

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BABY TREND, INC., DENNY TSAI, and BETTY TSAI,
Petitioner,

v.

WONDERLAND NURSERYGOODS CO., LTD.,
Patent Owner.

Case IPR2015-00842
Patent RE43,919

Before JAMES P. CALVE, JEREMY M. PLENZLER, and
JAMES A. WORTH, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* CALVE.

Opinion Dissenting filed by *Administrative Patent Judge* WORTH.

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

I. BACKGROUND

Petitioner Baby Trend, Inc., Denny Tsai, and Betty Tsai (collectively “Petitioner”) filed a Corrected Petition (Paper 5, “Pet.”) seeking *inter partes* review of claims 1–5 and 8–29 of U.S. Patent No. RE43,919 (Ex. 1001, “the ’919 patent”). Patent Owner Wonderland Nurserygoods Co., Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 7. Based on the submissions, we instituted trial as to claims 1–5 and 8–29. Paper 12 (“Dec. on Inst.”), 25. Patent Owner filed a Response to our Institution Decision. Paper 39 (“PO Resp.”).¹ Petitioner filed a Reply. Paper 41 (“Pet. Reply”).²

Patent Owner filed a Contingent Motion to Amend. Paper 29 (“Mot. to Amend”). Petitioner opposed the motion. Paper 43 (“Opp. to Mot. to Amend”).³ Patent Owner replied. Paper 48 (“Reply for Mot. to Amend”).

The parties filed Motions to Exclude. Paper 53 (“PO Mot. Exclude”), Paper 56 (“Pet. Mot. Exclude”).⁴ The parties filed Oppositions (Paper 59 (“PO Opp. Mot. Exclude”), Paper 61 (“Pet. Opp. Mot. Exclude”)) and Replies (Paper 65 (“PO Reply Exclude”), Paper 66 (“Pet. Reply Exclude”)).

¹ All references to the Patent Owner’s Response are to the redacted, public version that was filed as Paper 39. Patent Owner also filed an unredacted, confidential version of its Response as Paper 27.

² All references to the Petitioner’s Reply are to the redacted, public version that was filed as Paper 41. Petitioner also filed an unredacted, confidential version as Paper 40.

³ All references to the Petitioner’s Opposition to Patent Owner’s Contingent Motion to Amend are to the redacted, public version that was filed as Paper 43. Petitioner also filed an unredacted, confidential version as Paper 42.

⁴ All references to the Petitioner’s Motion to Exclude are to the redacted, public version that was filed as Paper 56. Petitioner also filed an unredacted, confidential version of this motion as Paper 55.

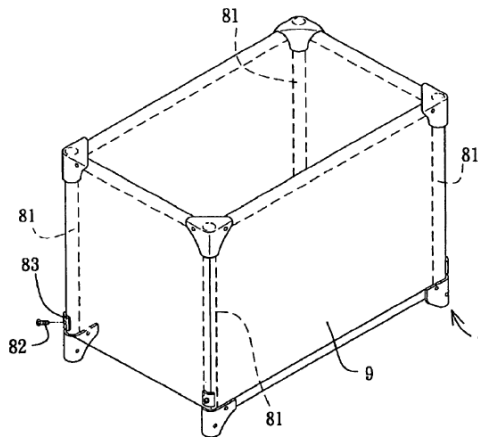
Oral argument was conducted on March 23, 2016. A transcript of the argument is entered in the record. Paper 77 (“Tr.”).

A. Related Proceedings

The parties represent that the '919 patent is the subject of co-pending district court cases titled: (1) *Wonderland Nurserygoods Co., Ltd. v. Baby Trend, Inc.*, No. 5:14-cv-01153-VAP-SPx (C.D. Cal.); (2) *Wonderland Nurserygoods Co., Ltd. v. Thorley Indus., LLC*, No. 2:13cv387-MRH (W.D. Pa.); and (3) *Wonderland Nurserygoods Co., Ltd. v. Kids II, Inc.*, No. 1:13cv1114-TWT (N.D. Ga.). Pet. 1–2; Paper 4, 2–3. The '919 patent also is the subject of a request for *inter partes* review in IPR2015-00841.

B. The '919 Patent (Ex. 1001)

The '919 patent reissued from Patent No. US 6,859,957 (“the '957 patent”) on January 15, 2013. The '919 patent discloses a baby crib that is easier to assemble than prior art cribs shown below. Ex. 1001, 1:17–23.



F I G. 1
PRIOR ART

Figure 1 is a prior art baby crib assembled with screws 82 through holes in enclosure member 9. *Id.* at 1:26–36, 2:1–2. Enclosure member 9 may tear when stretched and screws 82 mar the appearance. *Id.* at 1:32–40.

The '919 patent replaces screws 82 of prior art baby cribs with keder-type connections shown in Figures 3–5 below. *Id.* at 1:43–60, 3:11–18.

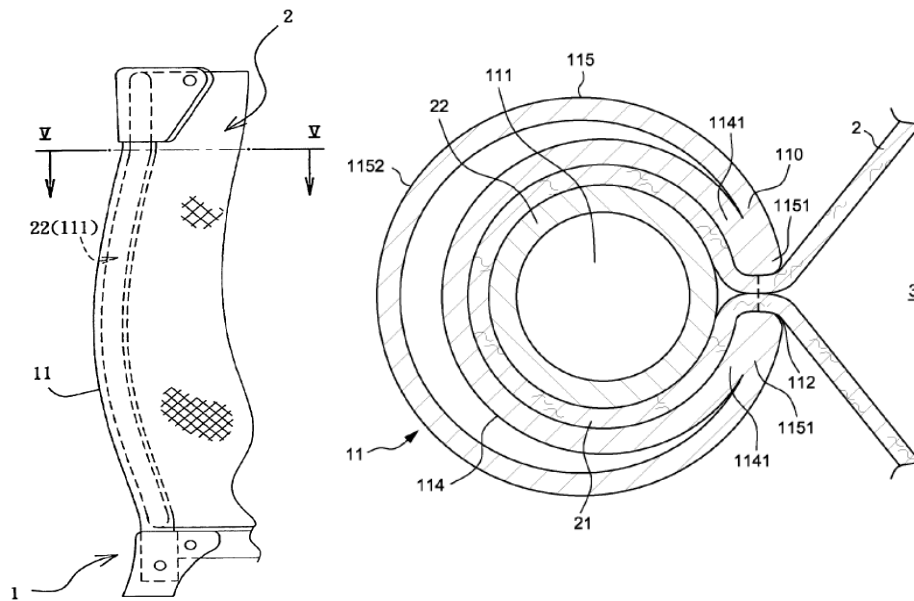
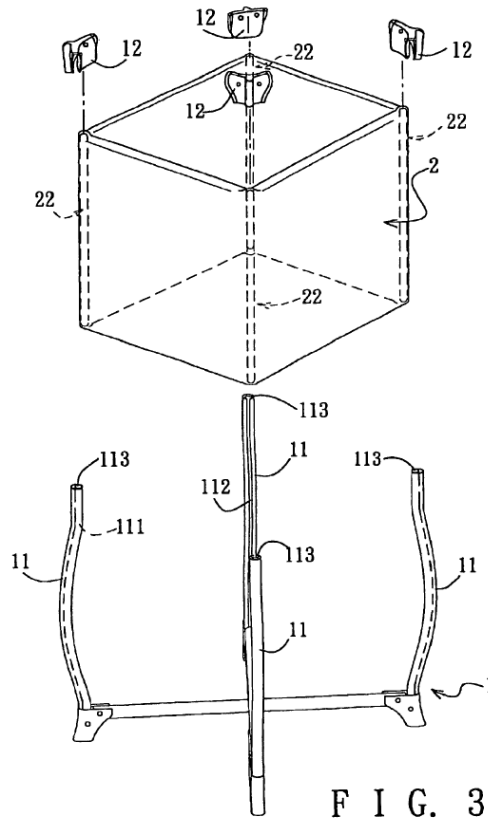


Figure 3 is an exploded view of the baby crib. Figure 4 shows fabric member 2 mounted onto bed frame structure 1. Figure 5 is a sectional view of fabric sleeve 21 held between positioning post 22 and inner wall 114 of upright tube 11 in a keder-type connection. *See id.* at 2:6–12, 17–59.

The '919 patent discloses the preferred embodiment with bed frame structure 1, fabric member 2, and plural positioning posts 22. *Id.* at 2:17–20. Bed frame structure 1 is rectangular and includes four upright tubes 11, one on each corner. *Id.* at 2:21–23. Each upright tube 11 is rigid and preferably curved as shown in Figure 3 “[t]o enhance the *appearance* of the baby crib.” *Id.* at 2:23–26 (emphasis added). Each upright tube includes open end 113 at the top and receiving hole 111 that extends along the length of tube wall 110, which also is formed with slit 112 that extends along the length of tube wall 110 and in communication with receiving hole 111. *Id.* at 2:27–34.

Fabric member 2 is mounted on bed frame structure 1 to define “a surrounding wall around the bed frame structure.” *Id.* at 2:35–37. Fabric member 2 includes four sleeve portions 21 formed by sewing. *Id.* at 2:35–38. Four flexible positioning posts 22 are mounted on fabric member 2 by being enclosed in a respective sleeve portion 21. *Id.* at 2:39–43. Fabric member 2 thus includes four lateral sides when it is mounted on bed frame structure 1. *Id.* at 2:42–45.

To assemble the baby crib, fabric member 2 is mounted on bed frame structure 1 by inserting positioning posts 22 into receiving holes in upright tubes 11 through top open ends 113. *Id.* at 2:46–49. Flexible positioning posts 22 follow the curvature of upright tubes upon insertion. *Id.* at 2:60–62. Fabric member 2 is clamped between upright tube 11 and positioning post 22 and extends through slit 112 in each tube 11. *Id.* at 2:63–67, Fig. 5.

Upon assembly, fabric member 2 “*form[s] an enclosure member having a plurality of side panels that surround an inner enclosed space 3 for receiving a baby.*” *Id.* at 2:63–3:2. Fabric member 2 can extend outside of upright tube 11 generally in two directions of two other upright tubes 11 and lie substantially out of contact with an outwardly facing surface of the outer tube wall 115, 1152. *Id.* at 3:2–7. An outer shape of each upright tube 11 is substantially visible from outside enclosed space 3. *Id.* at 3:7–10. Figure 4 shows upright tube 11 in hardline and dashed lines with positioning post 22 shown inside upright tube 11 in dashed lines. This connection provides for assembly of the baby crib without screws and enhances the appearance of the baby crib because screws are not visible on the bed frame. *Id.* at 3:11–18, 36–46.

C. Illustrative Claims

Claims 1, 8, 15, and 20 are independent. Claims 1 and 15 are reproduced below.

1. A baby crib comprising:
 - a bed frame structure including a plurality of upright tubes, each of which has *an inner tube wall, and an outer tube wall defining an outer contour shape of the upright tube, the inner tube wall defining a receiving hole, and the outer tube wall having an outwardly facing surface and a slit that extends along the length of said outer tube wall and that is in spatial communication with said receiving hole;*
 - a fabric member mounted on said bed frame structure to define a surrounding wall around said bed frame structure *and delimit an enclosed space adapted to receive a baby;* and
 - a plurality of positioning posts mounted on said fabric member and inserted respectively into said receiving holes in said upright tubes, said fabric member being

clamped between each of said upright tubes and a corresponding one of said positioning posts and extending outward through *each of said slits in each of said upright tubes, whereby the fabric member extends in directions between the upright tubes substantially out of contact with the outwardly facing surface of the outer tube wall of each of the upright tubes, such that the outwardly facing surface of each of the upright tubes is exposed on an outside of the enclosed space.*

15. A baby crib comprising:
a plurality of upright tubes defining corners of the baby crib, wherein each of the upright tubes has an outer wall that defines an outer contour shape of the upright tube;
an enclosure member including a plurality of side panels contiguously connected to one another along edge portions and surrounding an enclosed space adapted for receiving a baby therein; and
a plurality of positioning posts provided on the enclosure member at locations corresponding to the edge portions of the enclosure member, wherein the positioning posts are lodged inside the upright tubes, the side panels extending between the upright tubes substantially out of contact with the outside surfaces of outer walls of the upright tubes, such that the outwardly facing surface of each of the upright tubes is exposed on an outside of the enclosure member.

D. Prior Art

Petitioner relies on the following references:

Reference	Patent/Printed Publication	Date	Exhibit
Pasin	US 6,004,182	Dec. 21, 1999	1015
Stoeckler	US 7,063,096 B2	June 20, 2006	1017
Vaiano	US 3,924,280	Dec. 9, 1975	1021
Rexroad	US 6,076,448	June 20, 2000	1026

E. Asserted Grounds of Unpatentability

We instituted trial regarding the patentability of claims 1–5 and 8–29 of the ’919 patent on the following grounds, which are the subject of this Final Written Decision:

References	Basis	Claims Challenged
Vaiano, Pasin	§ 103(a)	1–5, 8–29
Vaiano, Pasin, Stoeckler	§ 103(a)	1–5, 8–29

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claims of an unexpired patent are given their broadest reasonable construction in light of the patent specification in which they appear. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–1279 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation”), *aff’d*, *Cuozzo Speed Techs., LLC v. Lee*, --- S. Ct. ---, 2016 WL 3369425, *12, 14 (June 20, 2016) (holding that 37 C.F.R. § 42.100(b) represents a reasonable exercise of rulemaking authority that Congress delegated to the Patent Office).

1. “*baby crib*” (*claims 1, 8, 15, 20*)

We interpreted “baby crib” as an intended use in claims 1, 8, and 20 and “a structure where a child can play and sleep” in claim 15. Dec. on Inst. 7. Petitioner asserts that “baby crib” is not a limitation in claims 1, 8, and 20 where it is recited in the preamble as an intended use and a “structure where a child can play and sleep” in claim 15. *See* Pet. 17 & n.5; Pet. Reply 1–2.

In support of this interpretation, Petitioner cites to Patent Owner's First Amended Infringement Contentions (Ex. 1002) in the related district court proceeding between Petitioner and Patent Owner. Pet. 17 n.5; Pet. Reply 1 (citing Ex. 1002, 5, 14, 35, 50). In that proceeding, Patent Owner asserted that "[t]he preamble is not considered a limitation" in claims 1, 8, 15, and 20. Ex. 1002, 5, 14, 24, 35, 50.

Petitioner asserts that "baby crib" should mean "a structure where a child can play and sleep" in claims 15–19 and 29. See Pet. 17. In support of this interpretation, Petitioner cites ASTM International Standard F406-02. Pet. 17 (citing Ex. 1014, 1 (§ 1.2)). ASTM Standard F406-02 is a consumer safety specification that sets testing requirements for structural integrity and performance requirements for non-full-size baby cribs and play yards. Ex. 1014, 1. Section 1.2 of ASTM Standard F406-02 states that the specification covers products intended to provide sleeping and playing accommodations for a child who is less than 35 inches in height. *Id.* at 1 (§ 1.2). ASTM F406-02 covers products with an interior length smaller than 49¾ inches and interior width smaller than 25⅜ inches, but it does not cover bassinets, cradles and baskets. *Id.*

Patent Owner argues that "baby crib" should mean "a structure for *safely* confining a baby for sleep or play." PO. Resp. 9 (emphasis added). Patent Owner's expert, Mr. Drobinski, testifies that a skilled artisan would understand "baby crib" to mean "a structure for safely confining a baby for sleep or play." Ex. 2010 ¶¶ 15, 18. Mr. Drobinski testifies that this meaning is consistent with ASTM F406-02, which provides a safety specification for non-full-size baby cribs and play yards. *Id.* ¶¶ 15–17. Mr. Drobinski also testifies that a person of ordinary skill in the art would consider a definition

of “baby crib” as a “structure where a child can sleep and play” without also safely confining the child as too broad and an unreasonable construction of “baby crib.” *Id.* ¶ 18; *see* PO Resp. 10.

Patent Owner also argues that defining “baby crib” as “a structure where children can sleep or play” is overly broad and would encompass a car, house, tent, chair, or school, which are structures where a child can sleep or play but would not be considered a “baby crib” by a skilled artisan. PO Resp. 9, 11.

Patent Owner contends that ASTM Standard F406-02 is a *safety* standard that provides consumer safety specifications for baby cribs that accommodate infants and babies. *Id.* at 10–11. Patent Owner also cites a dictionary definition of “baby crib” as “a child’s bed with high sides” and argues that this definition implicitly recognizes a requirement of safety to confine a baby as part of a baby crib. *Id.* at 11.

Patent Owner further argues that the term “baby crib” is not used as an intended use in the claims but rather is a plain statement of what the invention actually is. *Id.* at 11–12. Patent Owner asserts that the recital of “baby crib” in the preamble was relied on during prosecution to distinguish the independent claims over the prior art multiple-seat chair of Gibbs. *Id.* at 12. Patent Owner argues that this reliance on “baby crib” to distinguish the invention over the prior art transforms the preamble into a limitation. *Id.*

We interpret “baby crib” as an intended use in claims 1, 8, and 20 and “a structure where a child can sleep or play” in claim 15, where it is recited in the body of the claim. This latter meaning is consistent with the ’919 patent specification, which describes a prior art baby crib as “defin[ing] a receiving space for a baby to sleep or play.” Ex. 1001, 1:19–23.

We interpret “baby crib” as an intended use in claims 1, 8, and 20 because the bodies of those claims recite structurally complete devices and do not refer back to the preambles or draw life or meaning from their preambles’ recital of “baby crib.” The features recited in the body of those claims provide structure for a child to play and sleep, i.e., an intended use of the baby crib. Ex. 1001, 1:19–23. Characterizing the structure as a “baby crib” adds nothing to the claim scope beyond this intended use. Claims 1, 8, and 20 define a baby crib in terms of a bed/frame structure with support/upright tubes, a fabric member or an enclosure member, a plurality of side panels, and positioning posts. These claimed elements define the baby crib.

Even in claim 15, which incorporates baby crib into the body of the claim, i.e., “a plurality of upright tubes defin[es] corners of the baby crib,” the term “baby crib” adds nothing to the claim scope besides intended use.

The ’919 patent specification describes a baby crib as an intended use. The preferred embodiment discloses an enclosure member having a plurality of side panels that surround an inner enclosed space *3 for receiving a baby*. Ex. 1001, 2:67–3:2. The prior art baby crib shown in Figures 1 and 2 is to “define a receiving space for a baby to sleep or play.” *Id.* at 1:19–23. The ’919 patent specification describes baby cribs as structures that provide an enclosed space to receive a baby for sleep or play. The features that create the enclosed space are recited in the bodies of the claims. These claimed elements define the baby crib structure without reliance on the preamble.

We are not persuaded that a car, house, chair, or school fall within the scope of these claims. PO Resp. 9, 11. There is no evidence that these items include the claimed structure such as upright tubes to receive positioning posts on an enclosure member or attachment structure for mounting.

Finally, we address Patent Owner’s arguments that the preamble is limiting because Patent Owner relied on the preamble to distinguish the claims over the prior art. PO Resp. 12. We are not persuaded by this argument for several reasons. First, in response to arguments made by Patent Owner, the Examiner stated that claims 1–29 were allowable because

The examiner respectfully agrees with Applicant’s arguments that one of ordinary skill in the art would not have found it obvious at the time the invention was made to combine the Moltane and Gibbs references given that the permanently assembled chair configuration as disclosed by Gibbs clearly teaches against the readily foldable and collapsible crib assembly as disclosed by Moltane.

Ex. 1004, 148 (¶ 5). Patent Owner persuaded the Examiner that the rejection of independent claims 1, 8, 15, and 20 was improper because “Moltane’s playpen is designed to be collapsible and foldable . . . [as] expressly stated in Moltane” whereas “there is nothing collapsible about the chair of Gibb’s, upon whose *frame structure* the Office seeks to rely to entirely replace the *frame structure* of Moltane.” *Id.* at 184 (emphasis added).

