wall module (“vertical end frames”). Claim 1(a)(ii) recites a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges, and (a)(iii) recites an aesthetic surface affixed to said stringers. There is nothing else in claim 1 that further limits the horizontal stringers, or otherwise describes the meaning of that term. Importantly, there is nothing in claim 1, or any claim dependent thereon, that describes that the horizontal stringers are supported above the ground. Nor does claim 1 specify that the horizontal stringer provide structural support to vertical end frames.

Patent Owner directs attention to the following paragraph from the specification of the ’901 patent in support of its proposed interpretation:

Stringers 8 are horizontally spaced apart at intervals along the height of the module for strength and rigidity. To support objects, cantilever channel stringers 40, including cantilever channel portion 41, are used, as shown in FIGS. 8 and 9. Stringers 8 that do not include channel portion 41 can be used anywhere structure is required but the channel portion is not

⁷ Patent Owner relies on the testimony of Dr. Rollin C. Dix (Ex. 2009) in support of its arguments.

required for supporting objects. For example, the lowest stringer 8a may not include cantilever channel portion 41. The stringers are connected to end frames 12 by fasteners, usually threaded screws, in a manner to be described below.

Ex. 1001, 4:54–63.

Patent Owner argues that the portion of the specification reproduced above explains that the stringers provide strength and rigidity. PO Resp. 7. Patent Owner also argues that the above quoted portion explains that stringers are spaced apart along the height of the module and refers to the lowest stringer 8a, which implicitly demonstrates that another horizontal member lower than stringer 8a is not a stringer, such as a base. *Id.* at 8. Patent Owner reasons that because the specification states that stringer 8a is the lowest stringer, it implicitly declares that the horizontal base in Figure 1 is not a stringer, even though it connects the vertical end frames 12. *Id.* at 8–9. The reason that the horizontal base is not a stringer, Patent Owner contends, is because it is supported by the ground, not above the ground by the vertical end frames. *Id.* (citing Ex. 1001, 4:54–55; Ex. 2003, 52:8–52:14; Ex. 2009 ¶ 16).

We determine that a horizontal stringer provides structural support, like we did in the Institution Decision. We do not agree with Patent Owner that the term necessitates reading into the claim the additional language that the horizontal member be supported above the ground or that the structural support provided by the horizontal member be to the vertical members. The first proposed addition to the claim language—that the horizontal member be supported above the ground—has nothing to do with the structure or function of the horizontal member, but rather the placement of the horizontal

member. We find no reason to add the additional orientation limitation to the claims.

Moreover, and with respect to the above the ground feature Patent Owner seeks to add to the claim, the passage that Patent Owner directs attention to is an example or embodiment of what is claimed. That passage is equivocal at best, and does not indicate that Patent Owner disclaimed having a horizontal stringer on the ground. Indeed, that same passage states that horizontal stringers that do not include channel portion 41 (for hanging things off of the horizontal stringer — see Figure 9 above) *can be used anywhere structure is required*. A horizontal stringer affixed between two vertical end frames that is on the ground could be used where such structure is required to support an aesthetic surface and is within the scope of the claimed invention.

We are not persuaded that a horizontal structure affixed between two vertical end frames, supported by the ground, and not above the ground, is not within the scope of the broadest reasonable interpretation of “horizontal stringer.” We do not give much weight to Dr. Dix’s testimony in that regard. For example, he testifies that a “horizontal structural support that is resting on the ground would also not qualify as a ‘horizontal stringer’ because it is supported by the ground, not above the ground by vertical end frames.” Ex. 2009 ¶ 16. Dr. Dix’s testimony, however, is based on a narrow reading of the above passage. He does not explain, for instance, why a person having ordinary skill in the art would have disregarded the description that the horizontal stringer *can be used anywhere structure is required*. Clearly, structure would be required for a tile mounted or affixed to a horizontal stringer at the bottom of a completed wall. *See, e.g.*, Ex.

1001, Figs 2, 17. Yet, neither Patent Owner nor Dr. Dix account sufficiently for “structure required” description in the cited passage. A reasonable reading of the passage is that it is the horizontal stringer that provides the “structure required” to support the aesthetic surface for example, such as a tile panel affixed to the horizontal stringer. *See, e.g.*, Ex. 1001, 6:28–37, Fig. 9. It is of no moment that something else in addition to the vertical end frames support the horizontal stringer, such as the ground. In that on-the-ground position, the horizontal stringer would still function to support an aesthetic surface.

For all of the above reasons, we decline Patent Owner’s invitation to interpret the claimed horizontal stringers as “a horizontal member that is supported above the ground by opposing vertical members and that provides structural support to the vertical members.” Instead, we interpret the term “horizontal stringer” to mean “a horizontal structural support.”⁸

B. Principles of Law

A patent claim is unpatentable 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;

⁸ This interpretation is consistent with the dictionary definitions cited in the Petition, and discussed in the Patent Owner Response. *See, e.g.*, Pet. 9–10; PO Resp. 6.

(2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; see *Translogic*, 504 F.3d at 1259, 1262.

We find that the level of ordinary skill in the art is reflected by the prior art of record. See *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. Obviousness of Claims over Raith and EVH

Petitioner contends that claims 1, 6, 7, 11, 13, and 15–18 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and EVH. Pet. 11–33. To support its contentions, Petitioner provides explanations as to how the prior art meets each claim limitation. *Id.* Petitioner also relies upon a Declaration of Joseph J. Beaman, Jr., who has been retained as an expert witness by Petitioner for the instant proceeding. Ex. 1018.

Raith

Raith describes a demountable interior partition system as shown in Figures 13 and 17 below. Ex. 1003, 1:9–10; Fig. 13.

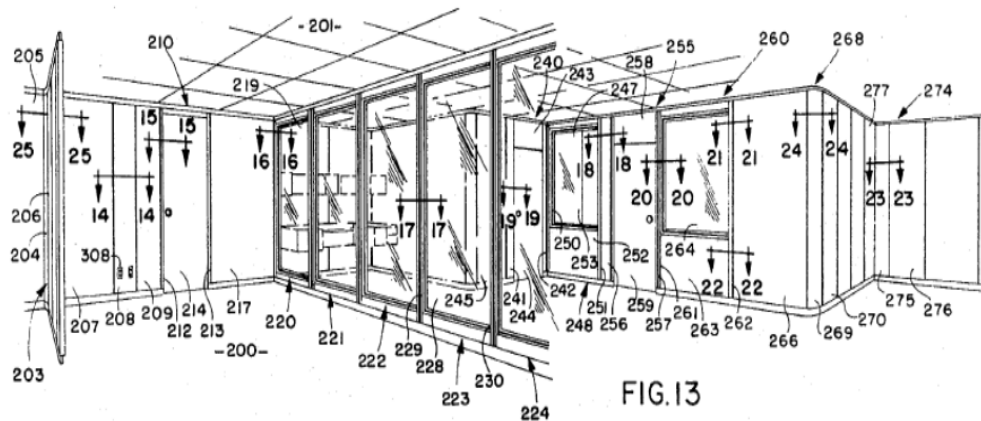


Figure 13 of Raith shows a partition layout

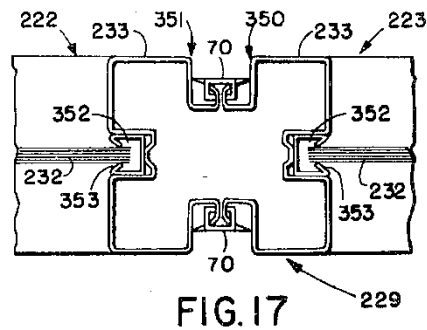


Figure 17 of Raith shows a section taken from line 17–17 of Figure 13 illustrating an intersection between two glass panel assemblies

Referencing Figures 13 and 17 above, Raith describes glass panel assemblies 222, 223, frame panels 233, and an elongated plastic connector strip 70. *Id.* at 13:42–49; Figs. 13, 17.

EVH

EVH describes moveable and demountable wall panel systems. Ex. 1004, 40. Figure 2 of EVH is reproduced below.

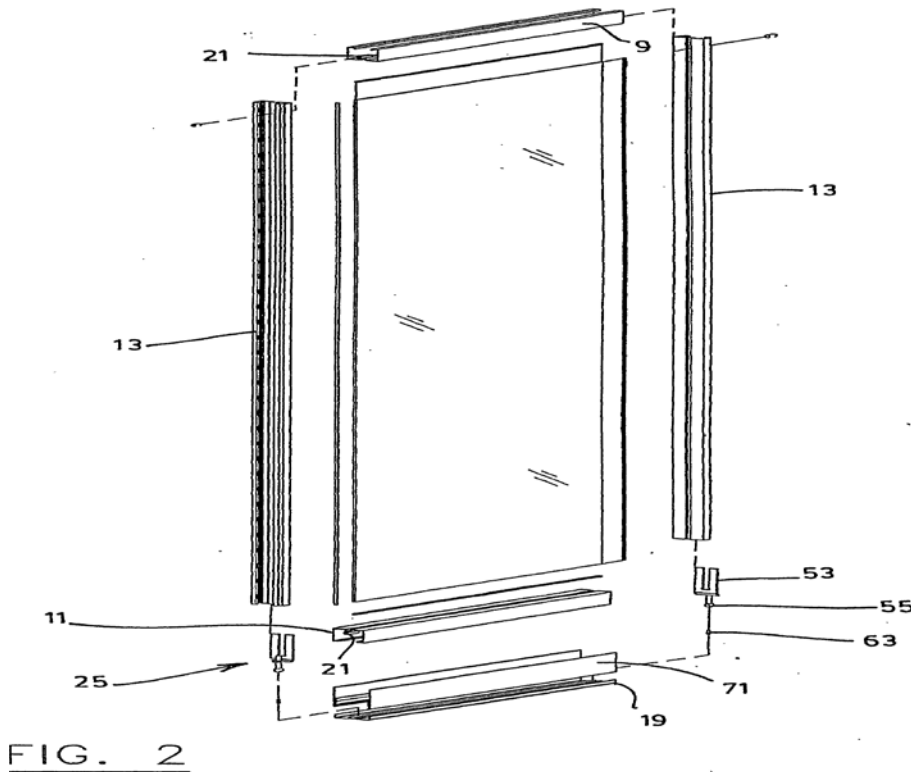


Figure 2 of EVH showing a wall panel

The panel systems may include glass wall panels including left and right vertical posts 13 and top and bottom horizontally-extending distance channels 9 and 11. *Id.* at 23, 294 (Fig. 2). Glass panels are inserted into respective grooves of the vertical posts and distance channels which are connected to one another to form a rectangular support frame. *Id.*

Discussion

Claim 1

Petitioner relies on Raith to meet all of the claim 1 elements, with the exception of “a plurality of horizontal stringers affixed between said vertical

end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers.” Pet. 15, 25. Although the sole independent claim 1 is lengthy, Petitioner distills the elements of claim 1 into four structural elements, and further illustrates per the following chart, how each of those four claimed elements is met by Raith:

'901 Claim Limitation	Exemplary components from Raith
“wall module”	Glass panel assemblies 222, 223
“vertical end frames”	Frame panels 233
“vertically extending flange[s]”	J-shaped flanges of mounting edges 350
“connecting strip”	Elongated plastic connector strips 70

Pet. 12. We have reviewed the Petition and the supporting evidence to which we are directed as to how Raith meets all of the claim 1 limitations with the exception of “a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers.” *Id.* at 12–33. We are persuaded by Petitioner’s showing, and adopt it as our own, that Raith describes a wall module, vertical end frames, vertically extending flanges, and a connecting strip, along with the claimed structural and functional language associated with those elements, as recited in claim 1. *Id.*

For the “plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and the “aesthetic surface affixed to said stringers” limitations, Petitioner relies on EVH for its description of glass wall panels (aesthetic surface) inserted (e.g., affixed)

into respective grooves of distance channels 9, 11 (e.g., horizontal stringers which are connected to vertical end frames) as seen above in Figure 2 and described on page 23 of EVH. Pet. 20–21, 24–25.

We have reviewed the Petition and supporting evidence to which we are directed as to how EVH meets the claim 1 limitations of “a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers.” *Id.* We are persuaded by Petitioner’s showing, and adopt it as our own, that EVH describes “a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers.”

Petitioner contends that a person having ordinary skill in the art at the time of the invention would have found it obvious to combine the distance channels of EVH (claim 1 horizontal stringers) with Raith to provide a manner of supporting, and complete the securing of, the glass panels of Raith. Pet. 25 (citing Ex. 1018 ¶ 95). Petitioner further explains that Raith already shows channels for receiving glass panels in vertical end frames, and use of EVH’s horizontal distance channels, which include grooves or channels for receiving the glass panels, would have been an obvious selection for the “head and base assemblies” of Raith. *Id.* at 25–26 (citing Ex. 1018 ¶ 95). Petitioner further contends that such a combination would be desirable as a manner of supporting the glass panels of Raith and readily achievable by a person of ordinary skill. *Id.* at 26. Petitioner argues that a person of ordinary skill in the art would have found the challenged claims to be a “predictable use of prior art elements according to their established functions.” Pet. 11 (citing *KSR*, 550 U.S. at 417).