Patent Owner’s argument that a skilled artisan would not have used *structure* from Gibb’s non-collapsible, permanently-assembled chair with Moltane’s foldable, collapsible crib relied on the different structure of the two devices rather than the fact that Moltane is a “baby crib.” The Examiner agreed. Patent Owner’s arguments relied on the claimed structure and its intended use. *See id.* at 181 (arguing that Gibbs’ fabric seat does not enclose anything and totally differs in structure and use from the claimed baby crib), 188 (arguing Gibbs is non-analogous art because the “present claims relate to baby crib *frames and enclosures*” whereas “Gibbs relates to multiple-seat chair *structures* . . . for outdoor use”); PO Resp. 12 (structure and use differ).

We are not persuaded that the term “baby crib” imposes any sort of safety requirement or features on the claims, whether “baby crib” is merely an intended use or a limitation recited in the body of claim 15. There is no disclosure in the ’919 patent specification of any safety requirement or any considerations regarding safety of a baby. Patent Owner does not identify any express disclosure, but instead argues that a baby crib is understood in the art to safely receive a baby for sleep or play and cites Mr. Drobinski’s testimony regarding this understanding in the art. PO Resp. 10–11. Patent Owner also argues that Petitioner’s expert, Mr. Campbell, testified that the design of baby cribs and play yards would rely on ASTM F406-02, which is a safety specification and industry standard. *Id.*

Even if “baby crib” would be understood to provide some measure of safety for a baby or child confined therein, we are reluctant to include such a concept in our definition of baby crib when the terms “safely” and “safety” do not appear anywhere in the ’919 patent specification. The ’919 patent does not discuss safety or safely confining a baby or infant in the claimed baby crib. Thus, there is no disclosure to guide our interpretation of what is considered safe or not safe. Nor is there any way for a third party to assess if their structure falls within such a “safety” requirement. Patent Owner has not explained what features are required to *safely* confine an infant for sleep or play in the claimed baby crib. See PO Resp. 9–12; Ex. 2010 ¶¶ 15–19.

The ’919 patent specification does not reference ASTM F406-02 or any other industry standard or safety specification. The ’919 patent does not purport to disclose a baby crib that meets any industry standard or safety specification. We find no clear indication of any intent to limit the claimed baby crib to a particular industry standard or safety specification.

Courts generally refuse to interpret claim limitations to impose safety or efficacy standards when the claims, specification, and prosecution history do not disclose, suggest, or require such standards. *See Aventis Pharma S.A. v. Hospira, Inc.*, 675 F.3d 1324, 1330 (Fed. Cir. 2012) (citing *Mitsubishi Chem. Corp. v. Barr Labs., Inc.*, 435 Fed. Appx. 927, 934–35 (Fed. Cir. 2012) (the claimed composition must have some medicinal aspect, but it is not limited to compositions that are “safe, effective, and reliable for use in humans” because the specification did not require this property)); *Iovate Health Sci. Inc. v. Bio-Engineered Supplements & Nutrition, Inc.*, 586 F.3d 1376, 1382 (Fed. Cir. 2009) (refusing to read an “effectiveness” requirement into the preamble where the claims do not restrict the administration of the claimed amino acid to a specific dosage or amount, or “effective” amount).

If a patentee discloses a claimed invention according to a standard, that standard may be used to interpret the claims. Thus, where the claim recited “Dry, *dust-free and non-dusting*, solid and homogeneous *atomized precipitated silica particulates*” and Examples 5 and 10 measured the dust produced in terms of DIN 53 583 standard, the “dust-free and non-dusting” limitation was interpreted according to that standard, and not according to the pour test and stabilized fluid bed test, which provided alternative means for assessing dust production but were not disclosed in the specification. *Chimie v. PPG Indus. Inc.*, 402 F.3d 1371, 1374, 1377–80 (Fed. Cir. 2005).

Here, there is no indication in the ’919 patent specification, claims, or prosecution history that the claimed baby crib or any of its components was tested according to ASTM F406-02 or any other industry standard. We have no indication that the claimed baby crib or any of its components complies with that standard, either.

It can be appropriate to look to industry standards and definitions to interpret claim terms. *See, e.g., Advanced Fiber Techs. (AFT) Trust v. J & L Fiber Svcs., Inc.*, 674 F.3d 1365, 1380 n.4 (Fed. Cir. 2012). ASTM F406-02 does not define baby crib. It covers “products intended to provide sleeping and playing accommodations for a child (excluding bassinets, cradles, and baskets) . . . who is less than 35 in. . . . in height.” Ex. 1014, 1 (§ 1.2). It thus pertains to structures *intended for* children to use for sleep or play.

ASTM F406-02 also discloses a wide range of safety problems that were identified by the U.S. Consumer Product Safety Commission for such non-full-size cribs and play yards. *Id.* at 1 (Introduction). These problems encompass defective drop side units, protruding hardware, mesh openings, top rail hinges, locking devices, floors and sides, and top rails. *Id.* Thus, ASTM F406-02 recognizes that many baby cribs and play yards are not safe.

As a result, ASTM F406-02 states that

1.3 No product produced after the approval date of this consumer safety specification shall, either by label or other means, indicate compliance with this specification unless it conforms to all applicable requirements contained herein, before and after all testing.

Id. Therefore, even if skilled artisans understand that baby cribs should be safe, ASTM F406-02 provides evidence that many are not. In addition, a baby crib must satisfy all applicable testing requirements of ASTM F406-02 to meet the safety requirements of that standard and be considered safe.

The '919 patent specification gives no indication that its baby crib meets any safety standard or that it was tested in accordance with ASTM F406-02, which was published in June 2002. *Id.* The '919 patent does not indicate that any components of the baby crib meet any safety requirements.

Patent Owner's dictionary definition of "crib" as "a child's bed with high sides" (PO Resp. 11) does not mention safety. Patent Owner refers to its baby crib as a portable play yard. *See* PO Resp. 2–8; Ex. 2010 ¶¶ 11–17. It is not clear how a definition of a "crib" relates to such "play yards."

Patent Owner's argument that ASTM F406-02 is a safety standard that a skilled artisan would have used when designing non-full-size baby cribs or play yards does not explain what unclaimed safety features are included. ASTM F406-02 provides multiple, alternative performance requirements for rigid-sided units, mesh units, and fabric units. Ex. 1014 §§ 6, 7.

In summary, we interpret "baby crib" in the preamble of claims 1, 8, and 20 as an intended use that does not limit the scope of claims 1, 8, or 20 because it does not add life and meaning to those claims. We interpret "baby crib" in claim 15 as "a structure where a child can sleep or play."

2. *"an enclosure member" (claims 8, 15, 20)
and "a fabric member" (claim 1)*

Our Decision on Institution interpreted "an enclosure member" to mean "one or more members" and "a fabric member" to mean "one or more fabric pieces." Dec. on Inst. 9. Petitioner agrees with our construction. Pet. Reply 3–4.

Patent Owner argues that the term "enclosure member" should mean "a unitary enclosure element comprising a plurality of side panels." PO Resp. 13. Patent Owner argues that "fabric member" should be interpreted to mean "a unitary fabric element comprising a plurality of side panels." *Id.* at 13. Patent Owner argues that the enclosure member and fabric member must be a distinct, single unit. Otherwise, they could not attach to a frame structure or upright tubes as claimed. *Id.* Patent Owner also argues that the

enclosure or fabric member must surround the enclosed space and define a surrounding wall without gaps. *Id.* Patent Owner argues that because the member comprises plural side panels, the member must itself be structured as a single unit in order to give the term meaning. *Id.* at 13–14.

We adhere to our previous interpretation of these terms to mean “one or more members” and “one or more pieces of fabric.” Our interpretation is consistent with the general rule that the words “a” and “an” mean “one or more” unless a patentee evinces a clear intention to limit them to just “one.” *01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012) (“The subsequent use of definite articles ‘the’ or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning.”). Mere disclosure of a preferred embodiment does not evince a clear intent to limit “a” or “an” to just one. *E.g., Free Motion Fitness, Inc. v. Cybex Int’l, Inc.*, 423 F.3d 1343, 1350 (Fed. Cir. 2005). Even if a preferred embodiment has a unitary fabric member or a single enclosure member, that disclosure does not limit “an enclosure member” or “a fabric member” to a single, unitary component.

During reissue, Patent Owner amended reissue claim 8, which initially recited “an enclosure member *formed in a single body*.” Ex. 1004, 511, 514. Patent Owner deleted “formed in a single body” and added “surrounding an enclosed space adapted for receiving a baby therein.” *Id.* at 171–172, 177–178 (showing changes). This amendment of claim 8 is reproduced below.

| an enclosure member ~~formed in a single body~~ surrounding an enclosed space adapted for receiving a baby therein; and

Id. at 178. This amendment of claim 8 evinces Patent Owner’s intent not to limit an enclosure member to a unitary body.

We also view original claim 8 and its recital of “an enclosure member *formed in a single body*” as evidence that “an enclosure member,” by itself, is not necessarily a unitary or single body, as Patent Owner now asserts. See PO Resp. 13–14; Ex. 2010 ¶ 20.

Patent Owner also amended reissue claim 20 to delete language that initially claimed a plurality of side panels of “an enclosure member” that were connected to one another. This amendment is reproduced below.

an enclosure member including a plurality of side panels
~~connected one another along~~ having edge portions; and

Ex. 1004, 179. This amendment evinces Patent Owner’s intent to claim an enclosure member as multiple, separate side panels, as compared to reissue claim 15 where the side panels are “contiguously connected to one another along edges portions.” Also, “an enclosure member” is not always unitary.

The fact that claims 1, 8, 15, and 20 call for “a plurality of upright/support tubes” and claims 15 and 20 recite “a plurality of side panels” does not change our interpretation. When some claim limitations explicitly recite multiple components, the failure to claim multiple components for other limitations does not show a clear intent to treat those other limitations as singular elements. See *Scanner Techs. Corp. v. ICOS Vision Sys. Corp.*, N.V., 365 F.3d 1299, 1304 (Fed. Cir. 2004); Pet. Reply 3.

Differences in claim language in claims 1, 8, 15, and 20 also support our interpretation of “a fabric member” and “an enclosure member” to mean one or more pieces of fabric or members, respectively. Contrary to Patent Owner’s arguments (PO Resp. 13–15), our interpretation in this regard does not render other claim terms superfluous or unnecessary.

Claim 1 recites “a fabric member mounted on said bed frame structure to define a surrounding wall around said bed frame structure.” Under our interpretation, “a fabric member” can be a single piece of fabric or multiple pieces of fabric. We find no clear intent to limit “a fabric member” to just a unitary construction, in view of reissue claim 8, which recited “an enclosure member *formed in a single body*” (Ex. 1004, 511 (emphasis added)) and the later amendment to remove that language from claim 8 (*id.* at 178). The “formed in a single body” limitation indicates an intent to claim an enclosure member as a unitary element. Its omission from the claims indicates Patent Owner is not limiting “a fabric member” to a single member. Claiming the fabric wall to define a “surrounding wall” does not require a unitary fabric as shown by claim 20 where “the side panels surround an enclosed space” even though their edges are not claimed to be connected/touching, as in claim 15.

Claim 8 recites “*an enclosure member surrounding an enclosed space adapted for receiving a baby therein.*” We find no clear intent to limit “an enclosure member” to a member “formed in a single body” or overcome the presumption that “an” can mean one or more members, particularly when Patent Owner’s amendment removed such language from claim 8. Claim 8 covers an enclosure member that is a unitary member or multiple members.

Claim 15 recites “*an enclosure member including a plurality of side panels contiguously connected to one another along edge portions and surrounding an enclosed space.*” This express recital of multiple elements of “an enclosure member” supports our interpretation that “an enclosure member” can mean more than one member or element. This interpretation does not render the “plurality of side panels” superfluous, as Patent Owner alleges. PO Resp. 13–15. Claim 15 recites “*an enclosure member including*

a plurality of side panels.” Thus, claim 15 claims the enclosure member as multiple members, i.e., side panels. The side panels are elements of the enclosure member, and are “connected to one another along edge portions.” Thus, claim 15 explicitly recites and confirms that “an enclosure member” can be more than one member or element.

Claim 20 also supports our interpretation of “*an enclosure member*” to mean one member or more than one member. Like claim 15, claim 20 recites “*an enclosure member including a plurality of side panels having edge portions.*” Like claim 15, “an enclosure member” is made up of more than one member, i.e., “a plurality of side panels having edge portions.” Unlike claim 15, however, the edge portions of the side panels of claim 20 are not required to be connected to one another. During reissue prosecution, Patent Owner amended claim 20 to delete the limitation of the side panels “connected one another along edge portions” and to add “a plurality of side panels *having* edge portions.” Ex. 1004, 179. Interpreting “an enclosure member” as a *unitary* element, as Patent Owner argues (PO Resp. 13–14), is not consistent with the language of claim 20 or the prosecution history.

The language of claims 15 and 20 confirms that an enclosure member can be more than one member, e.g., multiple side panels. An enclosure member is not rendered superfluous by being claimed to include a “plurality of side panels” as Patent Owner asserts (PO Resp. 14). Claims 15 and 20 treat an enclosure member as being more than one member, i.e., side panels, and side panels as being members of the enclosure member. In this regard, claims 15 and 20 recite that the side panels and the enclosure member have the same “edge portions.” Claims 15 and 20 recite side panes with “edge portions.” Claim 15 further recites “*a plurality of positioning posts provided*

on the enclosure member at locations corresponding to the edge portions of the enclosure member.” Similarly, claim 20 recites “*an attachment structure configured to mount and secure the edge portions of the enclosure member along the support tubes.*” Thus, the edges of the side panels are the edges of the enclosure member, i.e., the enclosure is multiple members (side panels).

We do not credit Mr. Drobinski’s testimony that the inventor intended “enclosure member” and “fabric member” to be singular. See Ex. 2010 ¶ 20. The inventor’s subjective intent as to claim scope, when unexpressed in the patent document, cannot guide the proper interpretation of claims when the patent documents do so clearly. See *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996).

Because the ’919 patent and prosecution history do not evince a clear intent to limit “a fabric member” or “an enclosure member” to a unitary member, and, in fact, evince a contrary intent, as discussed above, we are not persuaded by Mr. Drobinski’s unsupported opinion. See Ex. 2010 ¶ 20; 37 C.F.R. § 42.65(a). In addition, Mr. Drobinski’s interpretation of these limitations has changed repeatedly. See Pet. Reply 4–5.

Reissue claim 8 initially recited “an enclosure member formed in a single body.” Ex. 1004, 511. This language indicates that “an enclosure member” would not be understood to mean a single or unitary member or body or element. Patent Owner did not include this language in any other claim, indicating that those other claims were not intended to be limited to a single body or unitary member. Patent Owner’s subsequent removal of the “formed in a single body” language from claim 8 indicates an intent to expand the scope of “enclosure member” to encompass members that are not

a single body in claim 8 and the other challenged claims, which do not include this limitation.

Patent Owner has not identified a definition or disclaimer that limits the meaning of “a fabric member” or “an enclosure member” to a single or unitary member. Patent Owner does not rely on the prosecution history of the ’919 patent during reissue to support its interpretation.

Claiming a fabric or enclosure member to define “a surrounding wall around said bed frame” (claim 1), “surround[s] an enclosed space adapted for receiving a baby therein” (claim 8), and “surround[s] an enclosed space” (claims 15, 20) does not mean the fabric or enclosure member must be a unitary element. The amendment to claim 8 that deleted “formed in a single body” added “surrounding an enclosed space for receiving a baby therein.” This amendment indicates that a surrounding enclosure or wall can be formed by a member that is not a unitary body, as does the language of claims 15 and 20 where plural side panels “surround an enclosed space” whether their edges are connected (claim 15) or not (claim 20).

Even if the ’919 patent specification discloses a preferred embodiment with a fabric member 2 as a single, unitary member, we would not interpret “enclosure member” or “fabric member” as a single, unitary piece of fabric, because the claim language is broader than that embodiment, particularly in light of the prosecution history. *E.g.*, *Howmedica Osteonics Corp. v. Wright Med. Tech., Inc.*, 540 F.3d 1337, 1345 (Fed. Cir. 2008) (declining to impute a limitation into a disputed claim term absent a clear *requirement* in the specification, even where “every disclosure of [the disputed term] in the specification shows [the alleged limitation]”); *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012) (holding that it is

“not enough that the only embodiments, or all of the embodiments, contain a particular limitation.”); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (“[O]ur case law makes clear that a patentee need not ‘describe in the specification every conceivable and possible future embodiment of his invention.’” (citation omitted)); *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) (“Appellees cannot overcome the plain meaning of claim 1 by pointing to an embodiment disclosed in the specification or prosecution history.”); *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1283 (Fed. Cir. 2012) (“The specification need not describe every embodiment of the claimed invention” and “the claims should not be confined to the disclosed embodiments—even when the specification discloses only one embodiment.”); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005 (en banc)) (“[W]e have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”).

In *Woods v. DeAngelo*, the Federal Circuit declined to construe the “elongated outer shell” to require the outer shell to extend past the inner shell to serve as a water deflection plane when the plain meaning did not require such an interpretation, and the claims of an abandoned application expressly required a deflection surface for the sprayed water, whereas the claims at issue had no such limitation. *Woods*, 692 F.3d at 1284. Even though the specifications of each patent-in-suit disclosed only two possible orientations for the spray ring – approximately a 90° angle to the central axis or directed towards the outer liner – the Court held the limitation “angularly disposed” did not prescribe any specific angle. *Id.* at 1285.

In *Jang v. Boston Scientific Corp.*, it was held that the district court impermissibly imported an “unattached” limitation into the claims, even though all of the examples in the specifications showed only connecting strut columns with unattached struts. *Jang*, 493 Fed. Appx. 70, 77 (Fed. Cir. Aug. 22, 2012). The “connecting strut column” limitation was broader than the examples because it did not require connecting struts to be unattached, nor did the specification require connecting struts to be unattached. *Id.*

The Dissent argues that the “enclosure member” and “fabric member” must be a unitary element based on the original Specification, which did not disclose a plurality of panels.⁵ This argument is not persuasive because the original Specification disclosed that “fabric member 2 is formed with four lateral sides when [it] is mounted on the bed frame structure 1.” Ex. 1001, 2:43–45. This original disclosure supports Patent Owner’s amendment to the Specification to recite “*an enclosure member having a plurality of side panels.*” *Id.* at 2:67–3:1. The Examiner apparently agreed and entered these amendments to the Specification.⁶ Ex. 1004, 21–22, 55–56, 169, 176–77.

⁵ We note that the theory advanced by the Dissent is presented for the first time in this Final Decision. None of the Papers submitted by the parties nor our Institution Decision advanced such a theory. Thus, the parties have not had an opportunity to address such a theory in their written submissions.

⁶ These proceedings do not afford the parties an opportunity to second-guess an Examiner’s determination as to whether written description support exists for amendments to the Specification. See 35 U.S.C. § 311(b) (“A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103.”). We decline to review *sua sponte*, in this proceeding, decisions made by the Office regarding written description support for amendments made during prosecution.

The '919 patent discloses Figures 3–5 as the *preferred embodiment* of the invention. Ex. 1001, 2:6–20. In this embodiment, fabric member 2 has four side panels, and four positioning posts 22. *Id.* at 2:35–45. The claims recite a *plurality* of side panels and a *plurality* of positioning posts. Neither Patent Owner nor the Dissent argues that “plurality” should mean four simply because the preferred embodiment discloses four of these elements. This embodiment discloses upright tubes 11 with a single slit 112. *Id.* at 2:21–34. The '919 patent has been asserted against play yards with separate side panels connected to two slits on each upright tubes. Ex. 1032, 2–14.

3. “*bed frame structure*” (claims 1, 8), “*frame structure*” (claim 20)

Patent Owner argues that “bed frame structure” should be interpreted to mean “a plurality of upright tubes and an element(s) arranged to connect to or support the plurality of upright tubes and a bed or a mattress.” PO Resp. 19. Patent Owner argues that “frame structure” should be interpreted to mean “a plurality of upright tubes and an element(s) arranged to connect to or support the plurality of upright tubes.” *Id.* Petitioner does not provide a construction for these limitations.

We interpret “frame structure” to mean “elements arranged to connect to or support other elements or things.” We interpret “bed frame structure” to mean “elements arranged to connect to or support other elements or things such as a bed or a mattress.” This interpretation is consistent with the '919 patent specification, which discloses rectangular bed frame structure 1 with four upright tubes 11 disposed on each corner. Ex. 1001, 2:21–23. Figure 3 discloses bed frame structure 1 as two unnumbered elements crossed in an “X” manner with the ends of each unnumbered element connected to a foot-like element and to an upright tube 11. Each foot-like element appears to

support bed frame structure 1 on a horizontal surface. The '919 patent specification does not describe the unnumbered crossed elements nor the unnumbered foot-like elements. The '919 patent specification discloses that upright tubes 11 support side panels of fabric member 2 when fabric member 2 is mounted on bed frame structure 1. *Id.* at 2:35–49. The '919 patent specification does not disclose any mattress, floor, or other element supported by the unnumbered, crossed elements of bed frame structure 1. We nonetheless interpret bed frame structure to provide support for a mattress, even if one is not disclosed.

Our interpretation also is consistent with the claims. Claims 1 and 8 recite “a bed frame structure including a plurality of upright tubes.” These claims further recite that the upright tubes support the fabric or enclosure member when positioning posts of the fabric and enclosure members are inserted into receiving holes of the upright tubes so the fabric and enclosure members are supported on, and extend from, the upright tubes.

Claims 15 and 20, which are the subject of this proceeding, support this interpretation, as well. Claim 20 recites “*a frame structure*” that has a plurality of upright tubes and these upright tubes support the side panels of an enclosure member when edge portions of the enclosure member are mounted and secured to the support tubes. Claim 15 recites “*a plurality of upright tubes defining corners of the baby crib.*” The upright tubes support side panels that extend between the upright tubes when positioning posts of an enclosure member are lodged inside the upright tubes. Although claim 15 does not claim a “bed frame structure” or “frame structure,” the plurality of upright tubes that are part of the bed frame and frame structures in claims 1, 8, and 20 also support elements of the baby crib in claim 15.

4. “*substantially out of contact*” (*claims 1, 8, 15, 20*)

Petitioner asserts that the limitation “substantially out of contact” means “some, but only negligible contact, with the outwardly facing surface of the outer tube wall of each of the upright/support tubes.” Pet. 17. Patent Owner argues that our interpretation of “substantially out of contact” to mean “no contact or some negligible contact” was correct and should be maintained for the final written decision. PO. Resp. 19. Thus, Petitioner and Patent Owner agree that this term includes some contact.

We again interpret this term to mean “no contact or some negligible contact.” An ordinary meaning of “substantially” is “largely but not wholly that which is specified.” *Clare v. Chrysler Grp. LLC*, 819 F.3d 1323, 1330 (Fed. Cir. 2016) (citation omitted); *York Prods., Inc. v. Central Tractor Farm & Family Center*, 99 F.3d 1568, 1572–73 (Fed. Cir. 1996) (citing *Webster’s Ninth New Collegiate Dictionary* 1176 (9th ed. 1983)).

Although an ordinary and customary meaning of “substantially out of contact” might require negligible contact and exclude situations where there is no contact, the ’919 patent specification indicates otherwise. The ’919 patent specification discloses that “*fabric member 2 can extend outside the upright tube 11 generally in two directions of two other upright tubes 11 and lie substantially out of contact with the outwardly facing surface of the outer tube wall defined by the remaining part 1152 of the second wall part 115.*” Ex. 1001, 3:2–7. The ’919 patent specification discloses second wall part 115 forming the outer wall of upright tube 11 and having two opposite ends 1151 and remaining part 1152 extending between ends 1151, as shown in Figure 5. *Id.* at 2:54–59. Figure 5 shows fabric member 2 extending from upright tube 11 and contacting, at most, *ends 1151* of outer second wall 115

so the outer surface is exposed. *Id.* at 3:7–10. Fabric member 2 does not contact outer second wall part 115 or remaining part 1152. *Id.* at Fig. 5. Figures 3–5 disclose a preferred embodiment of the invention. *Id.* at 2:6–20.

Interpreting “substantially out of contact” to require some contact would exclude the preferred embodiment of the invention, a situation that rarely is correct, particularly where the preferred embodiment is the only disclosed embodiment. See *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1311 (Fed. Cir. 2014).

B. Asserted Grounds of Unpatentability

1. Obviousness of Claims 1–5 and 8–29 over Vaiano and Pasin

a. Overview of Vaiano (Ex. 1021)

Vaiano discloses a portable children’s play pen that may be folded into a compact unit, carried about, and opened quickly to usable form, as illustrated in Figure 1, which is reproduced below. Ex. 1021, 1:5–8, Fig. 1.

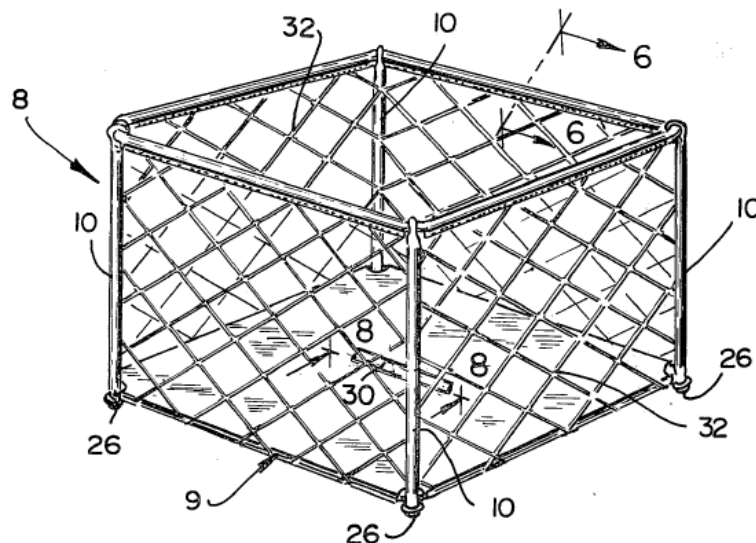


Figure 1 illustrates the erected play pen. The play pen is a light but durable with floor sections hinged together to enable the play pen to be folded into a compact unit and opened to form an enclosure. *Id.* at 1:9–13.

The design provides a foldable play pen with adequate strength when in use and collapsible to facilitate storage, carrying, or transportation. *Id.* at 1:14–20. Play pen 8 comprises triangular floor sections 15 and removable padding 19 and cover 21 that are placed over floor 9. *Id.* at 1:44–53. Floor sections 15 are made of Masonite, beaverboard, or plywood. *Id.* at 1:46–49.

Four tubular posts 10 are secured by hinges to pairs of plates 12 that are secured to the bottom faces of triangle sections 16. *Id.* at 1:53–55. Posts 10 preferably are made of aluminum for lightness. *Id.* at 53–54. Nylon or sturdy synthetic netting 32 is secured to posts 10 and a peripheral edge of floor 9. *Id.* at 2:9–11. The upper edge of netting 32 attaches to a bumper that defines an upper perimeter of play pen 8. *Id.* at 2:11–14, Figs. 1, 6.

b. Overview of Pasin (Ex. 1015)

Pasin discloses a play structure for children that can be assembled and dismantled with relative ease as shown below. Ex. 1015, 1:4–7, 21–22.

FIG.1

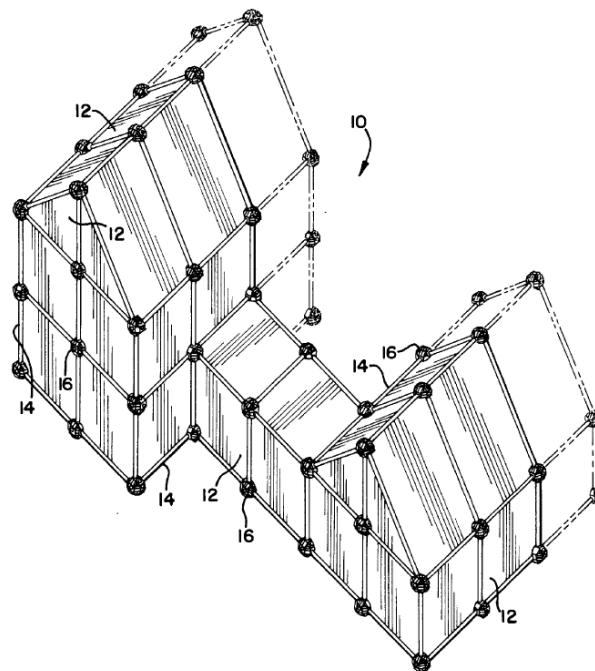
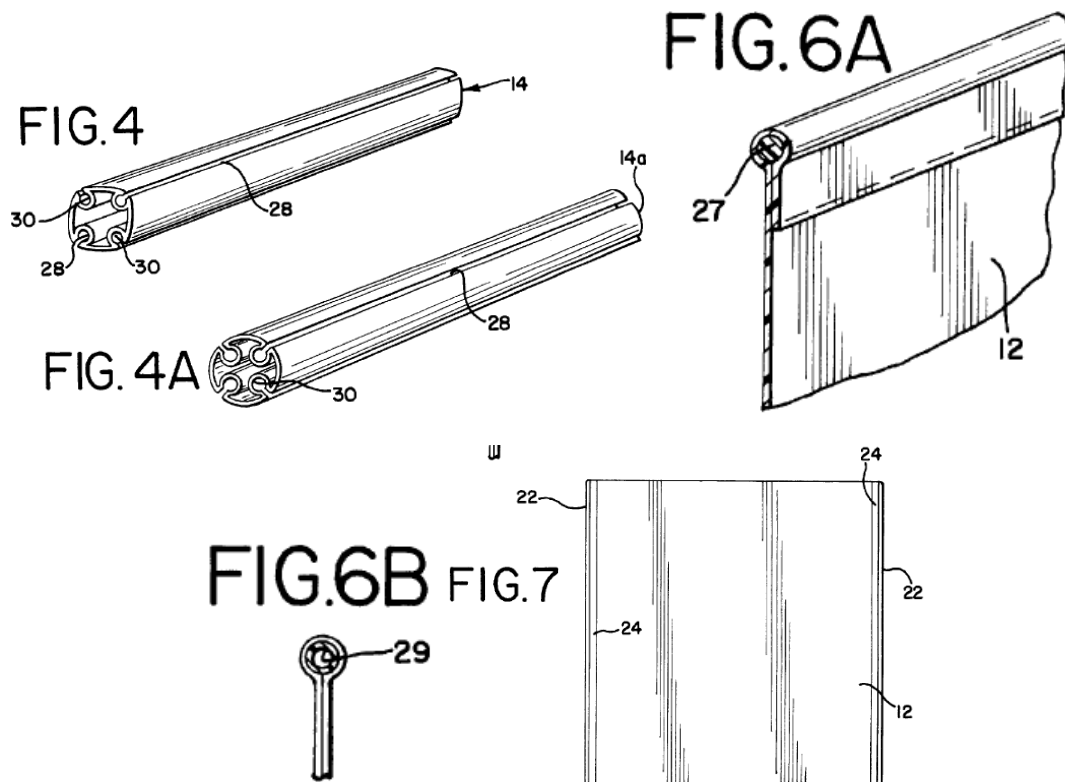


Figure 1 of Pasin is a perspective of a structure such as a simulated house and garage with interconnecting passageway. *Id.* at 2:18–20. The structures can be used for the amusement of children by simulating houses, tents, forts, tunnels, and caves. *Id.* at 1:39–43. Structures include panels 12 connected by frame members 14 and connectors 16. *Id.* at 2:14–17.

Ends of frame members 14 can be inserted into openings 18 of connectors 16. *Id.* at 1:33–38, 2:34–43. Figures 4, 6, and 7, which are reproduced below, illustrate frame members 14 and panels 12.



Figures 4 and 4A illustrate frame members to which panels 12 are connected to form play structures. Figures 6A and 6B show rods 27, 29 positioned in pockets that are formed along edges of panel 12. *Id.* at 3:3–8. Figure 7 shows panel 12 with rods 22 along two edges.

Panels 12 may be plastic, canvas, or fabric with rod formation 22 or rods 27, 29 along their edges. *Id.* at 1:27–30, 2:58–3:8. Frame members 14

are straight or curved, and include slots 28 for receiving rods 22, 27, 29 and associated fabric of panel 12. *Id.* at 2:26–32, 3:9–14, Figs 4, 4A.

Frame members 14, 14a have slots 28 on their outer surface extending inwardly to an enlarged receptacle area 30 that extends along the length of frame members 14, 14a. *Id.* at 3:9–14. Panel 12 includes side edges sewn or formed to provide hems and pockets to receive rods 27, 29 that support and stiffen panels 12. *Id.* at 3:3–8. Rods can be forced through slots 28 to seat in receptacles 30 dimensioned to receive rods 22, 27, 29. *Id.* at 3:14–16.

Alternatively, rods 22, 27, 29 and fabric panel 12 can be inserted into an end of receptacle area 30 of frame member 14, 14A and slid into position. *Id.* at 3:21–22. When panels 12 and rods 22, 27, 29 are assembled on frame members 14, 14A, they form a surrounding wall that delimits a tent, house, fort, or other enclosure that children can enter. *Id.* at 1:27–52. Larger scale applications are possible for more practical adult purposes. *Id.* at 1:52–53.

c. Analysis

Petitioner asserts that claims 1–5 and 8–29 are obvious over Vaiano and Pasin. Pet. 41. Petitioner provides detailed claim charts⁷ and other contentions that show where Vaiano and Pasin teach or suggest each limitation of claims 1–5 and 8–29, including the Declaration of David Campbell. *See id.* at 20–41; *see* Ex. 1006 ¶¶ 70–88; Ex. 1011. We have reviewed, and are persuaded by, Petitioner’s contentions regarding the combination of Vaiano and Pasin.

⁷ The claim charts appear with the contentions that claims 1–5 and 8–29 are obvious over Vaiano, Pasin, and Stoeckler, but also are relied on to establish the obviousness of these claims over Vaiano and Pasin if “substantially out of contact” is interpreted to include no contact. Pet. 32–41.

Regarding claim 1, Petitioner asserts that Vaiano discloses a baby crib with a bed frame structure that includes a plurality of upright tubes (tubular posts 10) and a fabric (nylon or synthetic netting 32) mounted on posts 10 to define a surrounding wall around play pen 8 and delimit an enclosed space to receive a baby. Pet. 32–33 (citing Ex. 1021, 1:44–57, 2:9–14, Fig. 1).

Petitioner asserts that Pasin discloses a tent-like temporary structure in which a child can sleep (bed frame) comprising a plurality of upright tubes (frame members 14) with slots 28 that create receiving holes (receptacle area 30), outer walls, and inner walls that interconnect a plurality of panels 12. *Id.* at 32–33 (citing Ex. 1015, 1:1–19, 2:15–17, 3:9–23, Figs. 1, 4, 4A, 6, 7). Petitioner also asserts that Pasin discloses a plurality of positioning posts as rod formations 22, 27, 29 that are mounted on fabric panels 12 and inserted into receptacle area 30 and slot 28 so panel 12 is wrapped around rod 27, 29 and clamped between rod 27, 29 and frame member 14 when rod 27, 29 is inserted in slot 28 and receptacle 30 and each panel 12 extends in direction between frame members 14 substantially out of contact with the outwardly facing surfaces of the outer wall of each frame member 14, which is thus exposed on the outside of the enclosed space. *Id.* at 33–34 (citing Ex. 1015, 3:3–17, Figs. 1, 4, 4A, 6, 7).

Petitioner asserts that Vaiano discloses a play yard with exposed tubes and also discloses that its fabric netting 32 is secured to each upright tube 10 but does not provide details of how fabric 32 connects to tubes 10. *Id.* at 22. As a result, Petitioner asserts that skilled artisans would have relied on their education, experience, and the teachings of the other prior art references to determine precisely how to connect the fabric panel members of Vaiano to the upright tubes. *Id.*

Regarding independent claims 8, 15, and 20, Petitioner makes similar contentions regarding Vaiano's disclosure of a baby crib comprising a bed frame structure with a plurality of upright tubes (claim 8), a frame structure including a plurality of support tubes (claim 20), and a plurality of upright tubes (claim 15) and an enclosure member surrounding an enclosed space (claim 8) with a plurality of side panels with edge portions (claim 20) that are contiguously connected (claim 15) and extend between the tubes to form an enclosed space adapted to receive a baby. *Id.* at 34–39.

Petitioner asserts that Pasin discloses a tent-like temporary structure where children can sleep with plural upright, tubular frame members 14 with slots 28 and receiving holes 30 that interconnect a plurality of fabric panels 12 when positioning posts (rod formations 22, 27, 29) on fabric panels 12 are inserted in receptacle areas 30 of upright frame members 14 to form an enclosure member extending from one upright frame member 14 to another member 14 so outwardly facing surfaces of each member 14 are exposed on an outside of panels 12. *Id.* at 34–39 (Ex. 1015, 3:3–17, Figs. 1, 4, 4A, 6–7).

Petitioner also contends that Pasin discloses fabric members (panels 12) with plural sleeve portions (Figs. 6–7) that enclose positioning posts 22, 27, 29 that are formed as flexible tubes, as recited in claims 2, 3, 9, 12, 16, 17, 24, and 25. *Id.* at 34–40 (Ex. 1015, 3:3–8, Figs. 6, 7). Petitioner further contends that Pasin teaches upright tubes 14 formed with open top ends for insertion of respective positioning posts 22, 27, 29 and caps to cover the open ends so that the sleeve portions are clamped inside the receiving holes 30 between positioning posts 22, 27, 29 (a first connecting structure) and slit/hole 28/30 (a second connecting structure) as recited in claims 4, 5, 10, 11, 13, 18, 21–24, 26. *Id.* at 34–40.

Finally, Petitioner asserts that Vaiano and Pasin disclose an enclosure member that is made of a fabric material such as synthetic netting 32 and solid fabric material side panels 12, respectively, as recited in claims 14, 19, and 27, and Pasin teaches upright tubes (frame members 14) that can be curved, as recited in claims 28 and 29. *Id.* at 20, 36, 38, 40–41.

Petitioner asserts that a skilled artisan would have had a reason to combine teachings of Vaiano and Pasin to rendering the challenged claims obvious, because Vaiano teaches a continuous enclosure member attached to upright corner tubes leaving their outer surfaces exposed, as claimed, but does not disclose the details of the connection that makes this configuration possible, and Pasin teaches a keder-like connection that also connects fabric panels to upright corner tubes to form an enclosure member that leaves the outer surfaces of the upright tube exposed, as claimed. *See Id.* at 21–31.

Petitioner argues that a skilled artisan would have considered Pasin's teachings as a workable design that could be implemented successfully on a play yard structure like Vaiano because Pasin is from the same field as the '919 patent and solves the same problems of providing an enclosure for a child that is easily assembled and disassembled using a structure to connect fabric panels to vertical frame tubes to create a more secure fabric enclosure without using any extraneous fasteners. *Id.* at 22–24. Petitioner also asserts that a skilled artisan would have recognized the benefits of Pasin's keder-type connection and been motivated to use that connection on a Vaiano's play yard to slidably mount a fabric material of an enclosure member with an interior mounted mechanism that provides a more secure enclosure attachment, as opposed to a deformable mesh, and leaves the outer surfaces of the tubes exposed as in Vaiano and Pasin. *See id.* at 23–24, 27–31.