Notwithstanding Patent Owner's arguments, including Patent Owner's objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that claim 1 is unpatentable based on the combination of Raith and EVH for the reasons provided by Petitioner. If a feature has been used to improve one device, and a person of ordinary skill in the art would have recognized that it would improve a similar device in that field or another, implementing that feature on the similar device is likely obvious. *KSR*, 550 U.S. at 417. For a patent claim that claims a structure known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *Id.* at 416. Here, a person of ordinary skill in the art would have recognized that the addition of EVH's distance channels as, for example, the head and base assemblies of Raith, would have improved the modular wall system of Raith to achieve the predictable result of providing better support and securing of glass panels. Ex. 1018 ¶ 95.

Patent Owner's Contentions

Patent Owner does not dispute that Raith in combination with EVH describe all of the elements of claim 1 even with respect to Patent Owner's narrow proposed interpretation of "horizontal stringer." PO Resp.⁹; Tr. 27:4–8. Patent Owner contends, however, that Petitioner has failed to show

⁹ Patent Owner argues that Raith does not describe horizontal stringers. PO Resp. 17–25. The argument is moot, because Petitioner does not rely on Raith to meet the horizontal stringers limitation. Dec. 10; Pet. Reply 5; Tr. 26:19–24.

that it would have been obvious to import EVH's horizontal distance channels into Raith. PO Resp. 25–38.

We first address Patent Owner's argument that Raith's reference to "head and base assemblies" is not a reason to import EVH's horizontal distance channels into Raith. PO Resp. 30–31. This argument pertains to the following reproduced Raith passage:

This invention relates to a demountable interior partition system, components therefor, a method of making such components, and more particularly to a unified partition system wherein readily manufactured, modular structural components may be easily assembled and disassembled with various head and base assemblies to create a variety of different screen or partition systems, and still more particularly to such a partition system with accessory supporting capabilities.

Ex. 1003, 1:9–17. Patent Owner argues that Petitioner and Dr. Beaman mistakenly rely on the above passage as a motivation for seeking out and combining other head and base assemblies not disclosed in Raith. PO Resp. 30. Patent Owner argues this is a misreading of Raith and that a person of ordinary skill in the art at the time of the invention would have understood the above reference to "various *head and base assemblies*" is to those disclosed in Raith, and is not an invitation to go find *other* "head and base assemblies." *Id.* at 30–31 (citing Ex. 2009 ¶ 20). In particular, Patent Owner argues that Raith's "glass panel assemblies," "chair rail assemblies," "full-height door unit assemblies," "partial-height door unit assemblies," "curved panel assemblies," "end filler panel assemblies," and other assemblies are the assemblies to which Raith is referring. *Id.* at 31 (citing Ex. 1003, 11:54–12:34; Ex. 2009 ¶ 20).

Patent Owner's argument is not supported by sufficient evidence. First and foremost, missing from all of the descriptive assemblies are the words head and base. In other words, we do not know why a person having ordinary skill in the art at the time of the invention would have understood "partial-height door assemblies," for example, to be a head or base assembly. The testimony to which we are directed in that regard is conclusory without explanation. Ex. 2009 ¶ 20. We give such testimony little or no weight. 37 CFR § 42.65(a).

Moreover, there are other passages in Raith that bely Patent Owner's argument that Raith itself does not suggest using something else that is not disclosed in Raith as Dr. Dix opines and Patent Owner argues. In particular, Raith describes the following:

In any event, whether roll formed or formed otherwise, the *relatively few modular components* fit together in an almost endless variety of high or low screens or full height partitions. Moreover, *the components* may all have modular hanging capability for accessories and *are readily compatible with existing partition systems*.

Ex. 1003, 16:38–44 (emphasis added). The above passage would have conveyed to a person of ordinary skill in the art that the described modular components "are readily compatible with existing partition systems." Thus, this passage supports the combination of "other head and base assemblies" from other existing partition systems, like EVH's distance channels with the modular components of Raith as asserted by Petitioner. Yet, Patent Owner does not discuss, or apparently take into account this teaching. For these reasons, we are not persuaded that Dr. Beaman's testimony (Ex. 1018 ¶ 95) that it would have been obvious to replace the base and head assemblies of

Raith with the distance channels of EVH, is not a reason to import EVH's distance channels into Raith.¹⁰

Patent Owner acknowledges that Petitioner provides a reason for modifying Raith with EVH's horizontal distance channels (to provide a manner of supporting and securing the glass panels of Raith), but Patent Owner faults Petitioner for using hindsight to arrive at the claimed invention. PO Resp. 27 (citing Ex. 1018 ¶ 78). It is clear from Dr. Beaman's declaration that his reference to "the 'affixing' limitation of claim 1" (Ex. 1018 ¶ 78), is short hand for addressing the limitation in dispute, as opposed to basing his testimony on hindsight reasoning as Patent Owner asserts (PO Resp. 27). We do not find that portion of Dr. Beaman's declaration that Patent Owner criticizes to be based on hindsight, especially in light of other portions of Dr. Beaman's testimony. *See, e.g.*, Ex. 1018 ¶ 95. Patent Owner's hindsight argument is not based on the totality of Dr. Beaman's declaration with respect to the combination of Raith and EVH, but rather is based on one isolated phrase, taken out of context. Moreover, and as indicated above, we determine that Petitioner has articulated sufficient reasoning with a rational underpinning as to why one of ordinary skill in the art would have combined the horizontal stringers (distance channels) described in EVH with the modular wall system described in Raith.

¹⁰ To the extent that Patent Owner disagrees that EVH's distance channel cannot be a base assembly in Raith because it would be supported by the ground as opposed to being above the ground (*see, e.g.*, PO Resp. 19), such disagreement is based on a narrow interpretation of "horizontal stringer" which we do not adopt as explained above in the claim interpretation section. *See supra* Section II. A.

Patent Owner argues that the structural support provided by EVH's distance channels would be unnecessary in Raith because Raith's panels already have structure that provides structural support, and therefore, at most a person having ordinary skill in the art would have imported only the grooves from EVH's distance channels. PO Resp. 28–29 (citing Ex. 2009 ¶¶ 17–18). We understand Patent Owner to argue that because Raith already has a horizontal structure, albeit the details of which are not clearly shown, it would not have been obvious to import yet another entire horizontal structure into Raith. Rather, a person having ordinary skill in the art would have incorporated only a portion of EVH's horizontal structure, e.g., the grooves in the distance channels into the existing horizontal structure of Raith.

Patent Owner's arguments are premised on bodily combining EVH and Raith. The test for obviousness is what the combined teachings of the references would have suggested to a person of ordinary skill in the art, not whether one reference may be bodily incorporated into the structure of another reference. *In re Keller*, 642 F.2d 413 (CCPA 1981). Patent Owner begins its analysis by focusing on the explicit description of the embodiments of the prior art, and then attacks any proposed possible combination based on retaining all of the technicalities of Raith and EVH. Patent Owner's arguments, however, miss the mark, because the arguments and evidence do not take into consideration what the combined teachings of the references would have suggested to a person of ordinary skill in the art. As explained already, even Raith itself explains that its modular components

may be combined with existing partition systems, like EVH. Ex. 1003, 16:38–44.¹¹

Next Patent Owner argues, citing to various portions of Dr. Beaman’s cross examination deposition, that Dr. Beaman expressed doubt that even he would import EVH’s horizontal distance channels into Raith. PO Resp. 31–32. We are not persuaded by this argument. The portions of Dr. Beaman’s testimony to which we are directed are taken out of context. Patent Owner’s argument is based, again, on bodily incorporating the references together. The line of questioning for Dr. Beaman that we are directed to goes to various ways to bodily incorporate parts of EVH into Raith. Dr. Beaman, in that regard, testifies that there are a variety of ways the references may be combined, not that one way is necessarily better than another. *See, e.g.*, Ex. 2003, 141–142.