Petitioner further asserts that a skilled artisan would have known that there are a finite number of solutions for providing such an easy to assemble and disassemble connection that leaves outer tubes exposed as in Pasin and the '919 patent. *Id.* at 23, 28. Petitioner asserts that a skilled artisan would have used Pasin's teachings to modify Vaiano in a similar manner by adding slots to corner tubes in Vaiano and adding rod formations 22, 27, 29 at the intersections of corners of the enclosure member and slidably positioning the rod formations or rods in the slots of the corner tubes and also would have expected that this combination would be successful, e.g., because Pasin and Vaiano are from the same field as the '919 patent and already have open ended tubes and an exposed outer tube surface look. *Id.* at 22–24, 28–29.

Petitioner contends that Vaiano already uses a continuous, contiguous fabric member as recited in claim 15, and skilled artisans would have known the advantages of this configuration and would be motivated to keep the contiguous panel construction of Vaiano by sewing rod formations 22, 27, 29 at each corner of the contiguous enclosure to allow attachment of the enclosure through the slot and opening in the upright tubes of Pasin. *Id.* at 27–30. Petitioner asserts that this combination would have been successful because a skilled artisan would have taken the fabric and post connection from Pasin and attached it to the continuous mesh enclosure member of Vaiano thereby creating an ideal mesh and solid fabric enclosure member with side panels and the preferred interior mounting connection mechanism. *Id.* at 31. Thus, Petitioner asserts that Pasin's keder-like connection is one of a finite number of design options to connect the continuous fabric netting of Vaiano to upright posts and would have been chosen by a skilled artisan with an expectation of success. *Id.* at 22, 28, 30–31.

Patent Owner argues that there is no reason to combine Vaiano and Pasin because Pasin discloses a temporary tent-like or house-like structure that children can assemble and disassemble and therefore is not a baby crib or structure that safely confines a baby for sleep or play. PO Resp. 20–21. Patent Owner also argues that Petitioner has engaged in improper hindsight because there is no proper reason to combine these references or use the keder-type connection of Pasin on a continuous enclosure of Vaiano instead of individual panels of Pasin. *Id.* at 22. Patent Owner also argues that Pasin teaches away from the combination because ASTM F406-02 discloses that attachments of fabric to structures must resist a pull force of 30 pounds and the attachment structure of Pasin would fail this test because rod formations can be forced through slots 28 and seated into receptacles 30 so the structure can be assembled and dismantled at will by children with relative ease and thus would defeat Vaiano’s intended purpose of providing a playpen that contains a baby or child. *Id.* at 23–24. Patent Owner further argues that Pasin also teaches away from the combination because Pasin teaches that its panels may be different shapes to allow different configurations of structures to be made and using Pasin’s connection on a continuous fabric enclosure as the Petitioner proposes would defeat this purpose of Pasin. *Id.* at 25.

Patent Owner also argues that a skilled artisan would not use Vaiano as a starting point to design an improved baby crib because Vaiano does not comply with the ASTM standard for mesh openings and its top rails are materials that do not meet the ASTM standard. *Id.* at 26–27. Finally, Patent Owner argues that the ASTM standard does not disclose any particular types of connection mechanisms as being desirable for baby cribs. *Id.* at 28.

Patent Owner's arguments are not persuasive because Petitioner has set forth reasons for combining the teachings of Vaiano and Pasin to arrive at and render obvious the claimed subject matter of claims 1–5 and 8–29 and the reasons are supported by rational underpinning. Petitioner's contentions regarding teachings and suggestions of the prior art also are supported by a preponderance of evidence. Petitioner contends persuasively that Vaiano discloses a baby crib with a bed frame including four upright tubular posts 10 and continuous fabric (netting 32) connected to inner surfaces of tubular posts 10, as discussed above. *See* Pet. 20, 32–40. Vaiano refers to netting 32 as a single, continuous member including an upper edge that attaches at 34 to annular bumper 36, which is secured to upper portions of posts 10. Ex. 1021, 2:9–14, Fig. 1. Vaiano also refers to “[t]he upper edge of net 32” rather than to net sections. Netting 32 forms side panels when connected to upright tubes 10, as shown in Figure 1.

Vaiano thus discloses netting 32 secured to posts at inner portions that leave outer surfaces of tubular posts 10 exposed as Patent Owner recognizes. PO Resp. 30. Pasin teaches a keder-type connection that is used to secure fabric panels 12 to an inner surface of upright tubular frame members 14 to form an enclosed space while leaving outer surfaces of frame members 14 exposed. Ex. 1015, 2:14–25, Fig. 1. Patent Owner does not argue that the proposed combination and modification of Vaiano would be beyond the level of ordinary skill in the art or unsuccessful. *See* PO Resp. 20–38.

Like the '919 patent, Vaiano and Pasin are directed to children's play structures that are easy to assemble and disassemble. Ex. 1001, 1:17–18, 1:43–46; Ex. 1021, 1:5–8; Ex. 1015, 1:21–25. We agree with Petitioner that a skilled artisan would have used Pasin's connection with Vaiano's play pen.

Pasin's keder-type connection structure provides a means to connect fabric panels to upright tubular frame members 14 to form play structures for children and would have suggested itself to a skilled artisan desiring to connect Vaiano's netting 32 to upright tubular posts 10 of a bed frame. Both references are analogous art to the '919 patent and therefore are among the prior art that skilled artisans would have considered for an easy-to-assemble baby crib or play yard of the '919 patent. Petitioner and Mr. Campbell have explained how and why a skilled artisan would have combined the teachings of Vaiano and Pasin to render obvious the challenged claims. Pasin teaches how to form fabric panels 12 around positioning posts (rods 27, 29) and then slide the panels and rods into tubular frame members 14 to form structures for children to use for play and for more practical adult purposed. We agree that Vaiano alone and as modified by Pasin teaches a structure for a child to sleep and play as we have interpreted the term "baby crib."

We agree with Petitioner that a skilled artisan would have known how to modify Vaiano based on the teachings of Pasin to provide a baby crib with an enclosure member that forms side panels and connects to upright posts with a keder-type connection that leaves the outer surfaces of the posts exposed as taught by Vaiano and Pasin, and as claimed. Pasin teaches how to form fabric panels 12 around positioning posts 27, 29 as a sleeve in Figures 6A and 6B, so that the fabric can be connected to frame members 14 to form tent-like and house-like structures such as that shown in Figure 1 of Pasin. Ex. 1015, 2:18–20, Figs. 1, 6A, 6B. Pasin teaches that fabric panels 12 and positioning rods 22, 27, 29 can be inserted into opening 30 at one end of frame member 14 and slid into position. *See id.* at 3:21–22; Pet. 24.

We also agree with Petitioner that a skilled artisan would have known how to combine Pasin's teachings with Vaiano to connect Vaiano's netting 32 to upright tubular posts 10 either by forming a slot in a tube wall of each post 10 and sewing rod formations 22, 27, 29 into each corner of continuous netting 32 in sleeves as Pasin teaches, or simply attaching a fabric and post connection to the mesh of Vaiano. Pet. 29, 31. Either way, rod formations 22, 27, 29 are positioned in a sleeve (either netting 32 formed as a sleeve or a fabric panel sleeve) and inserted into an open top of Vaiano's posts 10 to secure netting 32 to upright posts and form an enclosure member. It is well settled that a person of ordinary skill is a person of ordinary creativity, not an automaton. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Patent Owner does not provide persuasive evidence or argument that a skilled artisan would have been discouraged or dissuaded from making the proposed modification. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (where prior art's disclosure did not criticize, discredit, or otherwise discourage the claimed solution, it did not teach away); *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (same). Even if a modification would have some disadvantages, it may have been obvious if the advantages offset or outweigh potential disadvantages. *See DomePatent L.P. v. Lee*, 799 F.3d 1372 (Fed. Cir. 2015) (prior art did not teach away, particularly where prior art provided roadmaps of how to offset disadvantages of the combination).

In this case, Pasin provides a roadmap for the modification that avoids potential disadvantages. Pasin teaches that its components can be used to make forts, tents, houses, and the like and "[e]ven larger scale application is possible for use by adults for more practical purposes." Ex. 1015, 1:52–53.

Pasin also teaches that “[t]he size of panels may vary from a few inches to a few feet depending on the ultimate use contemplated.” *Id.* at 2:23–25. Pasin further teaches that panels 12 may comprise thin vinyl sheets, canvas, various fabrics, or synthetic or natural materials in a variety of shapes like square, rectangular, and triangular, as shown in Figure 1, and other shapes can be accommodated easily, as well. *Id.* at 2:58–63.

As a result, “the size of the structure is totally variable” as suggested by the phantom lines in Figure 1. *Id.* at 2:20–21. In addition, “entry can be had by simply leaving an entire side open, or by excluding one or more of the panels 12.” *Id.* at 2:21–23.

Pasin teaches how to form various types of structures for child’s play or more practical adult purposes. Pasin teaches that the structures may be enclosed completely or left open on one or more sides, as desired. These teachings complement those of Vaiano to connect Vaiano’s netting 32 to its posts 10 with Pasin’s keder connection to provide a similar enclosure for a child to play or sleep as claimed. Vaiano’s posts 10 are structural members made of aluminum. Ex. 1021, 1:53–55. Adding lengthwise slits to Vaiano’s posts 10, as Pasin teaches, would allow rod formations 27, 29 and netting 32 to be inserted into open tops of posts 10 to mount netting 32 to posts 10.

It also is well settled that the precise manner in which features of one reference are incorporated physically into another reference is not the test for obviousness. *See, e.g., In re Etter*, 756 F.2d 852, 859–60 (Fed. Cir. 1985) (en banc) (the criterion for obviousness is not whether the references can be combined physically but whether the inventions are rendered obvious by the teachings of the prior art as a whole). Even so, Pasin teaches how to modify Vaiano in several respects.

Figure 6A of Pasin shows how fabric panel 12 is sewn around rod 27 to form a pocket that encloses rod 27. Side edges of panel 12 are sewn to form pockets for rods 27. Ex. 1015, 3:3–8. Figure 6B shows fabric 12 looped completely around rod 29. A skilled artisan aware of these teachings would have known to form similar hems and pockets on Vaiano’s netting 32 or add fabric to corners of netting 32 to form hems and sleeves for the rods.

Figure 1 of Vaiano appears to be a schematic illustration, and Vaiano does not teach netting 32 of any particular dimension or size. Ex. 1021, 2:9–14. In such circumstance, it is well settled that “patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.” *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000) (citations omitted). Even so, Pasin teaches a variety of materials for fabric enclosures so a skilled artisan would have known how to modify Vaiano’s netting 32 to meet *unclaimed* safety requirements, if desired.

Mr. Campbell testifies to the different fabric material types that a skilled artisan would have considered in designing a baby crib or play yard that complies with current industry standards and these include solid wall fabrics disclosed in Pasin and Stoeckler, mesh types of fabrics disclosed in Vaiano, Rexroad (Ex. 1026), and Stoeckler (Ex. 1017), and combination of fabrics that combine solid wall and mesh fabrics as disclosed in Rexroad and Bidwell (Ex. 1016). Ex. 1006 ¶ 39. Mr. Campbell testifies to other design criteria that skilled artisans would have considered such as fabric tension, frame structures, and connection mechanisms to secure fabric members to the frame members. *Id.* Based on this evidence, Mr. Campbell testifies that a solid or solid and mesh material fabric would have been chosen. *Id.* ¶ 40.

Mr. Campbell also testifies that a skilled artisan would have been motivated to maintain Vaiano's continuous, contiguous panel construction and use Pasin's teachings of a keder connection to provide a connection mechanism for Vaiano's netting in order to meet design considerations that are common for baby cribs and play yards while satisfying ASTM F406-02 standards. *Id.* ¶¶ 74–85. Mr. Campbell also testifies that there are a finite number of ways to attach fabric panels to upright tubes and a skilled artisan would have taken the fabric and post connection of Pasin and attached it to the mesh of Vaiano to provide an ideal mesh and solid fabric enclosure member and side panels with an interior mounted connection mechanism. *Id.* ¶ 86. This testimony is persuasive in that it finds support in Vaiano's use of an interior mounting for netting 32 and Pasin's teaching to use interior mounts to secure fabric panels 12 to frame members 14. Both references use interior mounted fabric enclosure members on collapsible frames to create a children's play yard or area where children can play with exposed tubes.

Mr. Drobinski testifies that a skilled artisan would not have looked to Pasin to design or improve a baby crib because Pasin is not a crib or bed with high sides, does not show a keder connection with two sides exiting from the same channel, and is incapable of being used for structure that safely confines a child or infant. Ex. 2010 ¶¶ 40–46. Mr. Drobinski also testifies that ASTM F406-02 requires fabric to resist a pull force of 30 pounds and Pasin's attachment structure would fail this test because it is resilient and adapted to be forced through slots 28 so that a child can easily pull the fabric from a frame member. *Id.* ¶¶ 47–52. Mr. Drobinski also testifies that using Pasin's connection on a contiguous fabric of Vaiano to make a single configuration is at odds with Pasin's purpose. *Id.* ¶ 53.

We are not persuaded by Mr. Drobinski's testimony for several reasons. First, Vaiano teaches a baby crib, as claimed, and is relied upon by Petitioner to teach a baby crib. Second, Pasin teaches a structure that can be used by a child for play and thus meets our construction of baby crib. Pasin also teaches the structure of the claimed baby crib, as set forth above and in the Petition. The other features relied upon by Mr. Drobinski – high sides, a floor, two sides exiting from the same channel – are not claimed features.

Pasin teaches that its fabric panels 12 and frame members 14 can be formed into any type of structure that is enclosed on all sides or open on a side by excluding a panel. Ex. 1015, 2:18–25, Fig. 1. Thus, Pasin teaches a structure that can be fully or partially enclosed and can be formed into a child's play yard or a "baby crib," as we have construed that term.

Claim 1 is the only independent claim that recites a slit or channel on an upright tube. Claims 8, 15, and 20 do not recite or require this feature as part of their baby cribs. Claim 1 recites that the fabric member, which we interpret to mean one member or more than one member, extends through each slit. Figures 6A and 6B of Pasin teach this feature because fabric 12 is folded over rod 27, 29 so two pieces of fabric would extend through each slot 28 when rods are inserted into holes 30. Petitioner proposes to extend those fabric panels further as part of Vaiano's continuous enclosure member or to secure this rod and pocket configuration to each corner of Vaiano's continuous netting so panels extend through each slot. See Pet. 24, 29, 31.

We also are not persuaded by Mr. Drobinski's testimony concerning the fabric pull test of ASTM F406-02 because this testimony amounts to an individual attack on the references where Petitioner relies on the combined teachings of Vaiano and Pasin to render obvious the challenged claims. In

particular, Pasin teaches that its structures are appropriate for adult uses and on larger scales. Ex. 1015, 1:52–53. In addition, Petitioner proposes to add Pasin’s rods 27, 29, which may be extruded polyvinyl material, to Vaiano’s continuous netting 32 and add slits to Vaiano’s upright posts 12, which are a structural aluminum material. Pet. 24–31. Thus, Petitioner proposes to modify Vaiano’s play pen, which provides adequate strength when in use (Ex. 1021, 1:14–16), with Pasin’s keder-type connection as a known way to attach Vaiano’s netting 32 to the interior of posts 10. This connection would have been secure, and Mr. Campbell testifies that a skilled artisan would have known how to make this connection secure. *See* Ex. 1006 ¶¶ 85–86. Pasin’s teaching of larger panel sizes and different materials (Ex. 1015, 2:23–25, 58–61) is suited to the use of Pasin’s keder connection with Vaiano’s continuous enclosure member 32.

Mr. Drobinski’s testimony about the alleged deficiencies of Vaiano’s netting and top rail is speculative and thus unpersuasive. Mr. Drobinski testifies that the “wide-open netting” and top rails would not satisfy ASTM standards. Ex. 2010 ¶¶ 54–63. As discussed above, there is no disclosure in Vaiano of netting sizes or dimensions to support a comparison with ASTM or any other standards or to support Mr. Drobinski’s opinion that Vaiano’s netting does not meet various ASTM standards regarding the size of the openings of the mesh. Moreover, such features are unclaimed.

Having considered all of the evidence and contentions of the parties as set forth above and in the papers filed in this proceeding, we are persuaded that Vaiano and Pasin teach or suggest each element of claims 1–5 and 8–28 and that a skilled artisan would have combined their teachings in the manner asserted by Petitioner.

2. Obviousness of Claims 1–5 and 8–29 over Vaiano, Pasin, and Stoeckler

a. Overview of Stoeckler (Ex. 1017)

Stoeckler discloses collapsible tent structures from side covers 7 with keder-profiles 8, 9 that slide into grooves 3, 4 of pole sections 1. Ex. 1017, 1:19–55. Figures 3 and 5, reproduced below, show this arrangement.

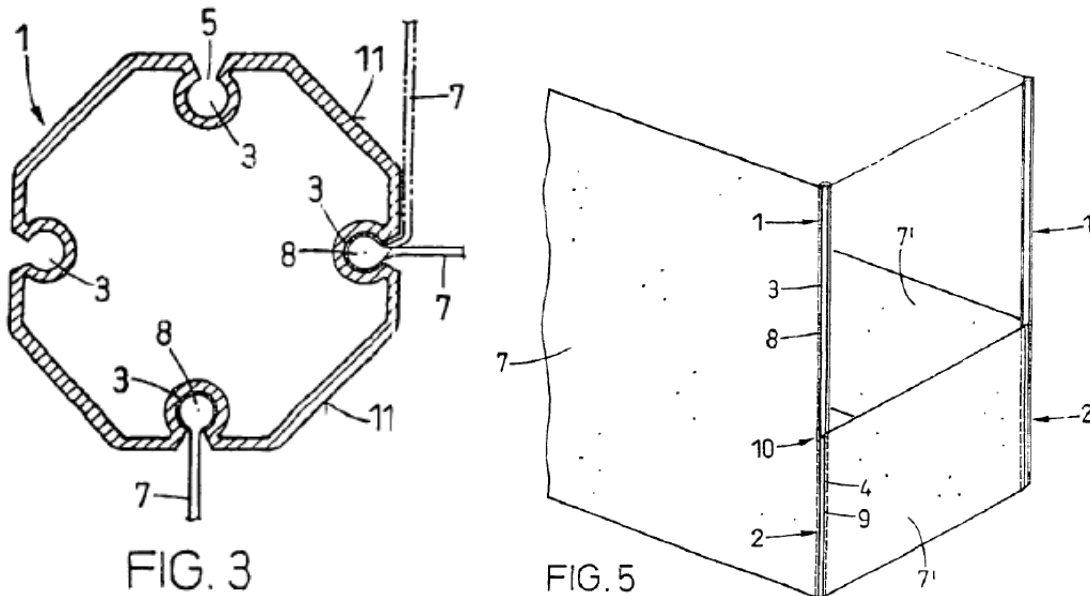


Figure 5 shows edge posts 1 with inserted side walls 7. Figure 3 is a section through an upper portion of the post and wall. *Id.* at 2:43–47.

As shown in Figure 3, side covers 7 can extend radially from grooves 3, i.e., the solid line showings of side cover 7 at the 3 o'clock and 6 o'clock positions of post 1. If side covers 7 extend radially from adjacent grooves 3, then one quarter of the pole section 1 is positioned inside the interior of the tent, i.e., only a single flat side surface 11 is positioned inside of the tent, as shown in Figure 3. *See id.* at 3:52–55, Fig. 3. Stoeckler also discloses that side cover 7 can be wound around pole section 1 so that three quarters of the circumference of post 1 can be inside the tent, i.e., three flat side surfaces 11 are positioned inside of the tent. *Id.* at 3:52–58.

Thus, Stoeckler discloses a keder connection in which side cover 7 made of fabric includes a keder profile 8, 9 along each edge that can slide into grooves formed by ribs 3, 4 of pole section 1. *Id.* at 1:22–55. Stoeckler also discloses that side cover 7 can extend between pole sections 1 either completely out of contact with the outer surface of pole section 1 or mostly out of contact with the outer surface of pole section 1, as illustrated by hard line and dashed line renditions of side cover 7 in Figure 3. *Id.* at 3:52–65.