We also have considered Patent Owner’s arguments that even if Petitioner has established a reason for importing the distance channel from EVH into Raith, Raith teaches away from doing so. PO Resp. 33–35. In particular, Patent Owner argues that Raith repeatedly teaches a system having structural components which are simple in construction and few in number, but that Petitioner’s proposed modification would require additional components. *Id.* Patent Owner contends, for example, that if Raith’s base assembly were substituted with EVH’s distance channel, there would be a gap between the bottom of distance channel 11 and the floor, and, therefore,

¹¹ The cited passage is informative of the background understanding of skilled artisans at the time of the invention. *See Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015) (citing *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013)).

an additional component would be required to cover that gap. *Id.* at 34 (citing Ex. 2009 ¶ 19).

First and foremost, Patent Owner does not provide sufficient evidence to support the conclusion that more parts would be required if EVH's distance channel is substituted in for Raith's base assembly. Again, the argument is premised on combining all technicalities of Raith with all technicalities of EVH, as opposed to what the combined teachings of the references would have suggested to a person of ordinary skill in the art.

In any event, a reference does not teach away if it merely expresses a general preference for an alternative invention but does not "criticize, discredit, or otherwise discourage" investigation into the invention claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Here, Patent Owner has not shown sufficiently that Raith discourages using EVH's horizontal distance channels. Even assuming that the addition of more components would be required to cover a gap if the EVH distance channel was used in the modular wall system of Raith, Patent Owner has not shown that Raith would have discouraged investigation into the invention claimed. Although Raith itself discusses using structural components few in number, Raith does not specify how many components are too few or too many. In other words, Patent Owner has not persuaded us, with sufficient credible evidence, that covering a gap with a component would have resulted in what Raith would have considered too many components. Raith's goal is to use as few components as possible, but Patent Owner has not shown sufficiently that that goal would have discouraged a person from investigating into the claimed invention.

We also have considered Patent Owner's arguments that during cross examination, Dr. Beaman introduced a new and different theory of obviousness from the theory set forth in the Petition or in his declaration. PO Resp. 35–38. Patent Owner argues that Petitioner should not be allowed to rely on new theories raised for the first time after institution. *Id.* at 35. The premature and preemptive argument makes little, if any sense, because Petitioner does not rely on the alleged “new and different theory of obviousness.” Pet. Reply. In any event, we do not rely on the “new and different theory of obviousness” in rendering our decision. Claim 1 is rendered obvious based on the combination of Raith and EVH as explained above.

Dependent claims 6, 7, and 15–18

We have reviewed the Petition, along with the supporting evidence, and determine that Petitioner has shown by a preponderance of the evidence that claims 6, 7, and 15–18 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and EVH. Patent Owner does not argue for the separate patentability of any of claims 6, 7, and 15–18.

Claim 6 depends directly from claim 1 and recites “wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic or wood and metal.” Claim 7 depends from claim 6 and recites “wherein said stringers and end frames include a channel for receiving said divider.” Petitioner contends, and we agree, that EVH describes a single divider made of glass that is received within end frame channels and horizontal channels. Pet. 25; Ex. 1004, 23 (glass wall panel inserted into respective grooves of vertical posts and distance channels). We determine that Petitioner has shown by a preponderance of

the evidence that claims 6 and 7 would have been obvious based on Raith and EVH.

As a further example of how Petitioner has sufficiently accounted for the dependent claims of this challenge, claim 17 depends from claim 1 and recites “wherein said at least one module includes curved stringers and curved aesthetic surfaces.” Ex. 1001, 11:36–37. Petitioner contends that Raith describes curved aesthetic surfaces with curved stringers at top and bottom of the curved surfaces. Pet. 18. Petitioner also relies on EVH for its description of horizontal stringers in combination with Raith to meet the curved stringer limitation. *Id.* at 17–18. In that regard, Dr. Beaman testifies that a person of ordinary skill in the art would have found it feasible and advantageous to use the stringers of EVH to provide for affixing the curved panels securely to the Raith-EVH wall module and that it would thus follow that the horizontal stringers should also be curved to support and secure the curved panels. Ex. 1018 ¶ 120. We determine that Petitioner has shown by a preponderance of the evidence that claim 17 would have been obvious based on Raith and EVH.

Notwithstanding Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing, which we adopt as our own, that the combination of Raith and EVH, render obvious each of claims 6, 7, and 15–18. Patent Owner does not argue for the separate patentability of these claims.

D. Obviousness of Claims over Raith and Yu

Petitioner contends that claims 1, 4, 5, and 9 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and Yu. Pet. 33–43. To support its contentions, Petitioner provides detailed explanations as to how the prior

art meets each claim limitation of claims 1, 4, 5, and 9. *Id.* Petitioner also relies upon the Declaration of Dr. Beaman for support. Ex. 1018.

Yu describes a space-dividing wall panel system with a plurality of base panels serially connectable. Ex. 1005, Abstract. Yu discloses cross rails (*e.g.*, Figs. 28 and 29 (element 200)) that have channels (*e.g.*, Fig. 30 (element 51-5)) for receiving hook-like projections of connector brackets (Fig. 2 (elements 26)) that support various wall accessories in the form of furniture components, such as a storage cabinet (Fig. 2 (element 27)). *Id.* at 13:65–14:3; 14:51–66; 24:51–60; 25:24–40.

Petitioner relies on Raith to meet all of the claim 1 limitations, with the exception of “a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers” of claim 1, and also to meet certain limitations of claims 4, 5, and 9. Pet. 33–43. Petitioner contends that Raith modified with the cross members of Yu would include horizontal stringers and aesthetic surfaces according to claim 1. *Id.* Petitioner further contends that a person of ordinary skill in the art at the time of the invention would have found it obvious to combine the cross rail and mounting bracket design of Yu with the panel systems of Raith to provide the ability to easily attach tiles and for hanging furniture components from the panel system of Raith. *Id.* at 37–38 (citing Ex. 1018 ¶ 148).