Stoeckler teaches that the latter of these two design variations has the advantage of allowing two grooves 3 to be positioned inside the tent and used for insertion of a plate, a shelf, or other item to divide the space inside the tent into several compartments or rooms for clients. *Id.* at 3:58–65.

b. Analysis

Petitioner asserts that claims 1–5 and 8–29 are obvious in view of Vaiano, Pasin, and Stoeckler. Pet. 20–40. Petitioner asserts that Vaiano and Pasin teach or suggest every feature of claims 1–5 and 8–29, as discussed in the previous ground, including fabric panels that extend from upright frame members 14 without contacting the outer surface of the upright tubes. See *id.* at 32–41. Petitioner asserts that Stoeckler discloses a tent with fabric side covers that are suspended between two vertical posts with minimal contact between the fabric member and outer surface of the tubes. *Id.* at 21, 25–26. We have reviewed, and are persuaded by, Petitioner’s contentions regarding the combination of Vaiano, Pasin, and Stoeckler.

Patent Owner argues that Stoeckler is superfluous in view of our interpretation of “substantially out of contact” to include no contact or a limited amount of contact. PO Resp. 38–39. Patent Owner argues that our interpretation is correct and should be maintained. *Id.* at 19.

Whereas Pasin discloses an arrangement in which fabric panels 12 are “substantially out of contact” with frame members 14 because there is no contact between fabric panels 12 and the outer surface of frame members 14, Vaiano, Pasin, and Stoeckler teaches “substantially out of contact” with no contact *or* some slight negligible contact in Figure 3 of Stoeckler.

Pasin shows fabric panels 2 extending between frame members 14 in Figure 1 with zero contact when considered in light of Figures 4, 4A, 6, 6A, 6B, and 7 of Pasin and the accompanying description in the specification such as sliding rods 22, 27, 29 through slots 28 and into receptacles 30 or just directly into receptacles such that fabric panels 12 would not contact any of the outer surface portion of frame members. Ex. 1015, 3:9–27.

Stoeckler discloses fabric side covers 7 with similar keder profiles 8, 9) that slides into grooves 3, 4 of pole sections 1. Ex. 1017, 1:47–56, Figs. 1, 3–5; Pet. 21, 34. Stoeckler provides evidence of the manner in which keder connections connect fabric panels to frame members and also teaches that structures with keder connections like Figure 1 of Pasin and Figure 5 of Stoeckler generally involve no contact between the fabric panel and outer surface of the frame member.

Stoeckler also teaches that keder connections can involve some slight contact between a fabric panel and outer surface of an upright post or frame member as shown in Figure 3 of Stoeckler. Stoeckler teaches that this slight contact allows additional slots to be positioned inside an enclosure member to allow insertion of a plate, shelf, or other useful item inside the enclosure. Ex. 1017, 3:58–65. This express teaching provides motivation to combine teachings of Pasin and Stoeckler to provide some contact in Vaiano and additional slots inside the baby crib to support items inside the enclosure.

The motivation to combine teachings of references may come from common knowledge, *the prior art as a whole*, or the nature of the problem itself. *See Alcon Research*, 687 F.3d at 1368–69 (citing *DyStar Textilfarben GmbH*, 464 F.3d at 1361). Stoeckler provides evidence of the understanding of skilled artisans near the filing date of the '919 patent and is evidence of the common knowledge that a skilled artisan would bring in understanding Pasin and other prior art identified as rendering a claim obvious. *See, e.g., Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015); *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362–63 (Fed. Cir. 2013).

Patent Owner argues that there is no motivation to combine Vaiano and Stoeckler except hindsight. *Id.* at 38. We agree with Petitioner that a skilled artisan would have been motivated to apply teachings of Stoeckler Figure 3 to Vaiano and Pasin to allow some negligible contact between the fabric enclosure members and outer surface of the upright tubes in Vaiano to provide uniform support to the fabric and position slits at different rotational locations, as taught by Stoeckler. *Id.* at 26. Adding this feature to Vaiano would have been a simple substitution of connection mechanisms as taught by Pasin and Stoeckler for similar designs. *Id.* at 25–30; *see* Ex. 1006 ¶ 91.

We agree with Petitioner that Pasin teaches fabric panels 12 extending between frame members 14 with no contact with the outer surfaces of frame members 14. Figure 1 of Pasin shows fabric panels 2 extending between frame members 14 and would be understood to disclose zero contact when considered in light of Figures 4, 4A, 6, 6A, 6B, and 7 and the specification's disclosure that rods 22, 27, 29 slide through slots 28 and into receptacles 30 or just directly into receptacles such that fabric panels 12 would not contact any of the outer surface portion of frame members. *See* Ex. 1015, 3:9–27.

We also agree that Vaiano teaches a continuous enclosure member 32 that extends between upright tubes 10 “substantially out of contact” with the outer surfaces of tubes 10 in view of Vaiano’s disclosure that netting 32 is secured to posts 10 and peripheral edge of floor 9 and Figure 1’s illustration of netting 32 secured to inside surfaces of tubes 10. Ex. 1021, 2:9–11.

Like Pasin, Stoeckler discloses fabric covers 7 with keder profiles 8, 9 that slides into grooves 3, 4 of pole sections 1 as illustrated in Figures 1, 3, and 5. Pet. 21. These teachings provide evidence of the understanding of skilled artisans that keder connections are used to connect fabric panels to frame members, as shown in Figure 1 of Pasin and Figure 5 of Stoeckler, with no contact between the fabric panel and outer surface of the frame member, i.e., substantially out of contact, as claimed. *See id.* at 34–39.

We also agree with Petitioner that Vaiano and Pasin teach or suggest each limitation of claims 1–5 and 8–29 as set forth in the Petition and claim charts. *See* Pet. 20–41; Ex. 1011. Mr. Campbell also provides persuasive testimony that Vaiano and Pasin teach these features and that their teachings are combinable for reasons supported by rational underpinnings discussed above. Ex. 1006 ¶¶ 70–88. We also agree with Petitioner and Mr. Campbell that Stoeckler’s teachings are combinable with Vaiano and Pasin to teach “substantially out of contact” can be either no contact or some slight contact.

Having considered all of the evidence and contentions of the parties as set forth above and in the papers filed in this proceeding, we are persuaded that Vaiano, Pasin, and Stoeckler teach each element of claims 1–5 and 8–29 and that a skilled artisan would have combined their teachings in the manner asserted by Petitioner.

C. Secondary Considerations

Patent Owner also argues that evidence of commercial success and copying provides compelling indicia of non-obviousness. PO. Resp. 39–40. We consider this evidence of secondary considerations and the issue of obviousness anew (*see, e.g., In re Eli Lilly & Co.*, 902 F.2d 943, 945 (Fed. Cir. 1990)). We are mindful that objective evidence of non-obviousness in any case may be entitled to more or less weight depending on its nature and its relationship with the merits of the invention (*Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538–39 (Fed. Cir. 1983)). We consider the issue of obviousness anew carefully evaluating and weighing all of the evidence and contentions of the parties regarding the obviousness of claims 1–5 and 8–29 under both grounds with all of the objective evidence of non-obviousness and the contentions presented by Patent Owner.

1. Evidence of Commercial Success

Patent Owner argues that its Wave Series products are coextensive with and practice the '919 patent. PO Resp. 42. Patent Owner argues that the Wave Series of play yards have upright tubes with slits, fabric members with flexible positioning posts provided thereon in sleeves in edge portions of the fabric (or enclosure) member so that the positioning posts are inserted into receiving holes of the upright tubes and lodge therein. *Id.* at 42–43. Patent Owner also argues that the fabric members extend through the slits in the upright tubes to define a surrounding wall around the bed frame structure while staying substantially out of contact with the outer walls. *Id.* at 43–44.

Patent Owner argues that the relevant market for play yards is defined by ASTM F406-02 as non-full-size baby cribs/play yards. *Id.* at 44. Patent Owner asserts that the Wave Series accounted for a significant percentage of

Wonderland's sales to Graco during the first years of its sales from 2005–2008. *Id.* at 44–45. Patent Owner argues that the Wave Series captured a share of the overall market for portable play yards in 2005, which was the first full year that it was available in the United States. *Id.* Patent Owner asserts that the Wave Series captured a certain percentage of the overall market based on sales of the Wave Series by Graco. *Id.* Patent Owner further contends that the Wave Series has a much higher gross profit than non-patented products sold by Patent Owner due to its innovative design. *Id.* at 45.

Patent Owner cites testimony of Mr. Drobinski that the success of the Wave Series shows nonobviousness. *Id.* at 45–46. Mr. Drobinski testifies that this success, high sales volume, and market share are due to a very different design of the Wave Series including the exposed tubes of the '919 patent as compared to anything else on the market. Ex. 2010 ¶ 114. Patent Owner and Mr. Drobinski assert that the claimed exposed tubes provide a striking visual impact. PO Resp. 47; see Ex. 2010 ¶¶ 113–117.

Patent Owner also cites testimony of Ms. Strzelecki that the exposed tube design is a significant feature that drives sales of play yards on higher margin product lines because it provides a look of strength and substantiality like a piece of furniture, rather than something that is more temporary. PO Resp. 46–47; Ex. 2014 ¶¶ 1–3, 7–9.

Patent Owner argues that widespread copying by approximately 59 companies that sold products that were copies of the '919 patent indicates a nexus between this feature and the commercial success. *Id.* at 48. Patent Owner argues that many features of these competitor products differ but the exposed tube and its distinctive look are retained. *Id.* at 47–48.

Patent Owner also contends that the number of post-grant proceedings filed against the '919 patent are indicative of a commercially successful product. *Id.* at 48.

Petitioner asserts that Patent Owner has failed to establish a nexus between its commercial Wave Series product and the '919 patent claims because Patent Owner fails to compare the Wave Series to '919 patent claims, e.g., in a claim chart or claim-by-claim analysis. Pet. Reply 17–18.

Patent Owner cites testimony of Ms. Wang, Executive Vice President of Wonderland, and Mr. Drobinski, former Vice President/General Manager and former Vice President Product Development, Graco Children's Products that the Wave Series play yards include the following features: (1) upright support tubes of a bed frame; (2) a fabric or enclosure members with flexible positioning posts provided thereon in multiple sleeves in edge portions of the fabric member; (3) receiving holes in upright tubes into which positioning posts are lodged; (4) slits extending along the length of the outer wall of the tubes; (5) fabric members extending through the slits to define a surrounding wall around the bed frame structure substantially out of contact with the outer walls; and (6) curved tubes. See PO Resp. 42–45 (citing Ex. 2010; Ex. 2012); Ex. 2010 ¶¶ 98, 99, 102–112; Ex. 2012 ¶¶ 2–10, 11–15. Ms. Wang and Mr. Drobinski testify that Wave Series play yards practice the '919 patent and embody the claimed features and are co-extensive with them. See Ex. 2010 ¶¶ 98, 100–111; Ex. 2012 ¶¶ 2–18.

Their declarations include photographs that depict a typical Wave Series curved support tube and a Wave Series play yard. These photographs are reproduced below.



The photograph on the left above shows a curved upright support tube of a Wave Series play yard. The photograph on the right shows an exemplary Wave Series play yard product. Ex. 2012 ¶¶ 11, 16; Ex. 2010 ¶ 100.

We are able to ascertain that this Wave Series play yards embodies the features claimed in the '919 patent. Ms. Wang's and Mr. Drobinski's testimony provides evidence that the Wave Series play yards include a bed frame structure that includes a plurality of upright tubes with an inner and outer wall and a slit extending along the length of the outer tube wall, a fabric member mounted on the bed frame structure to provide a surrounding wall and enclosed space, and positioning posts inserted in sleeves of the fabric member and insertable into receiving holes in the upright tubes so the fabric member extends outwardly through each slit in each upright tube substantially out of contact with the outwardly facing surface of the outer tube wall, as recited in claims 1, 8, 15, and 20. We note that these features were known in the prior art, as discussed above, and the exposed tubes were not claimed until the '919 patent reissued in January 2013.

The more problematic issue is whether Patent Owner has provided sufficient evidence of the commercial success of its Wave Series product. Patent Owner argues that the relevant market for play yards is defined in ASTM F406-02 as non-full-size baby cribs/play yards. PO Resp. 44–45. Patent Owner represents that 2005 was the first full year for sales of the Wave Series and in that year Patent Owner sold a large number of Wave Series units to Graco and the sales were a particular percentage of Patent Owner’s sales to Graco. *Id.* Patent Owner represents that this pace was maintained for 2006 and 2007 and sales of the Wave Series were “very significant” for the first four years from 2005–2008. *Id.* Patent Owner calculates an overall market share held by the Wave Series and represents that the Wave Series held this percentage in the years 2006–2008. *Id.*

Patent Owner points to Exhibit 2004 as evidence that the patented Wave Series had a much higher gross profit margin than the non-patented products sold by Patent Owner and this higher margin was made possible by its innovative design. *Id.* at 45.

Patent Owner cites testimony of Mr. Drobinski that the Wave Series enjoyed commercial success, high sales volume, and market share “due to the fact that: 1) the Wave Series products were very different from anything else in the marketplace; and 2) no competing product at the time the Wave was introduced had exposed tubes.” *Id.* at 45–46.

Patent Owner cites testimony of Mr. Drobinski that the Wave Series enjoyed commercial success, high sales volume, and market share “due to the fact that: 1) the Wave Series products were very different from anything else in the marketplace; and 2) no competing product at the time the Wave was introduced had exposed tubes.” *Id.* at 46–47.

Patent Owner has provided some evidence that the Wave Series play yard enjoyed some success upon its introduction in 2005 and continued to enjoy similar levels of success from 2005–2008. However, this evidence is not particularly strong evidence of commercial success.

Patent Owner relies on Ms. Wang, who is Executive Vice President of Engineering for Patent Owner, for Wave Series sales figures. PO Resp. 44–45 (citing Ex. 2012 ¶¶ 20–21). Ms. Wang testifies to the unit sales of Wave Series and conventional (non-exposed tube) play yards in 2005. Ex. 2012 ¶ 20. Ms. Wang estimates that “the Wave Series and its derivative product lines” were responsible for a particular percent of Patent Owner’s sales in 2005 and this percentage was maintained for 2006 and 2007. *Id.* ¶ 21. Ms. Wang’s calculations are not persuasive because she cites no basis for her knowledge of unit sales, and her numbers differ from the 2005 Wave Series unit sales listed in Exhibit 2004, which Patent Owner cites for support of unit sales. PO Resp. 44–45. Exhibit 2004 does not provide sales figures for conventional play yards so we cannot verify the total number of play yards that were sold in 2005 or the percentage of play yards represented by Wave Series. Exhibit 2004 lists other products including Wave Series, Twin Wave Series, Wave II Series, Mini Wave Series, Nuzzle Nest, Cuddle Cove Elite, Day2Night Sleep System, Smart Stations, and Nearby Napper that were sold to Graco but does not provide unit sales information. Ex. 2004, 1. Patent Owner does not identify which products are play yards within the relevant market of the ’919 patent. Many of these products appear to have been introduced after 2005. *Id.* Therefore, it is unclear how Ms. Wang, who is Executive Vice President for Engineering, arrived at her sales figures for Wave Series play yards in 2005 or any other year thereafter.

Even if Ms. Wang's testimony regarding the unit sales of Wave Series and non-exposed tube play yards of Patent Owner is accurate, those numbers represent Patent Owner's sales to Graco. Ex. 1012 ¶¶ 20–21. Ms. Wang's calculation of percentage of sales represented by sales of the Wave Series to Graco are not evidence of the market share held by the Wave Series in 2005 or any other year in the relevant market for portable play yards. *Id.*

Patent Owner estimates the market share held by the Wave Series in 2005–2007 based on Ms. Strzelecki's testimony about the market share held by Graco in the portable play yard market from 2003–2009 and Ms. Wang's testimony about the percentage of Patent Owner's sales to Graco held by the Wave Series. PO Resp. 45; Ex. 2014 ¶ 6. Ms. Strzelecki testifies that Patent Owner makes all of the play yards that Graco sells (Ex. 2014 ¶ 3) although Patent Owner does not rely on this assertion in its estimate.

The unit sales figures for the Wave Series in Exhibit 2004 indicate that unit sales for the Wave Series remained relatively flat from 2005–2007 and then decreased thereafter, particularly in 2009 when unit sales dropped below half of the initial level sold in 2005. We have no evidence of how many Wave Series play yards were sold by Graco in any year. Therefore, the estimated market share held by Graco for all portable play yards is not indicative of the market share held by the Wave Series play yard because Graco also sells many play yards that do not embody the '919 patent. *See* Ex. 2014 ¶¶ 5–6. Although Mr. Drobinski testifies that the relevant market for play yards such as the Wave Series is defined in ASTM F406-02 (Ex. 2010 ¶ 98), we have no evidence that Ms. Wang or Ms. Strzelecki rely on this definition in their testimony regarding sales of play yards and Graco's market share for portable play yards.

In addition, Ms. Wang's estimate of unit sales of the Wave Series to Graco includes "derivative product lines" but she does not explain what these products are or whether they embody the '919 patent. Ex. 2012 ¶ 21. Patent Owner cites unit sales of Wave Series play yards as evidence of sales that embody the '919 patent but does not mention derivative products. PO Resp. 45; Ex. 2010 ¶ 98; Ex. 2012 ¶ 2; Ex. 2004, 1. Ms. Strzelecki testifies that the first play yard sold by Graco with exposed legs was a "Pack 'n Play Silhouette platform." Ex. 2014 ¶ 4. There is no evidence that the Pack 'n Play Silhouette *platform* is the same play yard as the Wave Series sold by Patent Owner to Graco or whether derivative sales are part of that product.

Ms. Strzelecki also testifies that Graco has held a significant share of the portable play yard market since 1987 when it introduced its first portable play yard. Ex. 2014 ¶ 6. These play yards do not embody the '919 patent, and Ms. Strzelecki does not explain how Graco's share of the portable play yard market changed when Graco began to sell exposed tube play yards like the Pack 'n Play Silhouette in 2005 or what percent of Graco's market share is held by exposed tube play yards that embody the '919 patent. She testifies only that Graco's share of the portable play yard market in the United States is estimated at a certain percent range from 2003 to 2009. *Id.* ¶¶ 4, 5–7.

Ms. Strzelecki testifies that Graco continues to sell play yards with exposed legs like the Nuzzle Nets Pack 'n Play® Portable Playard, the Day 2 Night Pack 'n Play® Portable Playard, the Cuddle Cover Elite Pack 'n Play® Portable Playard, the Twins Pack 'n Play® Portable Playard, and Silhouette Pack 'n Play® Portable Playard, but she does not indicate Graco's market share for these products. Ex. 2014 ¶ 4. These products appear in Exhibit 2004, but Patent Owner does not indicate if they embody the '919 patent.

Ms. Strzelecki testifies that the “exposed tube” design was significant and contributed substantially to driving sales of play yards, particularly high margin products.” *Id.* ¶ 7. She also testifies that the rapid acceptance in the market of the exposed tube design “was primarily due to the look of the exposed tube design.” *Id.* ¶ 9. However, she does not identify which of the exposed tube play yards are covered by the ’919 patent. Thus, her testimony lacks a nexus. She also does not explain how Graco’s market share for play yards changed with the introduction of exposed tube play yards or whether exposed tube play yards displaced other products different from the patented exposed tube design. Nor does she provide any indication whether the exposed tube design was a market leader in portable play yards or just one of a number of popular play yards designs. Ms. Strzelecki testifies that Graco calculates its market share from information obtained from retailers and its own marketing research. *Id.* ¶ 5. However, none of this data is provided with her declaration for any play yard product.