Notwithstanding Patent Owner’s arguments, including Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing as to claim 1, which we adopt as our own, that the combination of Raith and Yu would have been obvious for the reasons provided by Petitioner. If a feature has been used to improve one

device, and a person of ordinary skill in the art would have recognized that it would improve a similar device in that field or another, implementing that feature on the similar device is likely obvious. *KSR*, 550 U.S. at 417. Here, a person of ordinary skill in the art would have recognized that the addition of Yu’s distance channels would have improved the modular wall system of Raith to achieve the predictable result of providing a panel system with stringers for connecting aesthetic tiles and for hanging furniture components. Ex. 1018 ¶ 148.

Patent Owner’s Contentions

Patent Owner does not dispute that Raith in combination with Yu describes all of the elements of claim 1 even with respect to Patent Owner’s narrow proposed interpretation of “horizontal stringer.” PO Resp.; Tr. 27:4–8. Patent Owner contends, however, that Petitioner has failed to show that it would have been obvious to import Yu’s horizontal cross rails (“horizontal stringers”) into Raith. PO Resp. 38–47. First, Patent Owner makes the same hindsight argument we previously considered in connection with the combination of Raith and EVH. *Id.* at 40. We are not persuaded by Patent Owner’s hindsight argument for the reasons provided above.

Next, Patent Owner argues that the structural support provided by Yu’s cross rails would be unnecessary in Raith because Raith’s panels already have structure that provides structural support, and therefore, at most a person having ordinary skill in the art would have imported only the tiles and associated snap-fit type connections of Yu or the channels and brackets 26 of Yu. PO Resp. 40–43 (citing Ex. 2009 ¶¶ 22, 23). We understand Patent Owner to argue that because Raith already has a horizontal structure, albeit the details of which are not clearly shown, it would not have been

obvious to import yet another entire horizontal structure into Raith. Rather, a person having ordinary skill in the art would have wanted to only incorporate a portion of Yu's horizontal structure, e.g., the tiles, snap-fit type connections, channels, and brackets into the existing horizontal structure of Raith.

Like its arguments with respect to the combination of Raith and EVH, Patent Owner's arguments for this ground are premised on bodily combining Yu and Raith. Again, the test for obviousness is what the combined teachings of the references would have suggested to a person of ordinary skill in the art, not whether one reference may be bodily incorporated into the structure of another reference. Patent Owner's analysis focuses on the explicit description of the embodiments of the prior art, and then attacks any proposed possible combination based on retaining all of the technicalities of Raith and Yu. Patent Owner's arguments and evidence do not take into consideration what the combined teachings of the references would have suggested to a person of ordinary skill in the art. A person with ordinary skill in the art is "a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 420–21. As explained already, Raith itself explains that its modular components may be combined with existing partition systems, like Yu. Ex. 1003, 16:38–44. A person of ordinary skill in the art would have been motivated to include the Yu horizontal stringers for the reasons provided by Petitioner with which we agree. *See, e.g.*, Ex. 1018 ¶ 148.

Next Patent Owner argues, citing to various portions of Dr. Beaman's cross examination deposition, that the "Board cannot conclude that Petitioner has proven by a preponderance of the evidence that it would have been obvious to use Yu's cross rails with the solid or glass panels of Raith

when Petitioner’s own expert testified that even he ‘would not do that.’” PO Resp. 44. We are not persuaded by this argument. Dr. Beaman’s “would not do that” quote is taken out of context. Patent Owner’s argument is based, again, on bodily incorporating the references together. The line of questioning for Dr. Beaman that we are directed to goes to various ways to bodily incorporate parts of Yu into Raith. Dr. Beaman, in that regard, testifies that there are a variety of ways the references may be combined, not that one way is necessarily better than another. *See, e.g.*, Ex. 2003, 141–142.

Patent Owner argues that Raith teaches away from importing Yu’s cross rails for the same reasons provided above regarding Raith allegedly teaching away from importing EVH’s horizontal stringers. PO Resp. 44. We are not persuaded by Patent Owner’s argument for the reasons provided above for the combination of Raith and EVH. Patent Owner has not shown sufficiently that Raith teaches away from importing Yu’s cross rails.

We also have considered Patent Owner’s arguments that, during cross examination, Dr. Beaman introduced a new and different theory of obviousness from the theory set forth in the Petition or in his declaration. PO Resp. 45–47. Patent Owner argues that Petitioner should not be allowed to rely on new theories raised for the first time after the filing of its petition. *Id.* at 35. As explained above, Petitioner does not rely on the alleged “new and different theory of obviousness.” *See, e.g.*, Pet. Reply. And we do not rely on the “new and different theory of obviousness” in rendering our decision. Claim 1 is rendered obvious based on the combination of Raith and Yu as explained in the Petition and above.

Dependent claims 4 and 9

We have reviewed the Petition, along with the supporting evidence, and determine that Petitioner has shown by a preponderance of the evidence that claims 4 and 9 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and Yu.

Claim 4 depends directly from claim 1 and recites “wherein said aesthetic surface includes a tile panel on said front surface, said rear surface, or both said front surface and said rear surface.” Petitioner contends, and we agree, that Yu describes that its cross rails and mounting brackets serve to secure cover tiles to both the front and rear surfaces of the box beam, and thus meets the limitations of claim 4. Pet. 36 (citing Ex. 1018 ¶ 146). Claim 9 depends directly from claim 1 and recites “wherein said system further comprises an extension frame, said extension frame including a pair of vertical extension end frames and at least one stringer, said extension frame being affixed atop of said at least one module with a spline on each end of said end frame.” Petitioner contends, and we agree, that Yu describes an extension frame including a pair of vertical extension end frames and at least one stringer as claimed. *Id.* at 36–37 (citing Ex. 1005, 4:10–23, 7:51–65, 12:5–15, 24:44–50, Figs. 6B, 28; Ex. 1018 ¶ 163). We also have considered Petitioner’s reasons for combining Raith and Yu with respect to claims 4 and 9. Pet. 37–40. We determine that Petitioner has shown by a preponderance of the evidence that claims 4 and 9 would have been obvious based on Raith and Yu.

Notwithstanding Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing, which we adopt as our own, that the combination of Raith and Yu,

render obvious each of claims 4 and 9. Patent Owner does not argue for the separate patentability of these claims.

Dependent claim 5

Claim 5 depends from claim 4 and recites “wherein each said stringer includes one or more protrusions, said reconfigurable wall system further including tile clips for affixing tiles to said one or more protrusions.”

Petitioner contends that the combination of Raith and Yu renders obvious this claim. In particular, Petitioner argues that Yu describes protrusions on cross members in the form of connectors 190-5 and tile clips on cover pads or tiles in the form of beads 188 on the cover pads. Pet. 38 (citing Ex. 1018 ¶ 152). Petitioner asserts that the connectors 190-5 protrude and the beads 188 clip the tiles on the connectors 190-5. *Id.* Moreover, Petitioner contends that to the extent that the beads are more properly construed as protrusions and the connectors 190-5 are more properly construed as connectors, it would have been obvious to a person of ordinary skill in the art to switch the locations of the complementary fastening components. *Id.* at 38–39 (citing Ex. 1018 ¶¶ 150–153).

Notwithstanding Patent Owner’s arguments, including Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing, which we adopt as our own, that Raith in combination with Yu reasonably would have suggested the limitations of claim 5, and that the combination would have been obvious for the reasons provided by Petitioner.

Patent Owner’s Contentions

Patent Owner contends that Petitioner has not shown that each of the cross rails of Yu includes a protrusion as claimed in claim 5. PO Resp. 47–

49. Patent Owner's arguments are focused on what is contained in the Declaration of Dr. Beaman. Patent Owner does not address the argument made in the Petition as explained above. In particular, we agree with Petitioner that at least Yu describes protrusions on cross members in the form of connectors 190-5 and tile clips on cover pads or tiles in the form of beads 188 on the cover pads. Patent Owner, however, does not articulate why the embodiment showing the connectors 190-5 are not sufficient to meet the claimed protrusions or why the beads 188 are insufficient to meet the claimed tile clips.

E. *Obviousness of Claims over Raith and MacGregor*

Petitioner contends that claims 1, 4, 10, 19, and 20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and MacGregor. Pet. 44–52. To support its contentions, Petitioner provides detailed explanations as to how the prior art meets each claim limitation of claims 1, 4, 10, 19, and 20. *Id.* Petitioner also relies upon the Declaration of Dr. Beaman for support. Ex. 1018.

MacGregor describes a freestanding partition panel with a rigid partition frame having vertical side frame members and first and second horizontal frame members extending between the vertical side frame members that is covered by cover panels. Ex. 1006, Abstract, ¶¶ 5, 6. The partition panels may include modular appliance units (flat screen monitor 7, power module 8, or storage module 9) installed and supported by the intermediate beams and/or horizontal frame members. *Id.* ¶¶ 44, 45, 49. One such modular appliance unit described is a touchscreen appliance for the communication of graphic, video, and audio data. *Id.* ¶ 45, Fig. 1C.

Petitioner relies on Raith to meet all of the claim 1 limitations, with the exception of “a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges” and “an aesthetic surface affixed to said stringers” of claim 1, and also to meet certain limitations of claims 4, 10, 19, and 20. Pet. 44–52. Petitioner contends that Raith modified with MacGregor would include horizontal stringers and aesthetic surfaces according to claim 1. Petitioner further contends that a person of ordinary skill in the art at the time of the invention would have found it obvious and would have been motivated to combine the cross members/intermediate beams and aesthetic surfaces (cover tiles) affixed to the stringers of MacGregor with Raith to provide the ability to easily attach tiles and for supporting modular accessory units. *Id.* at 47 (citing Ex. 1018 ¶ 189).

We also have reviewed the Petition, along with the supporting evidence, and determine that Petitioner has shown by a preponderance of the evidence that claims 4, 10, 19, and 20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Raith and MacGregor. Pet. 46–51. Patent Owner does not argue for the separate patentability of claims 4, 10, 19, and 20.

Notwithstanding Patent Owner’s arguments, including Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing as to claims 1, 4, 10, 19, and 20, which we adopt as our own, that the combination of Raith and MacGregor would have been obvious for the reasons provided by Petitioner. Here, and particularly with respect to claim 1, a person of ordinary skill in the art would have recognized that the addition of MacGregor’s cross members would have improved the modular wall system of Raith to achieve the

predictable result of providing a panel system with stringers for connecting aesthetic tiles and for supporting modular accessory units. Ex. 1018 ¶ 189.

Patent Owner's Contentions

Patent Owner's arguments regarding the combination of Raith and MacGregor are directed to claim 1 and are similar to the arguments with respect to the combination of Raith and EVH or Raith and Yu, such as hindsight, teaching away, and no reason to combine. PO Resp. 49–58. We have considered these arguments, but for reasons provided above, we do not find these arguments persuasive.

F. Obviousness of Claim 25 over Raith, MacGregor, and Rozier

Petitioner contends that claim 25 is unpatentable under 35 U.S.C. § 103(a) as obvious over Raith, MacGregor, and Rozier. Pet. 52–55. To support its contention, Petitioner provides detailed explanations as to how the prior art meets each claim limitation of claim 25. *Id.* Petitioner also relies upon the Declaration of Dr. Beaman for support. Ex. 1018.

Claim 25 depends directly from claim 1 and requires a furniture system connectable to the wall module with a work surface connectable to the stringers. Ex. 1001, 12:29–32. The claim also requires furniture legs connecting to the work surface at a first end and connecting to a bolt at a second opposite end allowing levelling of the work surface. *Id.* at 12:32–36.

Petitioner relies on MacGregor to meet the limitation of furniture with a work surface connectable to a wall module. Pet. 53–54. Petitioner further contends that it would be readily understandable from the seating units with multiple legs shown in Figure 1AE, that similar legs could be attached to the work surface where additional support is desired. *Id.* Petitioner relies on Rozier for its description of a bolt connection on desk legs for levelling to

meet the levelling limitations of claim 25. *Id.* at 52–53. Petitioner concludes that it would have been obvious to combine the modular accessory units and associated supporting frame designs from MacGregor with the panel assemblies of Raith, and to further provide adjustment bolts on legs of the MacGregor work surface as described in Rozier. *Id.* at 53–55.

Notwithstanding Patent Owner’s objective evidence of nonobviousness, which we address below, we are persuaded by Petitioner’s showing, which we adopt as our own, that the combination of Raith, MacGregor, and Rozier, renders obvious claim 25. Patent Owner does not argue for the separate patentability of this claim. PO Resp. 58.

G. Obviousness of Claim 14 over Raith, EVH, and Dixon

Petitioner contends that claim 14 is unpatentable under 35 U.S.C. § 103(a) as obvious over Raith, EVH, and Dixon. Pet. 55–58. To support its contention, Petitioner provides detailed explanations as to how the prior art meets each claim limitation of claim 14. *Id.* Petitioner also relies upon the Declaration of Dr. Beaman for support. Ex. 1018.

Claim 14 depends directly from claim 1 and requires a ceiling connection including a ceiling track affixed to a ceiling, a horizontal upper section affixed to the wall module and adapted to fit about the ceiling track; and a flexible gasket affixed to the horizontal upper section and extending above the horizontal upper section to contact the ceiling. Ex. 1001, 11:16–23.

Petitioner relies on EVH in combination with Dixon to meet the ceiling connection limitations of claim 14. Pet. 55–58. Petitioner concludes that it would have been obvious to modify the panel units of Raith to include “[the] ceiling connection” combination of EVH and Dixon to facilitate

installation of a wall unit into a ceiling rail in an adjustable manner, and to further maintain an effective seal against, and compensate for variations or irregularities in, a ceiling surface. *Id.* at 58.