Because Graco has enjoyed “a significant share of the portable play yard market in the United States” since 1987 when it first introduced the Pack ‘n Play® Portable Playard, which does *not* have exposed tubes, this pre-existing market share may have contributed to the success of the Wave Series exposed tube play yards. Graco’s long-standing market share and use of its well-established distribution and retail channels to sell these products may have contributed to sales of exposed tube play yards whether they were covered by the ’919 patent or not. Any such effects of a pre-existing market share on increased sales of the Wave Series would not indicate commercial success. *See Geo. M. Martin Co. v. Alliance Mach. Sys. Int’l LLC*, 618 F.3d 1294, 1304 (Fed. Cir. 2010).

Because Ms. Strzelecki estimates Graco's market share for portable play yards for the entire period between 2003 and 2009, we cannot ascertain what change, if any, resulted from Graco's sales of Wave Series exposed tube play yards during that time frame. We have no evidence of the effect of sales of Patent Owner's exposed tube play yards on Graco's market share as compared to Graco's sales of play yards before or after the Wave Series. Ms. Strzelecki does not identify how Graco's share of the portable play yard market increased from 2003–2009 due to Wave Series sales. Ex. 2014 ¶ 6.

Even if we accept Patent Owner's estimate of the share of the portable play yard market held by its Wave Series play yards (e.g., assuming these play yards were sold as Pack 'n Play® Silhouette play yard as Ms. Strzelecki testifies (Ex. 2014 ¶ 4)), that share is not a significant market share even during the three-year period in which Patent Owner sold the Wave Series play yards to Graco in amounts sufficient to support its calculations of that market share. Ex. 2004. Sales of the Wave Series dropped in 2008 and fell quickly thereafter. Therefore, at best, Patent Owner enjoyed a relatively modest market share for three-to-four years. *See Alcon Research, Ltd. v. Apotex Inc.*, 687 F.3d 1362, 1371 (Fed. Cir. 2012) (commercial success was found where anti-allergy eye drop Patanol® achieved nearly 70% market share within two years of its launch and accounted for nearly \$2 billion in sales within ten years and garnered wide-spread praise in the industry); *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986) (commercial success found where one diagnostic kit became the market leader with roughly 25% of the market at the expense of other companies, another kit ranked second to a product of Dupont, and other kits embodying the claimed invention obtained similar market positions).

The testimony of Mr. Drobinski and Ms. Strzelecki that exposed tube designs of the Wave Series or Pack ‘n Play Silhouette platform drove sales of Graco’s play yards (Ex. 2010 ¶ 114; Ex. 2014 ¶ 7) is unsupported by consumer surveys or other evidence of what motivates consumers to buy play yards, which include other features as shown in the photograph below.



This photograph shows a Graco Pack ‘n Play playyard that embodies features of the ’919 patent. Ex. 2012 ¶ 16. The exposed tubes are one part of the play yard, which includes many other features such as wheels on one end, circular holders for items on the other top end, a small bassinet table, and a cover attached at the top of the play yard. Some of these features may contribute to consumer demand, or they would not be included at additional cost to Graco. Ms. Wang testifies that some fabrics and color patterns sell better than others. Ex. 1077, 87:2–24. In any case, exposed tubes play yards have been known for decades and are not novel features, as Mr. Campbell testifies. Ex. 1006 ¶¶ 26–37; Pet. Reply 21.

Mr. Drobinski alludes to such other features in his declaration that:

In my opinion the success and high sales volume and market share of the Wave Series is due to the facts that: 1) the Wave Series products were *very different from anything else in the marketplace; and* 2) that no competing product at the time the Wave was introduced *had exposed tubes*.

Ex. 2010 ¶ 114 (emphasis added). His testimony that the Wave Series was “very different from anything else in the marketplace” *and* also had exposed tubes (*id.*) indicates exposed tubes were one of several different features.

Another factor undercutting Patent Owner’s showing of commercial success is the prior art’s teaching of exposed tubes on similar structures and baby cribs. Pasin discloses an exposed tube design for children’s structures such as tents, houses, and forts. Ex. 1015, Fig. 1. Stoeckler also discloses exposed tube designs for tent-like structures. Ex. 1017, Fig. 5. Stoeckler further teaches that the amount of exposed tube can be varied as desired. *Id.* at 3:51–65. Miller (Ex. 1020) and Vaiano (Ex. 1021) teach exposed tube designs for baby cribs / play yards, as shown in the figures below. Pet. 20.

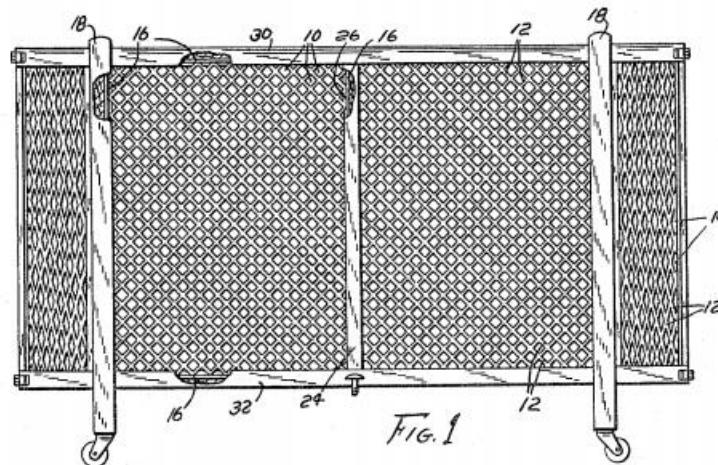


Figure 1 of Miller shows a play yard with exposed corner posts 18.

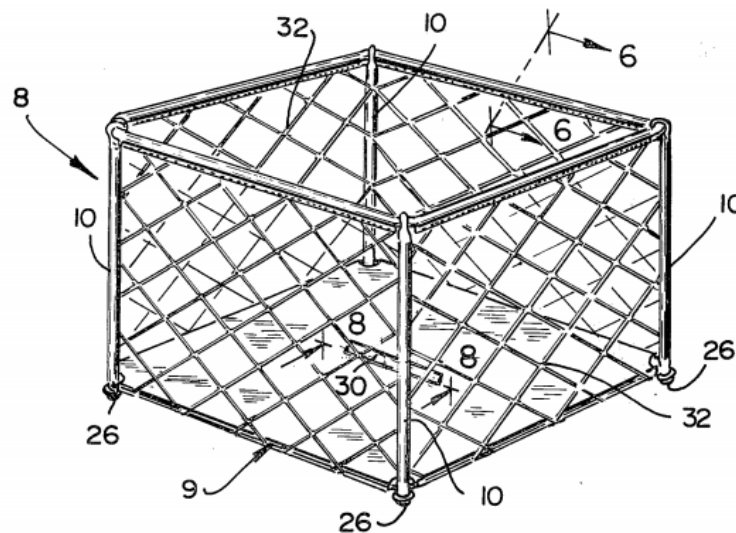


Figure 1 of Vaiano illustrates a portable play pen with exposed corner posts 10. Ex. 1021; *see also* Ex. 2001, Fig. 1 (baby crib with exposed corner tubes 6). These exposed corner tubes are not curved, as recited in claims 28 and 29 of the '919 patent. However, curved tubes appear to be viewed as an aesthetically-pleasing feature (US D537,277 S), and they are taught in Pasin, in any case. Ex. 1015, 2:30–32 (frame members 14 may be curved).

In sum, even if Patent Owner's estimated market share is accurate, the market share and unit sales figures are not shown to be significant enough to evidence any significant commercial success. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012). We have no evidence of market shares held by competitors or other play yard products or the change in those market shares over time in relation to the patented play yards, even during the relative short period of 2005–2008. Evidence of initial sales is diluted by the relatively short duration, Graco's pre-existing dominant position in the play yard market and retail channels, and the prior art's use of exposed tubes and keder connections. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1313 (Fed. Cir. 2006) (any success resulted from known features).

In view of the foregoing, alleged higher profit margins for the Wave Series play yards are unpersuasive. PO Resp. 45. Exhibit 2004 discloses higher profit margins for the Wave Series than the Pack ‘n Play On The Go™ Playard, which allegedly is not an exposed tube play yard. Ex. 2004, 2. This evidence is not persuasive for several reasons. First, the data is provided for the years 2011–2014 when page 1 of Exhibit 2004 indicates that sales of Wave Series play yards was insignificant, as compared to initial sales levels in 2005–2008. We are not convinced that this profit margin data for 2011–2014 is indicative of commercial success in 2005–2009 or later.

Second, we have no profit margin data for other play yards in Exhibit 2004. Ms. Strzelecki testifies that these other play yards (e.g., Nuzzle Nest, Cuddle Cove Elite, Day2Night) were exposed tube play yards. Ex. 2014 ¶ 4.

The profit margins of other play yards are relevant to determine the significance of profit margins disclosed for the Wave Series. Ms. Strzelecki testifies that the exposed tube design is used most in “higher margin product lines” (Ex. 2014 ¶ 7) indicating that profit margins for exposed tubes are not the same across all product lines. In addition, higher margins may be due at least in part to the other, more expensive features that are included in higher margin product lines. The photograph of the Wave Series produced above illustrates a play yard with many other features besides exposed tubes. See Ex. 2012 ¶ 16; *see also Richardson-Vicks Inc. v. The Upjohn Co.*, 122 F.3d 1476, 1482 (Fed. Cir. 1997) (annual sales of \$48 million and gross profit margins of 67%–79% in three years of product introduction sales growth in excess of 30% per year compared to just 10% per year in the overall OTC market was not evidence of commercial success given the known advantages of ibuprofen).

2. Evidence of Copying

Patent Owner also argues that there was rampant copying of all claimed features of the '919 patent and the parties engaged in the copying were aware of the '919 patent and Wave Series play yards as embodiments of the '919 patent. PO Resp. 49–50. Patent Owner argues that this copying is additional evidence of nonobviousness. *Id.*

Patent Owner argues that Petitioner's Close 'n Cozy product line includes all elements of claims 1–5 and 8–29. *Id.* at 50–52. In support of this argument, Patent Owner cites Exhibit 1002, which is a claim chart that sets forth why Petitioner's play yards infringe the '919 patent. *Id.* at 50–51. Patent Owner also cites testimony of Mr. Drobinski who examined the Close 'n Cozy play yard and determined that it includes all elements of claims 1–5 and 8–29. *Id.* at 50–52; see Ex. 2010 ¶¶ 119–134. Patent Owner argues that this situation evinces copying because “[i]t is standard practice in product development to take a close look at the products in the market to see what competitors, or potential competitors are offering” as indicated by testimony of Mr. Drobinski (Ex. 2010 ¶ 135) and Mr. Campbell (Ex. 2013, 21:5–18). PO Resp. 52. In addition, Patent Owner asserts that

Because Wonderland's customer Graco had a significant share of the market in 2003 through the present (Ex. 2014, ¶ 6), and because the patented version was a substantial part of Graco's market share, it is reasonable to conclude that Petitioner was fully aware of the products that embody the '919 patent when it developed its Deluxe Nursery Center – Close 'n Cozy play yard product line. Thus, it is clear that copying by the Petitioner is significant objective evidence that the invention of the '919 patent is not obvious.

Id. at 52.

Patent Owner further argues that other competitors copied the Wave Series product and some of these products were seized in Germany at trade shows between 2008–2014 because they were covered by European patent EP 1,550,387. *Id.* at 52–58. Patent Owner argues that a barrage of copying began in 2008, several years after the Wave Series was first introduced. *Id.* at 53–54. Patent Owner provides photographs of play yards that allegedly copy the '919 patent claim because all of the products are the exposed tube play yard design like the Graco Wave Series of exposed tube play yards. *Id.* at 54, 58 (citing Ex. 2006 for its illustration of other copies of the patented product). Patent Owner argues that such access to patented products at trade shows where competitors can examine and even purchase the products and such similarity in the copied products to the patented product create a strong inference of copying. *Id.* at 55–56. Patent Owner also argues that copying in a foreign country is indicative of a product's success and products shown at the Kind + Jugend trade show were not limited to products made and sold in Germany. *Id.* at 56. Patent Owner asserts that all of the seized play yards have upright tubes with slits extending along their length, which are mostly curved, and fabric members extending through the slits to define a wall around the bed frame structure of the play yards and therefore embody the claimed features and are coextensive with them. *Id.* at 57–59. Patent Owner argues large-scale copying is strong evidence of non-obviousness. *Id.* at 58.

Patent Owner supports its arguments with testimony of Ms. Wang in her declaration (Ex. 2012) and Mr. Drobinski in his declaration (Ex. 2010) as well as a claim chart (Ex. 2007) illustrating the similarity of claim 1 of EP 1,550,387 to claim 8 of the '919 patent.

Patent Owner's evidence is not very persuasive. First, Patent Owner has not provided direct evidence that anyone copied the patented baby crib of the '919 patent. Patent Owner's evidence is entirely circumstantial and inferential. Patent Owner argues that access to patented products in combination with similarity can create a strong *inference* of copying. See PO Resp. 56 (quoting *Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985) (overruled on other grounds by *Midwest Indus., Inc. v. Karavan Trailers, Inc.*, 175 F.3d 1356 (Fed. Cir. 1999))).

Patent Owner's assertions that the Wave Series was available in the market beginning some time in 2004 and displayed at various trade shows does not establish conclusively that Petitioner or anyone else actually copied the patented design of the '919 patent or attempted to replicate patented features of the Wave Series playard. This is particularly true where Patent Owner bases its copying claim on seizures of other company's products at a European trade show based on a European patent EP 1,550,387.

Patent Owner relies principally on the "patented" exposed tube feature of its Wave Series playard to establish its copying claims. See PO Resp. 52 ("other manufacturers' play yards did not have the patented features and so had fabric walls that covered the corners of the cribs."), 53–56 (examples of exposed-tube play yards of other companies allegedly seized at trade shows in Germany). However, as illustrated in Exhibit 2007, neither EP 1,550,387 nor US 6,859,957 ("the '957 patent") claimed a baby crib with exposed tubes.⁸

⁸ EP 1,550,387 B1 and the '957 patent claim priority from Application CN 04218045, filed on January 2, 2004. Ex. 2031, 1 (¶ 30); Ex. 1003, 1 (¶ 30).

The exposed tube feature was claimed when the '919 patent issued on January 15, 2013. Yet, Patent Owner's argument that there is "quite a strong similarity between many competitors' products and the Wave play yards" is based on an exposed tube design of competitors' products. PO Resp. 53–56.

Therefore, it is not entirely clear that Petitioner or any other person copied features of Patent Owner's Wave Series play yards that were known to be patented at the time. Nor has Patent Owner established that the play yards that were seized copied other novel features of the Wave Series play yards. Thus, Patent Owner has not established a clear nexus between these competitors' products and the novel features of the '919 patent.

Patent Owner's showing of a nexus is undermined further by the industry practice of using features of other companies' products. Thus, not only was the exposed tube feature of the Wave Series not patented at the time of the alleged copying such that competitors may have felt justified in using that feature on their products, but companies may have copied the exposed tube design from a product other than the Wave Series playard.

Manufacturers in an industry that routinely copies features of other products may have felt no inhibition in using features of the Wave Series in their products when the prior art disclosed these features as discussed above and taught by Vaiano, Miller, Oliphant, and Pasin which teach upright tubes with exposed outer surfaces, including curved outer surfaces in the case of at least Pasin. Ex. 1020, Fig. 1; Ex. 1021, Fig. 1; Ex. 2001, Fig. 1; Ex. 1015, Fig. 1, 2:30–32. Even if Patent Owner could establish copying by Petitioner or others of the exposed tube design of Wave Series playards, that evidence would not be strong evidence of copying or non-obviousness because the exposed tubes and other features of the Wave Series were well-known.

In view of the all of foregoing, the mere fact that some products may have infringed a European patent does not lead inexorably to the conclusion that those products copied a patented design of EP 1,550,387 B1 or the '919 patent rather than being developed independently based on industry trends and other factors. This is particularly true where the claimed features use prior art elements such as an enclosure member, frame structure, and upright tubes well known in the prior art for baby cribs as illustrated by the prior art baby crib illustrated in Figures 1 and 2 of the '919 patent itself. The choice of having upright tubes exposed or unexposed is a binary one. Pasin and Stoeckler disclose keder connections in tents and similar play structures with exposed tubes while Vaiano, Miller, Oliphant show baby cribs with exposed tubes. These features are well-known in the art such that the selection of one feature over another involves relatively finite options that could lead to the development of an exposed tube design without copying the Wave Series or the '919 patent. Nor does development of products with such well-known features provide a strong case for the non-obviousness of the '919 patent.

3. Conclusion

Weighing all of the evidence anew, we determine that Petitioner has established the obviousness of claims 1–5 and 8–29 over Vaiano and Pasin, and over Vaiano, Pasin, and Stoeckler. Patent Owner's evidence of commercial success and copying is not sufficient to overcome the strong evidence of obviousness. *Rothman v. Target Corp.*, 556 F.3d 1310, 1322 (Fed. Cir. 2009) (a strong prima facie obviousness showing may stand in the face of considerable secondary considerations); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (same); *Wrigley*, 683 F.3d at 1364–65; *Wyers*, 616 F.3d at 1246 (same).

D. Patent Owner's Motion to Amend Claims

Patent Owner moves to substitute claims 30–58 for claims 1–29 if original claims 1, 8, 15, and 20 are found unpatentable. Paper 29 (“Mot. to Amend”), 1. Petitioner has demonstrated by a preponderance of evidence that all challenged claims are unpatentable, including claims 1, 8, 15 and 20. For the reasons set forth below, Patent Owner’s Motion to Amend is *denied*.

Proposed substitute claims 30, 37, 44, and 49 are independent. They replace claims 1, 8, 15, and 20, respectively. Substitute claims 31–36 depend from claim 30. Claims 38–43 depend from claim 37. Claims 45–48 and 58 depend from claim 44. Claims 50–57 depend from claim 49. Proposed substitute claims 30 and 44 are reproduced below.

30 [1]. A baby crib comprising:

a bed frame structure including a plurality of upright tubes, each of which has an inner tube wall, and an outer tube wall defining an outer contour shape of the upright tube, the inner tube wall defining a receiving hole, and the outer tube wall having an outwardly facing surface and a slit that extends along the length of said outer tube wall and that is in spatial communication with said receiving hole;

a fabric member mounted on said bed frame structure to define a surrounding wall around said bed frame structure and delimit an enclosed space, the fabric member comprising a plurality of side panels, each side panel having edge portions, the edge portions of each side panel being in contact with an edge portion of at least two adjacent side panels, whereby the surrounding wall is continuous in its definition of the enclosed space, the bed frame structure and surrounding wall adapted to receive and safely confine a baby for sleep or play; and

a plurality of positioning posts mounted on said fabric member and inserted respectively into said receiving holes in said upright tubes, said fabric member being clamped between each of said upright tubes and a corresponding one of said

positioning posts and extending outward through each of said slits in each of said upright tubes,

whereby the fabric member extends in directions between the upright tubes substantially out of contact with the outwardly facing surface of the outer tube wall of each of the upright tubes, such that the outwardly facing surface of each of the upright tubes is exposed on an outside of the enclosed space.

44 [15]. A baby crib comprising:

a bed frame structure;

a plurality of upright tubes defining corners of the bed frame structure of the baby crib, wherein each of the upright tubes has an outer wall that defines an outer contour shape of the upright tube; and

an enclosure member including a plurality of side panels contiguously connected to one another along edge portions and surrounding an enclosed space adapted for receiving a baby therein;

the enclosure member being made of fabric and the side panels having edge portions, the edge portions of adjacent side panels being in contact with one another, the enclosure member defining a continuous wall of fabric surrounding an enclosed space; and

the enclosure member and bed frame structure forming a baby crib that is capable safely confining an infant for sleep or play; and

a plurality of positioning posts provided on the enclosure member at locations corresponding to the edge portions of the enclosure member, wherein the positioning posts are lodged inside the upright tubes, the side panels extending between the upright tubes substantially out of contact with the outside surfaces of outer walls of the upright tubes, such that the outwardly facing surface of each of the upright tubes is exposed on an outside of the enclosure member

Ex. 2042, 1, 3–4 (emphasis in original to show changes).