Notwithstanding Patent Owner's objective evidence of nonobviousness, which we address below, we determine that Petitioner has shown by a preponderance of the evidence that claim 14 would have been obvious based on the combination of Raith, EVH, and Dixon. We are persuaded by Petitioner's showing, and adopt it as our own, that the combination of Raith, EVH, and Dixon, render obvious claim 14. Patent Owner does not argue for the separate patentability of claim 14. PO Resp. 59.

H. Objective Evidence of Nonobviousness

Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Notwithstanding what the teachings of the prior art would have suggested to a person of ordinary skill in the art at the time of the claimed invention, the totality of evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the claimed invention would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). Secondary considerations may include any of the following: long-felt but unresolved needs, failure of others, unexpected results, commercial success, copying, licensing, and praise. Patent Owner argues secondary considerations of long-felt need, commercial success, and praise by others. PO Resp. 59–64.

Meeting a Long-felt need

Patent Owner argues that there was a long-felt need for increased flexibility and customization in both functionality and aesthetics in the art and that the invention of the '901 patent met that need. PO Resp. 59. In support of the argument, Patent Owner directs attention to a passage in the '901 patent and passages in the applied prior art allegedly showing the stated need. *Id.* at 59–60 (citing Ex. 1001, 1:21–37; Ex. 1003, 1:9–17, 3:10–15; Ex. 1004, 6:14–7:24; Ex. 1005, 2:38–53; Ex. 1006 ¶¶ 2–3). Patent Owner argues that the invention claimed in claim 1 of the '901 patent is able to address almost all of the described needs simultaneously, whereas the prior art cited by Petitioner is only able to address some of them at a time. *Id.* (citing Ex. 2009 ¶ 49). We are not persuaded by Patent Owner's argument. Patent Owner does not explain sufficiently the passages in the various prior art to which we are directed. For example, the passages in Raith and Yu to which we are directed explain what the Raith or Yu inventions relate to and principal objects of those respective inventions. Neither Patent Owner nor Dr. Dix explains how such passages describe a long-felt need in the art as asserted. In those passages, there is no described need at all. As another example, EVH describes, in the passages to which we are directed, problems associated with *fixed wall systems*. Neither Patent Owner nor Dr. Dix explain the relevance of fixed wall systems to movable wall systems.

We also are not persuaded by Patent Owner's argument that claim 1 addresses simultaneously almost all of the needs espoused by the prior art. PO Resp. 60. As explained immediately above, neither Patent Owner nor Dr. Dix articulates clearly the alleged needs in the first place. Moreover, any alleged needs espoused by the prior art have not been demonstrated

sufficiently to have been met by claim 1. For example, in one of the passages to which we are directed, EVH describes that some moveable wall systems are too heavy, include poor sound proofing, light proofing, and/or vibration proofing. Ex. 1004, 6–7. Neither Patent Owner nor Dr. Dix explains how such a passage is relevant to the alleged long-felt need addressed by claim 1, which we determine, does not claim any elements directed to reducing the weight of a wall, improving sound proofing, light proofing or vibration proofing. While we do agree that claim 1 does address some of the problems articulated in the '901 patent, such as replacing a module in the middle of a wall without taking apart an entire wall, so too does Raith with its zipper like vertical connection (*see, e.g.*, Ex. 1003, Fig. 17) that meets all of the claim 1 vertical frame connection limitations. Thus, we are not persuaded by Patent Owner's argument that claim 1 alone meets such need. In addition, Patent Owner's arguments stem from the position that no single prior art reference describes all of the claimed elements of claim 1. PO Resp. 60. That contention, however, is misplaced insofar as an inquiry into secondary considerations is concerned, and in any event, has been addressed. As explained above, Raith in combination with EVH, Yu, or MacGregor meet the limitations of claim 1.

We also have considered Patent Owner's arguments that Dr. Beaman testified that the invention of the '901 patent allows greater flexibility and customization than the prior art. PO Resp. 62–63. Patent Owner's argument that the invention of the '901 patent allows “for more customization than the prior art” is vague and not specific. The testimony Patent Owner relies on is general and does not support the notion, for example, that the *claimed invention* as articulated in claim 1, allows for greater customization than the

prior art. Moreover, we are not told what customization and flexibility is being met by the invention that is not addressed already by the prior art. Accordingly, we do not find Dr. Beaman's testimony in that regard to be particularly helpful.

Patent Owner also directs attention to a declaration from Geoff Gosling (Ex. 2004), a named inventor of the '901 patent, along with a transcript from a video entitled "Johnson County Revisited – DIRT T Case Study" (Ex. 2005) in support of its long felt need arguments.¹² PO Resp. 61–62. Although not well articulated, we understand Patent Owner to rely on such evidence to demonstrate that there was a need in the industry for reconfigurable walls that was not met until the invention claimed in the '901 patent. *Id.* Even assuming that Exhibits 2004 and 2005 are admissible,¹³ we give such evidence little weight.

Mr. Gosling testifies that claim 1 of the '901 patent describes the core of the DIRT T Modular Wall System that was introduced by DIRT T to the market in 2005. Ex. 2004 ¶ 3. Mr. Gosling further recalls "several people reacting with varying levels of shock or disbelief because they could not believe the customization that the DIRT T Modular Wall System allowed." *Id.* ¶ 4. We do not have the testimony of any of the "several people" to corroborate Mr. Gosling's testimony in that regard. Patent Owner

¹² Although Patent Owner provides a citation to the YouTube video through a hyperlink, Patent Owner does not submit the video into evidence. We decline any apparent invitation to independently view the video by clicking on the hyperlink because the video has not been submitted into evidence. Doing otherwise would be prejudicial to Petitioner, who has not had an opportunity to file any evidentiary objections to such a video.

¹³ Petitioner moves to exclude both paragraph 4 of Exhibit 2004 and Exhibit 2005 in its entirety, which we address below.

apparently relies on Exhibit 2005 to corroborate Mr. Gosling's testimony. The portions of the video transcript to which we are directed, however, describes the reaction of one customer, not several people as asserted. That one customer characterized the DIRT Modular Wall System as having functional features that the customer wanted, but could not find, does not establish widespread industry recognition and does not support Patent Owner's assertion that there was a long-felt but unresolved need in the industry for the '901 invention. Furthermore, without direct testimony from any customer, even assuming at least one customer was impressed, we do not know the reasons why the one customer was impressed, how impressed he was, or what he did to find other wall systems prior to being made aware of the DIRT Modular Wall System. That one person was impressed by a product does not establish, as Patent Owner suggests, that there was a long-felt but unresolved need solved by the invention. It is only widespread recognition in the art that constitutes objective evidence of nonobviousness, not just positive recognition from one or a few.