A motion to amend claims in an *inter partes* review is not, itself, an amendment. As the moving party, Patent Owner bears the burden of proof

to establish that it is entitled to the relief requested. 37 C.F.R. § 42.20(c). The substitute claims are entered only upon Patent Owner demonstrating by a preponderance of the evidence that the substitute claims are patentable. *See, e.g.*, 37 C.F.R. § 42.1(d) (noting that the “default evidentiary standard [in proceedings before the Board] is a preponderance of the evidence.”).

1. Claim Construction

Claim construction is the first step in a patentability determination. *See Oakley, Inc. v. Sunglass Hut Int'l*, 316 F.3d 1331, 1339 (Fed. Cir. 2003); *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003) (“Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims The second step in the analyses requires a comparison of the properly construed claim to the prior art.” (Internal citations omitted)). A motion to amend claims must identify how the proposed substitute claims are to be construed, especially when the proposed substitute claims introduce new claim terms. *See Idle Free Sys., Inc. v. Bergstrom, Inc.*, IPR2012-00027, slip op. at 7 (PTAB June 11, 2013) (Paper 26) (“*Idle Free*”); *see also MasterImage 3D, Inc. v. RealD Inc.*, IPR2015-00040, slip op. at 2 (PTAB July 15, 2015) (Paper 42) (clarifying prior art of record, prior art known to patent owner, and burdens of the parties, and noting that Patent Owner still should follow all requirements set forth in *Idle Free*) (Precedential).

In its Motion to Amend, Patent Owner asserts that the phrase “in contact with one another” means “touching or connected” and “causes the enclosure member to form a continuous wall of fabric.” Mot. to Amend 5. Patent Owner asserts that the phrase “continuous wall of fabric surrounding an enclosed space” means “that there are no gaps in the fabric.” *Id.*

Patent Owner does not persuasively explain, with technical facts and reasoning, how the proposed limitations narrow the claims and distinguish over the prior art. *See Idle Free*, slip op. at 7. Original claim 15 recites

*an enclosure member including a plurality of side panels
contiguously connected to one another along edge portions and
surrounding an enclosed space adapted for receiving a baby
therein;*

Ex. 1001, 5:11–15 (original claim 15).

Substitute claim 44 retains this limitation and adds

the enclosure member being made of fabric and the side panels
having edge portions, the edge portions of adjacent side panels
being in contact with one another, the enclosure member
defining a continuous wall of fabric surrounding an enclosed
space;

Ex. 2042, 4.

This added limitation for “*the enclosure member*” refers back to “an enclosure member” indicating it recites features of “an enclosure member.” However, given the Patent Owner’s proposed construction of “in contact with one another” to mean “touching or connected,” it is unclear how “edge portions of adjacent side panels being in contact with one another” in substitute claim 44 relates to “a plurality of side panels contiguously connected to one another along edge portions” as already is recited in original claim 15 for “an enclosure member.”

If “contiguously connected” in original claim 15 has the same meaning as “being in contact with one another,” substitute claim 44 is largely redundant. If these limitations are intended to have different meanings, the difference in scope is unclear given Patent Owner’s proposed

claim construction. It also is unclear whether Patent Owner then intends to claim two different arrangements of the side panels of the enclosure member in the same claim.

Patent Owner asserts that “in contact with one another” means “touching or connected.” Patent Owner thus treats “in contact with” as including “connected” but claim 15 already recited “side panels *contiguously connected* to one another along edge portions.” Thus, if “contact with” means something other than “contiguously connected,” Patent Owner has not provided an adequate interpretation of what the different meaning is. If the terms are synonymous, the new limitation in substitute claim 44 is largely superfluous with claim 15’s language.

It also is unclear how a “continuous wall of fabric surrounding an enclosed space” in substitute claim 44 differs in scope from “side panels contiguously connected to one another along edge portions and surrounding an enclosed space” in original claim 15. If fabric side panels are contiguously connected along edge portions to surround an enclosed space, it would appear that they also form a continuous wall of fabric. If so, the “continuous wall of fabric” limitation in substitute claim 44 appears to be superfluous with the side panels contiguously connected along edge portions as already recited in original claim 15. If not, it is unclear what additional or different scope is added or how the claims as a whole are to be interpreted.

Substitute claim 49 recites the enclosure member including side panels with edge portions, “the edge portions of adjacent side panels being in contact with one another to define a surrounding wall.” Ex. 2042, 4. Thus, side panels “in contact with one another” in claim 49 “define a surrounding wall” whereas side panels “in contact with one another” in

claim 44 define “a continuous wall of fabric.” It is unclear what claim scope is intended, particularly when original claims 15 and 20 already recited side panels “surrounding an enclosed space.”

Patent Owner’s assertion that side panels “in contact with one another” “causes the enclosure member to form a continuous wall of fabric” (Mot. to Amend 5) is confusing because substitute claim 44 also expressly recites “the enclosure member defining a continuous wall of fabric surrounding an enclosed space.” Thus, the amendments to substitute claim 30 and Patent Owner’s interpretation of “in contact with one another” appear to render other limitations superfluous. In addition, the Motion to Amend does not explain how the added limitations should be interpreted as part of the claim as a whole.

A motion to amend also should set forth a construction for any new terms that are introduced via amendment. *See Idle Free*, slip op. at 7. Patent Owner added a limitation to recite “the enclosure member and bed frame structure forming a baby crib that is capable *safely* confining an infant for sleep or play” in substitute claim 44. Ex. 2042, 4 (emphasis added). For substitute claim 49, Patent Owner added an enclosure member “together with the bed frame structure forming a baby crib that is capable [of] *safely* confining an infant for sleep or play.” *Id.* (emphasis added). Similar limitations were added to substitute claims 30 and 37. *Id.* at 1, 2.

Patent Owner offered a construction for “baby crib” as “a structure for safely confining a baby for sleep or play.” PO Resp. 9. Patent Owner has not asserted a different interpretation in its Motion to Amend. *See* Mot. to Amend 5. This interpretation is duplicates limitations added by substitute claims 30, 37, 44, and 49 that a baby crib is for “safely confining an infant

for sleep or play” unless the structure used for confining “infants” or “babies” to sleep or play is different. Patent Owner has not addressed any of these issues. Nor is it clear how an enclosure member defining a continuous *wall* of fabric can *safely* confine an infant without a floor also being part of the enclosure.

Even if Patent Owner intends to recite its definition of baby crib as a limitation in the substitute claims, it is unclear what is meant by “safely confining” or how this limitation defines over the prior art. Patent Owner has not offered a construction for “*safely confining* an infant for sleep or play.” We can find no disclosure of this feature in the specification, claims, or the prosecution history of the ’919 patent, as discussed above in our interpretation of “baby crib.” Nor do we find any indication in the ’919 patent specification that ASTM F406-02 or any other industry standard is incorporated therein or applicable to the claimed baby crib. Thus, it is unclear how this safety limitation defines over the prior art discussed below.

Without a reasonable construction of new claim features added by the proposed substitute claims, Patent Owner’s Motion to Amend does not provide adequate information to determine the patentability of its proposed substitute claims over the prior art. Thus, we are not persuaded that Patent Owner has met its burden to demonstrate patentability of the proposed substitute claims under 37 C.F.R. § 42.20(c).

2. *Written Description Support*

A motion to amend claims must identify clear written description support for each proposed substitute claim. 37 C.F.R. § 42.121(b). The requirement that the motion to amend must identify support in the original disclosure of the patent is with respect to *each claim*, not just a particular

feature of a proposed substitute claim. Thus, it is inadequate to show written description support for just a claim feature added by the proposed substitute claim. The motion must account for the claimed subject matter as a whole, i.e., the *entire* proposed substitute claim, when showing there is sufficient written description support for each claim feature. *Nichia Corp. v. Emcore Corp.*, IPR2012-00005, slip op. at 4 (PTAB June 3, 2013) (Paper 27).

We are not persuaded that Patent Owner has demonstrated that the original disclosure of the '919 patent provides adequate written description support for the new substitute claims. Patent Owner does not offer sufficient explanation or evidence to establish that the new limitation “a baby crib that is capable [of] *safely* confining an infant for sleep or play” in substitute claims 30, 37, 44, and 49 is disclosed in the '919 patent's original disclosure.

Patent Owner asserts that the '919 patent discloses that the enclosure member and bed frame structure define a receiving space for a baby to sleep or play at column 1, lines 20–22. Mot. to Amend 4. This disclosure is part of the “Description of the Related Art” in the Background of the Invention. It describes a prior art baby crib shown in Figures 1 and 2 as comprising bed frame structure 8 and enclosure member 9 mounted thereon “so as to define a receiving space for a baby to sleep or play.” Ex. 1001, 1:19–22.

Patent Owner has not explained adequately how this description of a prior art baby crib also provides an adequate written description for a baby crib capable of *safely* confining an infant for sleep or play in the invention. Patent Owner has not persuaded us that a discussion of a prior art baby crib in Figures 1 and 2 of the '919 patent specification is relevant to the invention disclosed elsewhere in the '919 patent specification. Notably, the '919 patent specification disparages the prior art baby crib bed frame structure 8

and enclosure member 9 (*id.* at 1:20–40), the same elements that Patent Owner relies on for support for a receiving space for a baby to sleep or play. Even if prior art Figures 1 and 2 should inform our understanding of a baby crib, Patent Owner does not identify the features that “*safely confine.*”

As discussed above in Section II.A.1., the ’919 patent specification does not describe how the claimed “baby crib” *safely confines* an infant for sleep or play. It would appear that a baby crib that is configured to “safely confine” an infant would include flooring and a mattress/pad of some sort. *See* Mot. to Amend 10 (arguing that Pasin would not safely confine a baby because there is no showing to include a floor with the structure). There is no showing by Patent Owner of any such safety features being disclosed in the ’919 patent specification or the original ’957 patent specification from which the ’919 patent reissued.

Because Patent Owner does not set forth adequate written description support for all of the claim features, Patent Owner’s Motion to Amend fails to set forth the written description support for each proposed substitute claim as required by 37 C.F.R. § 42.121(b)(1).

3. *Patentability over the Prior Art*

Patent Owner bears the burden of proof in demonstrating patentability of the proposed substitute claims over the prior art, and, thus, entitlement to add these claims to its patent. *Idle Free*, slip op. at 7. Patent Owner must show that the conditions for novelty and non-obviousness are met for the substitute claims in view of the prior art available to one of ordinary skill in the art at the time of the invention.

Patent Owner has not demonstrated by a preponderance of evidence that the proposed substitute claims are patentable. Substitute claims 30, 37,

44, and 49 add the following new features: (1) side panels of the enclosure member have edge portions that contact and define “a continuous wall of fabric” (claims 37, 44) or “a surrounding wall” (claims 30, 49); and (2) the enclosure member and bed frame structure “forming a baby crib that is capable safely confining an infant for sleep or play.” Ex. 2042, 1, 2, 4. Patent Owner does not explain persuasively why the prior art does not teach or suggest these new limitations or render the substitute claims unpatentable.

Patent Owner argues that substitute claims 30, 37, 44, and 49 are patentable over prior art such as Vaiano, Pasin, Stoeckler, Oliphant, Colby, Goodman, Gaylord, Hood, Northup, Baslow, Keiser, Johnston, Ramey, and Chen. *See* Mot. to Amend 9–24. Patent Owner argues that Vaiano, Pasin, and Stoeckler do not teach or render obvious an enclosure member defining a continuous wall of fabric surrounding an enclosed space as recited in the substitute claims because the fabric would have gaps that leave the corner post exposed to a baby in the enclosed space. *Id.* at 11–16. Patent Owner also argues there is no motivation to combine Pasin, Vaiano, or Stoeckler because, they address different problems. *Id.* at 12–16. In addition, Patent Owner argues that Pasin is not a baby crib because it lacks a floor where a baby can sleep, the panel edges are held in frame members, and the rods are pushed into slots on frame members so that their ease of assembly could not safely contain a baby for sleep. *Id.* at 9–10.

These arguments are not commensurate with the scope of the claims and thus are not persuasive. None of the original or substitute claims recite a baby crib including a floor. The features for “safely confining” an infant for sleep or play in the proposed substitute claims are the enclosure member and the bed frame structure. Ex. 2040, 1, 2. Patent Owner has not provided any

persuasive argument or evidence that a floor is part of the enclosure member of the bed frame structure in the substitute claims. Even so, Pasin teaches structures that can be closed on all sides or open on one or more sides by excluding one of more panels. Ex. 1015, 2:18–25, Fig. 1. Pasin also teaches that its structures can be used for larger scale adult applications where rods 27, 29 slide into openings 30. *Id.* at 1:52–53, 3:21–23. These disclosures are evidence that Pasin’s structures can safely confine an infant, as claimed.

Contrary to Patent Owner’s assertions, Pasin, Vaiano, and Stoeckler are directed to the same problems of providing structures for play and other uses that can be assembled and disassembled quickly and provide tubes with exposed outer surfaces – the same problems addressed by the ’919 patent. Ex. 1001, 1:16–17 (the invention relates to a baby crib that can be assembled with ease), 1:38–60 (invention provides a baby crib that can be assembled easily with fabric positioned on a bed frame structure and with an appealing appearance that is not adversely affected by screws being visible from the exterior of the bed frame structure as in prior art baby cribs), 3:11–18 (the assembly operation of the baby crib is quick and the outer appearance is enhanced because there are no screws visible from the exterior of the bed frame structure), 3:36–46 (assembly and disassembly of the baby crib is easy, the fabric is not damaged, and the outer appearance of the baby crib is enhanced as well).

Pasin also teaches an invention that provides a structure that can be assembled and dismantled at will with relative ease. Ex. 1015, 1:4–7, 1:21–25. These easy-to-assemble structures can be assembled by children or adults for more practical purposes. *Id.* at 1:39–53. The design provides an especially neat appearance for structure produced. *Id.* at 3:33–36.

In a similar manner, Vaiano also teaches a structure for children to use as a play pen that can be opened quickly into usable form. Ex. 1021, 1:5–8. The invention provides a durable, lightweight play pen that can be opened to form an enclosure with adequate strength and collapsed to facilitate storage and transportation and convenience in carrying. *Id.* at 1:9–20, 2:15–17. The play pen also includes a continuous wall of fabric (netting 32) secured to four upright tubular posts 10 in a manner that leaves the outer surfaces of the upright tubes exposed for a neat appearance. *Id.* at 2:9–11, Fig. 1.

Stoeckler also teaches collapsible tent structures in which fabric side covers are assembled to upright tubes by keder connections in a manner that is not time-consuming to assemble and also provides an aesthetic appearance unlike prior art structures. Ex. 1017, 1:18, 2:1–22. The keder connections allow the fabric side covers to be tightened against wind pressure to provide an exposed outer tube surface and neat appearance in different designs and colors that also provides very high strength. *Id.* at 3:23–37. Stoeckler also teaches that the aesthetic appearance and functionality of the structure can be varied by rotating the upright tubes so fabric side covers 7 are stretched and more or less outer tube surface is displayed. *Id.* at 3:52–65, Fig. 3.

As a result, we are not persuaded by Patent Owner's arguments that a skilled artisan would not have been motivated to combine the teachings of Pasin, Vaiano, and/or Stoeckler, as asserted in the Petition and as discussed above to render obvious substitute claims 30, 37, 44, and 49. Indeed, Pasin and Stoeckler themselves provide teachings that support their combination with Vaiano in that both references describe keder connections that can be used to form structures of varying designs and functionality that provide an appealing and aesthetically-pleasing appearance with upright tubes having

exposed outer surfaces and suspending fabric panels to form a surrounding wall of fabric and an enclosed space for children and others to sleep or play. Vaiano teaches the desirability of a continuous fabric netting 32 for use in an easy to assemble and collapsible play pen but does not teach the specific connection that facilitates this arrangement of a fabric enclosure member that is suspended from upright tubular members. Pasin and Stoeckler teach the well-known use of keder connections in such situations to suspend fabric panels and form fabric enclosure members that leave outer surfaces of upright tubes exposed and side walls tight.

The Motion to Amend also does not address teachings of Hartenstine, Bidwell, or Gunter of an enclosure member defining a continuous wall of fabric surrounding an enclosed space as claimed and the combinability of these teachings with prior art illustrating keder connections with such fabric enclosures. *Id.* at 13–22. One of ordinary skill in the art would have recognized that at least Hartenstine, Bidwell, and Gunter, as well as the prior art in Figures 1 and 2 of the '919 patent teach or suggest this new substitute claim feature. Ex. 2016, Fig. 1; Ex. 1016, Fig. 1; Ex. 2032, Fig. 1.

Appellant's disclosed prior art in Figures 1 and 2 of the '919 patent teaches a baby crib with bed frame structure and upright tubes to which a continuous fabric panel enclosure is attached to provide an enclosed space for a child to sleep or play. Ex. 1001, 1:17–30, Figs. 1, 2. Pasin teaches that structures for children to play and more practical adult uses can affix fabric enclosures (i.e., fabric panels 12) to upright tubes (frame members 14) with keder connections as claimed. Pasin, 2:14–3:22, Figs. 1–7. Pasin provides similar motivation as the '919 patent for the modification to the prior art baby crib shown in Figures 1 and 2 of the '919 patent. Pasin teaches that

such structures and keder connections structures for children and adults to use and enjoy that “can be assembled and dismantled with relative ease.” *Id.* at 1:22–54. This express teaching is the same as that of the ’919 patent. Ex. 1001, 1:17–18 (“The invention relates to a baby crib, more particularly to a baby crib that can be assembled with ease.”). Thus, Pasin addresses the same problem as the ’919 patent and provides the same solution of a keder connection for a children’s play structure.

The prior art’s use of a one piece construction of enclosure member and Pasin’s use of separate side panels 12 would be merely a matter of obvious engineering choice, particularly where the prior art teaches both types of fabric enclosures as equally acceptable and the ’919 patent does not provide any compelling reason to use a unitary construction for the fabric member. *See In re Larson*, 340 F.2d 965, 968 (CCPA 1965). As discussed below, Rexroad teaches how to attach continuous enclosure panel members to upright tubes and teaches the equivalence of keder connections with other types of connections for suspending a unitary member from tubes.

Bidwell also teaches a child’s play yard and includes posts that lodge inside upright members. Bidwell’s play yard could be modified easily with teachings of Pasin to provide a keder connection with exposed upright tubes as claimed. Bidwell already teaches that lodging corner posts 20 of a fabric sidewall 14 enclosure into upright tubes (retaining members 22) can be used to apply pressure to fabric sidewall 14 and hold fabric sidewall 14 tightly on corner post 20 to reduce wrinkles. Bidwell, 2:25–4:1, Figs. 1, 2. Pasin’s keder connections attach fabric panels 12 to rods 22, 27, 29 and insert panels 12 into frame members 14 to provide “an especially neat appearance for any structure produced.” Pasin, 3:33–36, Figs. 1, 6A, 7. Thus, Pasin’s keder

connections could be substituted for the connection of Bidwell. Bidwell also appears to include structure to safely confine an infant for sleep or play, as recited in the new substitute claims.

Hartenstine (Ex. 2016) and Gunter (Ex. 2032) both disclose portable playards with all of the elements except the keder connection, which Pasin or Stoeckler provide in similar structures for children to play or rest or tents. Hartenstine teaches a playard with side panels 12 of a mesh or netting fabric attached together to form a continuous side panel 11 that mounts to curved upright tubes 26 of frame structure (Fig. 2) to form an enclosure member that can confine a child safely for sleep or play, as recited in new substitute claims 30 and 45. Ex. 2016, 2:43–62, 4:38–5:36, Figs. 1, 8. As discussed above, Pasin teaches how to affix such panels with rods 22, 27, 29 that form keder connections with upright frame members 14. Stoeckler also teaches that keder connections are useful in collapsible structures made of fabric enclosure members and panels 7 to form a fully enclosed structure that also can vary the amount of tube surface and vertical slots (grooves 5) that are exposed inside the enclosure from one to several and presumably to none depending on how much side cover 7 is wound around vertical posts 1, 2. Ex. 1017, 3:52–65, Figs. 1–5. Thus, side panels 7 of the enclosure member could completely encircle the enclosed space with no exposed parts of the upright tubes, if desired. Hartenstine teaches that it is desirable to do so with fabric corner panel 14 so that a child within the playard does not contact the playard leg (upright tube 26). Ex. 2016, 2:63–3:10, Figs. 1, 2, 5, 6.