Moreover, that one customer was unsuccessful in finding other wall systems to meet his needs prior to being made aware of the DIRT Modular Wall System does not demonstrate long-felt need. Satisfaction of a long-felt but unresolved need is not evidence of nonobviousness unless it is shown that widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem. *In re Allen*, 324 F.2d 993, 997 (CCPA 1963); *see also Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U.S. 350, 356 (1939). Patent Owner has not directed our attention to evidence that there was widespread attempt by skilled workers in the art for

a long period of time to arrive at a modular wall system as claimed, and that all such attempts failed to achieve such a wall system.

In summary, we have considered all of Patent Owner's arguments and evidence in support of its arguments for meeting a long-felt need, but determine that such arguments are not persuasive.

Commercial Success

Patent Owner argues that claim 1 of the '901 patent describes the core of the DIRTТ Modular Wall System that was introduced by DIRTТ to the market in 2005. PO Resp. 61 (citing Ex. 2004 ¶ 3). Although neither Patent Owner nor Mr. Gosling describes, in any detail, the components of the DIRTТ Modular Wall System, we presume that there is a sufficient nexus between the DIRTТ Modular Wall System that was sold and claim 1. Nonetheless, we are not persuaded that Patent Owner has demonstrated that the DIRTТ Modular Wall System was commercially successful.

Absolute sales numbers without market share data is not particularly helpful. *See, e.g., In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996). Patent Owner's Response does not discuss and present market share information. At best, it discusses only increased sales figures from year to year allegedly attributable to the sales of the DIRTТ Modular Wall System. In the abstract, we do not know anything about the market for modular wall systems in general or how much of that market was shared by DIRTТ. All we have before us with respect to sales figures is the uncorroborated testimony of a named inventor, who has an interest in this proceeding, as he is an officer of the Patent Owner (DIRТТ). Ex. 2004 ¶ 5. And even then, he does not explain the relevance of DIRTТ's sales figures in the context of the market for modular wall systems. We give such evidence little if any weight. For

all of these reasons, we are not persuaded by Patent Owner's showing with respect to commercial success.

Praise by Others

Patent Owner argues that because of his role in creating the DIRT Modular Wall System embodying claim 1, Mr. Gosling was awarded the 2010 Ernest C. Manning Innovation Award. PO Resp. 64. Patent Owner argues that the Manning Innovation Award recognizes and encourages innovation in Canada and is a distinguished innovation award. *Id.* (citing Ex. 2004 ¶ 6; Ex. 2006, 1). Patent Owner has not explained sufficiently the relevance of the award to the claimed invention. Rather, citing to several pieces of evidence, Patent Owner leaves it up to us to try to figure it out. We decline the invitation. Moreover, even considering the evidence, we do not discern that the reasons the award was granted were for the features recited in the claims. Rather, the News Release to which we are directed describes a modular wall system “that virtually eliminates construction waste, withstands the test of time and allows clients to express themselves with custom-made interiors.” Ex. 2006, 1. The News Release goes on to describe attributes such as “non-toxic, water-based finishes” for preventing pollution. *Id.* None of these features are claimed and Patent Owner fails to provide a sufficient explanation of the relevance of the evidence by showing a nexus between the evidence and the claimed invention. Lastly, one award does not demonstrate industry wide praise. For these reasons, we are not persuaded by Patent Owner's arguments that the claimed invention has enjoyed industry praise.

Conclusion

We have considered the entirety of the evidence before us, including

the evidence of obviousness and the evidence of industry need, commercial success, and industry praise submitted by Patent Owner as indicia of nonobviousness. On balance, the evidence of obviousness outweighs the evidence of nonobviousness, with respect to the challenged claims. The evidence of obviousness is strong and the evidence of nonobviousness is weak, for the reasons discussed above. All of Patent Owner's arguments have been considered. Petitioner has proved, by a preponderance of the evidence that claims 1, 6, 7, and 15–18 are unpatentable over the combination of Raith and EVH; claims 1, 4, 5, and 9 are unpatentable over the combination of Raith and Yu; claims 1, 4, 10, 19, and 20 are unpatentable over Raith and MacGregor; claim 25 is unpatentable over Raith, MacGregor, and Rozier, and claim 14 is unpatentable over the combination of Raith, EVH, and Dixon.

I. Patent Owner's Motion to Exclude

Patent Owner moves to exclude portions of Exhibit 1030 and portions of Petitioner's Reply that rely on Exhibit 1030 as not relevant to the proceeding. PO Mot. to Exclude 1, 4. Exhibit 1030 is the deposition transcript of Patent Owner's witness, Dr. Dix. Patent Owner seeks to exclude "all questioning and testimony based on the Student Hypothetical found on pages 29–63 of Exhibit 1030 that is relied upon by Petitioner in its Reply." *Id.* at 5. We did not and need not consider the Student Hypothetical arguments or evidence in connection with the Reply. We have determined that Petitioner has demonstrated, by a preponderance of the evidence, that the challenged claims are unpatentable, without considering Petitioner's arguments regarding the Student Hypothetical and the testimony of the

Student Hypothetical submitted by Dr. Dix. Accordingly, we *dismiss* Patent Owner's Motion to Exclude.

J. Petitioner's Motion to Exclude

Petitioner moves to exclude paragraph 4 of Exhibit 2004 (Declaration of Geoff Gosling) and Exhibit 2005 (Transcript of video clip for case study of Johnson County Building) in its entirety, both as inadmissible hearsay. Pet. Mot. to Exclude 2. Patent Owner relies on Exhibit 2004 and Exhibit 2005 to support its arguments of objective evidence of nonobviousness. PO Resp. 59–64. We find it unnecessary to consider the specific objections to the admissibility of Exhibits 2004 and 2005, since Patent Owner's arguments regarding objective evidence of nonobviousness are not persuasive for the reasons provided above, even assuming Exhibits 2004 and 2005 to be admissible.

Accordingly, we *dismiss* Petitioner's Motion to Exclude.

III. CONCLUSION¹⁴

For all of the above reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4–7, 9, 10, 14–20, and 25 are unpatentable.

¹⁴ In making the obviousness conclusions, we recognize that it is the subject matter of each claim, as a whole, that is evaluated, rather than just each individual limitation, separately. 35 U.S.C. § 103.

IV. ORDER

It is

ORDERED that claims 1, 4–7, 9, 10, 14–20, and 25 of the '901 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence is *dismissed*;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence is *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2015-01691
Patent 8,024,901 B2

PETITIONER:

Victor P. Jonas
Trevor Carter
Nicholas M. Anderson
FAEGRE BAKER DANIELS
victor.jonas@FaegreBD.com
trevor.carter@ FaegreBD.com
nick.anderson@ FaegreBD.com

PATENT OWNER:

Chad E. Nydegger
Michael J. Frodsham
David R. Todd
Robert L. Florence
WORKMAN NYDEGGER
cnydegger@wnlaw.com
mfrodsham@wnlaw.com
dtodd@wnlaw.com
rflorence@wnlaw.com