Gunter teaches a similar enclosed playard with a continuous fabric enclosure member connected at edge portions 28, 29 to upright tubes 17 of frame structure 10, 11. Ex. 2032, 3:13–32, Fig. 1. Pasin discloses how to

convert sleeve members 29 of Gunter's edge portions to keder connections by affixing rod 27, 29 in such a sleeve of a panel therein as shown in Figures 6A and 6B. Ex. 1015, 3:3–23.

Rexroad also discloses how to form such sleeves 29 of Gunter into keder connections, as claimed, in which support rod 96 is inserted into a structural member 91 to connect a mesh fabric member to structural member 91. Ex. 1026, Figs. 17A, 17B. Rexroad further teaches how to connect a continuous panel member to tubular frame members 91 to form a continuous wall of fabric, as claimed while leaving the outer surface of the structural tube member exposed, as claimed. *Id.* at Figs. 13, 14. Rexroad also teaches that a continuous wall of fabric mesh 12' can be suspended from a structural member 91 by forming a sleeve 92 at each corner, inserting rod 96 into sleeve 92 and securing rod 96 to structural member 91. *Id.* at 8:38–62, Figs. 13–15 (illustrating a continuous wall of fabric mesh 12' and a single wall 121 of fabric as alternative constructions and designs). Rexroad teaches an alternative embodiment in which rods 96 are connected to sleeves/borders 92 that, in turn, are connected to mesh fabric 12, 12' and rods 96 are then inserted into structural members 91 in a keder-type connection that allows mesh fabric 12, 12' to extend through slit 120 and suspend mesh fabric 12, 12' in a continuous enclosure member. *Id.* at 8:63–9:3, Figs. 17A, 17B. Thus, Rexroad teaches the use of rods 96 and sleeves 92 to suspend panels and continuous walls of mesh fabric 12, 12' from structural members 96 and to do so using a variety of connections that include keder-type connections as claimed. These teachings would be combinable with Vaiano, Bidwell, and other prior art that illustrates baby cribs and play pen structures with a

continuous wall of fabric suspended from upright tubes as alternative ways to suspend the fabric enclosure member and provide a neat appearance.

The combination of Vaiano and Pasin asserted in this proceeding would render obvious the claimed bed frame structure with a plurality of upright tubes that define corners of the bed frame structure with an enclosure member having side panels with contacting edge portions that define a continuous wall of fabric surrounding an enclosed space that forms a baby crib for safely confining an infant with positioning posts provided on the enclosure member. Vaiano teaches continuous netting 32 and Pasin teaches that children's play structures can be made from panels 12 of various fabrics of synthetic or natural materials in various shapes and sizes. Vaiano, 2:9–11, Fig. 1; Pasin, 2:18–25, 2:58–63. As modified by teachings of Pasin, Vaiano's continuous enclosure would include Pasin's rods 22, 27, 29 along edges to form panels when the rods are inserted into Vaiano's hollow upright tubes in keder connection as taught by Pasin. Pasin also teaches that upright frame members 14 may be curved. Pasin, 2:30–32.

Patent Owner's reliance on findings of the Central Reexamination Unit regarding a reexamination of claims 1–8 of the '957 patent to assert the patentability of the substitute claims is not persuasive because claim 1 of the '957 patent and the substitute claims have very different claim scope. Mot. to Amend 16–19. Claim 1 of the '957 patent recites upright tubes having “a tube wall defining a receiving hole,” “a slit that extends along the length of said tube wall,” the slit “in spatial communication with said receiving hole,” positioning posts “inserted respectively into said receiving holes in said upright tubes,” and fabric “extending outward through said slit in each of said upright tubes.” Ex. 1003, 4:1–17. None of these limitations are recited

in the substitute claims. Therefore, we are not persuaded that prior art that did not render claim 1 of the '957 patent obvious would not render obvious the features of the substitute claims and render those claims unpatentable in combination with other prior art references of record.

In addition, Patent Owner's assertions that combinations of prior art references asserted in different proceedings does not show or suggest a crib with an enclosure member having side panels in contact with one another to form an enclosure member with a continuous wall of fabric surrounding an enclosed space with the upright tubes having outwardly facing surfaces that are out of contact with the enclosure member are not persuasive, particularly in view of our discussion above of some of that prior art.

In addition, Patent Owner's reliance on Mr. Drobinski for support to these conclusory assertions is not persuasive either. Mr. Drobinski merely lists each prior art reference with a very brief summary of what each teaches followed by a conclusory statement that these references do not show or suggest an enclosure member being made of fabric or having side panels being in contact with one another to form an enclosure member with a continuous wall of fabric surrounding an enclosed space with the upright tubes having outwardly facing surfaces that are out of contact with the enclosure member. Ex. 2010 ¶¶ 151–159. His conclusory analysis and opinion do not provide sufficient technical facts and reasoning to establish the patentability of substitute claim 30 by a preponderance of evidence.

Patent Owner also argues that none of the combinations for substitute claim 30 show a baby crib with “an enclosure member of panels being in contact with one another to define a surrounding wall such that the enclosure member is positioned fixedly on the bed frame structure with the support

tubes having outwardly facing surfaces that are out of contact with the enclosure member.” Mot. to Amend 21–24. This argument is not persuasive for the reasons discussed above for Vaiano. Nor are Patent Owner’s individual attacks on Pasin and Stoeckler and their lack of a floor persuasive when prior art such as Bidwell, Vaiano, Hartenstine, and Gunter teach this feature and are readily combinable with Pasin, Stoeckler, and other prior art such as Rexroad to provide keder-type connections on such enclosure members, as claimed. *Id.* at 23–24.

Patent Owner addresses only substitute claim 30 and does not explain how substitute claims 37, 44, and 49 are patentable over the prior art. *Id.* at 11–24. Patent Owner appears to address substitute claim 35 from IPR2015-00841, rather than the substitute claims of this IPR. *See id.* at 23–24. This also calls into question whether all of Patent Owner’s arguments regarding substitute claim 30 pertain to substitute claim 30 for original claim 1 in this proceeding or substitute claim 30 for original claim 15 in the ’841 IPR. Patent Owner refers to additional language in substitute claim 30 intended to make clear the meaning of “enclosure member” (*id.* at 11) but that language does not appear in substitute claim 30 (or original claim 1) in this proceeding because “a fabric member” is recited in that claim. *See Ex. 2042, 1.*

Patent Owner’s analysis addresses the references individually and in a piecemeal fashion rather than considering how their combined teachings would render the new substitute claims unpatentable. As discussed above, the teachings of the prior art references are combinable to render obvious the new substitute claim features. Prior art that teaches baby cribs and play pens with fabric enclosure members and connected panels that form a continuous wall of fabric and surrounding wall can be combined with prior art that uses

keder connections to suspend such fabric panels and continuous fabric walls from upright tubular frame members to form an enclosed space, as recited in the new substitute claims 30, 37, 44, and 49 and thus to render obvious the new substitute claims and their newly-recited features.

For the foregoing reasons, we are unpersuaded that Patent Owner has demonstrated by a preponderance of evidence that the proposed substitute claims are patentable.

4. Conclusion

For the foregoing reasons, Patent Owner has not, in its Motion to Amend, set forth a prima facie case for the relief requested or satisfied its burden of proof. Consequently, the current situation does not require us to consider Petitioner's Opposition and Patent Owner's Reply. Patent Owner's Contingent Motion to Amend is *denied*.

E. Petitioner's Motion to Exclude

Petitioner moved to exclude testimony of Mr. Drobinski, Ms. Wang, and Ms. Strzelecki. Papers 55 (confidential, unredacted version), 56 (public, redacted version) ("Mot. to Exclude"). Petitioner argues that paragraphs 67, 96–134, and 136–139 of Mr. Drobinski's Declaration (Ex. 2010) and pages 5–6 of his deposition in another proceeding (Ex. 2007) should be excluded under Fed. R. Evid. 402, 602, and 702. Mot. to Exclude 1. Petitioner argues that Mr. Drobinski is a technical expert who is unqualified to offer testimony about commercial success and copying so his testimony should be excluded under Fed. R. Evid. 702. *Id.* at 4–7. Petitioner asserts that Mr. Drobinski's testimony about German trade shows and EP 1,550,387 is irrelevant to secondary considerations of copying and should be excluded under Fed. R. Evid. 402. *Id.* at 7. Petitioner asserts that Mr. Drobinski lacks personal

knowledge as a lay witness to testify about commercial success and copying and his testimony should be excluded under Fed. R. Evid. 602 to the extent that he does not qualify to be an expert on these issues. *Id.* at 8–9.

Petitioner argues that paragraphs 2–22, 25–28, 30, and 32–40 of Ms. Wang’s Declaration (Ex. 2012) and portions of her deposition (Ex. 2003) should be excluded under Fed. R. Evid. 402 and 602. *Id.* at 1–2. Petitioner argues that Ms. Wang’s testimony about alleged copying at German trade shows is irrelevant and should be excluded under Fed. R. Evid. 402. *Id.* at 7. Petitioner also argues that Ms. Wang lacks personal knowledge to testify as a lay witness in support of Patent Owner’s commercial success arguments by testifying about sales data and market share. *Id.* at 8, 9–10.

Petitioner argues that paragraphs 6, 7, 9, and 10 of Ms. Strzelecki’s Declaration (Ex. 2014) should be excluded under Fed. R. Evid. 402, 602, and 802. *Id.* at 2. In particular, Petitioner argues that Ms. Strzelecki lacks personal knowledge about Graco’s market share and other matters in her declaration so her testimony should be excluded under Fed. R. Evid. 602. *Id.* at 10–12. Petitioner argues that Ms. Strzelecki’s testimony should be excluded under Fed. R. Evid. 802 as hearsay. *Id.* at 12. Petitioner argues that Ms. Strzelecki’s testimony is irrelevant to commercial success and should be excluded under Fed. R. Evid. 402. *Id.* at 12–13. Petitioner also argues that Ms. Strzelecki was coached during her testimony. *Id.* at 13–14.

We deny Petitioner’s motion to exclude testimony of Mr. Drobinski, Ms. Wang, and Ms. Strzelecki. Petitioner’s arguments relate the reliability of this testimony and weight to be accorded to it rather than admissibility. A strong public policy exists for making information filed in a non-jury, quasi-judicial administrative proceeding available to the public, especially in an

inter partes review, which determines the patentability of claims in an issued patent. The Board has discretion to assign appropriate weight to evidence. *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004).

F. Patent Owner's Motion to Exclude

Patent Owner filed a Motion to Exclude Exhibit 1068, because it is a translation without a supporting affidavit and the original document was not included as required. Paper 53 (“Mot. to Exclude”), 2.

Because we have not relied on Exhibit 1068 in reaching our decision in this proceeding, we dismiss Patent Owner’s Motion to Exclude as moot.

III. CONCLUSION

Petitioner has demonstrated by a preponderance of evidence in this proceeding that claims 1–5 and 8–29 of the ’919 patent are unpatentable.

IV. ORDER

Accordingly, it is

ORDERED that claims 1–5 and 8–29 of the ’919 patent are unpatentable;

FURTHER ORDERED that Patent Owner’s Contingent Motion to Amend is *denied*;

FURTHER ORDERED that Petitioner’s Motion to Exclude is *denied*;

FURTHER ORDERED that Patent Owner’s Motion to Exclude is dismissed as moot; 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.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BABY TREND, INC., DENNY TSAI, AND BETTY TSAI,
Petitioner,

v.

WONDERLAND NURSERYGOODS CO., LTD.,
Patent Owner.

Case IPR2015-00842
Patent RE43,919

Before JAMES P. CALVE, JEREMY M. PLENZLER,
and JAMES A. WORTH, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* CALVE.

Opinion Dissenting filed by *Administrative Patent Judge* WORTH.

JAMES A. WORTH, *Administrative Patent Judge, Dissenting*.

This case presents a fairly unique question of claim construction in the context of a reissue patent, for which changes were made to the Specification during reissue in addition to changes made to the claims. In my view, the dispositive issue is whether the scope of the reissued claims goes beyond that which is provided for in the original Specification. In ordinary circumstances, a patent claim is not necessarily limited to the

embodiments enumerated in the written description, even if there is only one embodiment, unless there is an express disclaimer, an implied disclaimer, or claiming under former-35 U.S.C. § 112 ¶ 6. Nevertheless, in the context of this reissue procedure, I conclude that the subject claims are limited to the use of corner connection pieces where two edges of (connected) fabric extend from the same corner connection piece, as provided for in the original disclosure.

The application for reissue stated an intent to broaden the claims. Ex. 1004, 514 (Applicant's Remarks of Oct. 26, 2006) ("This is a broadening reissue which adds Claims 8–27."); 507 ¶ 6 (declaration of inventor in application for reissue); 42 ¶ 6 (supplemental declaration of inventor in application for reissue). A reissue may be used to either broaden or narrow claims. 35 U.S.C. § 251. However, the Patent Act forbids the introduction of new matter into the Specification during reissue. *Id.* ("No new matter shall be introduced into the application for reissue."). This is a key aspect of the reissue statute, which was introduced into the Patent Act of 1870 as a change from the Patent Act of 1836, which previously allowed the inclusion of improvements to an invention made subsequent to issuance as an annex to the original patent marked with the date of reissue. *Compare* 5 Stat. 117, 122, Pub. L. 24-357 § 13 (July 4, 1836), *with* 16 Stat. 198, 206, Pub. L. 41-230 § 53, R.S. § 4916 (July 8, 1870).

One situation where the prohibition against the introduction of new matter arises is where a patentee attempts in reissue to undo a narrowing amendment to the claims or disclaimer of claim scope that was made during prosecution, thus attempting to recapture material that had previously been disclaimed. *E.g., In re Clement*, 131 F.3d 1464, 1468 (Fed. Cir. 1997). The

statutory prohibition against the introduction of new matter also generally applies to any attempt to broaden the claims beyond that which was supported by the original Specification. *In re Amos*, 953 F.2d 613, 618–19 (Fed. Cir. 1991). This is sometimes referred to as the “same invention” requirement based on the Supreme Court’s decision in *U.S. Industrial Chemicals, Inc. v. Carbide & Carbon Chemicals Corp.*, 315 U.S. 668 (1942). The statute has since been modified to remove a requirement for the patentee to demonstrate an original intent to claim a broader claim, but the reissue statute has retained the “same invention” requirement. *See Hester Indus., Inc. v. Stein, Inc.*, 142 F.3d 1472, 1484 (Fed. Cir. 1998); *Antares Pharma, Inc. v. Medac Pharma Inc.*, 771 F.3d 1354, 1362 (Fed. Cir. 2014); *see also In re Mead*, 581 F.2d 251, 255 (CCPA 1978) (distinguishing between different inventions and different embodiments).

Indeed, the standard for proving support in the original written description to obtain claims in reissue under § 251 is actually a higher burden than that under § 112 to obtain claims during original prosecution. *See Antares Pharma, Inc.*, 771 F.3d at 1362. For reissue claims, “the specification must clearly and unequivocally disclose the newly claimed invention as a separate invention.” *Id.*

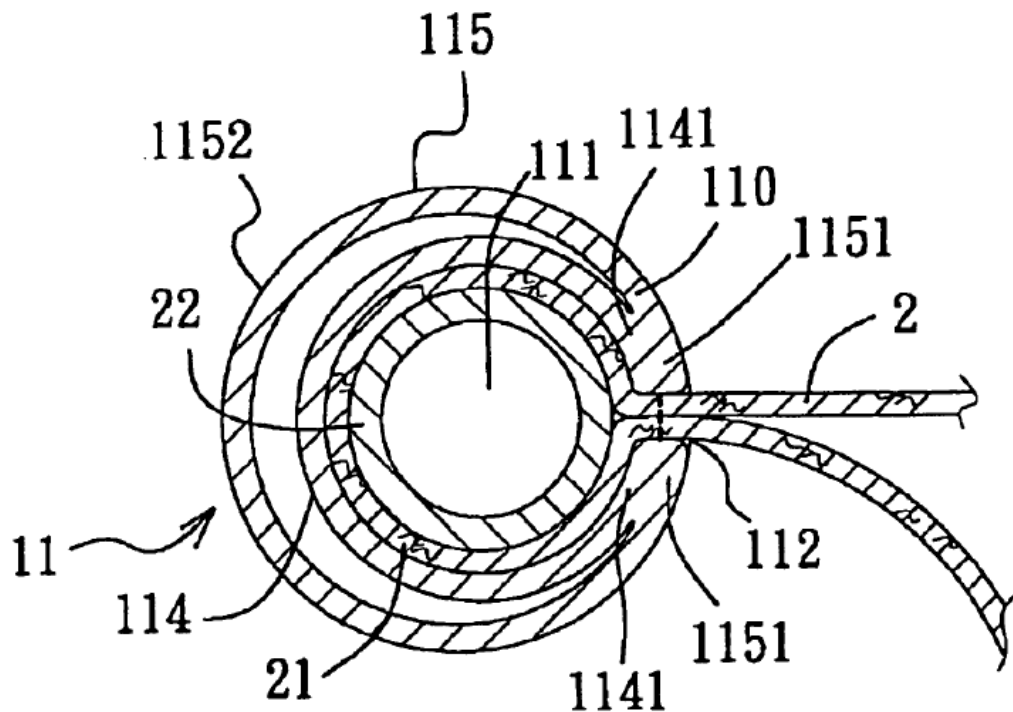
Here, the patentee added material to both the claims and the Specification in reissue. As such, I believe that the scope of the reissued claims is not entitled to go beyond the relationship of the enclosure to the panels set forth in the original Specification. This conclusion is not based on a presumption of validity (e.g., of written description support), but rather on the reissue statute itself. While the propriety of the reissuance is, in all events, beyond the scope of this *inter partes* review, the reissue is part of the

prosecution history, which may be consulted by the Office for purposes of claim construction during an *inter partes* review. See *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015).

Upon an examination of the original Specification, I conclude that the reissued claims are directed to the material in the original Specification, i.e., with a unitary enclosure member with corner connection pieces, whereby two ends of (connected) fabric emerge from each corner piece through a single slit in the corner piece.

I. The Invention

Original Figure 5 is depicted below:



F I G. 5

Figure 5 (which was part of the original application for a patent) depicts a corner piece for the baby crib. There are four corner pieces that support the fabric enclosure member. As depicted in Figure 5, two ends of a (connected) piece of fabric emerge through a slit in the corner piece before the two ends diverge to form the sides of the enclosure member. In this manner, there are four sides, which are supported by four corner pieces.

The Patent Owner noted during the hearing that one important aspect of the invention, relative to the prior art, is that the fabric is not wrapped around the outside of the posts. Tr. 81:17–84:4. The parties debate whether the fabric enclosure is unitary or composed of discrete panels. Pet. Reply 2–4; Tr. 71:1–8; *see also* Tr. 103:17–104:14, 116:1–120:13 (further discussing claim construction in the context of the motion to amend).

II. History of Amendments in Reissue

As indicated above, the patentee sought reissue, which the patentee stated to be a broadening of the claims. Ex. 1004, 511–514 (Preliminary Amendment and Remarks of Oct. 26, 2006). As to the claims, the patentee made amendments to independent claim 1, deleting certain words, and added new independent claims 8, 15, and 20. The patentee also added text to the written description in reissue.

In independent claim 1, the patentee deleted the term “said slit in each of said upright tubes” from independent claim 1 and replaced it with “each of said slits in each of said upright tubes.” Ex. 1004, 170. New independent claims 8, 15, and 20 do not contain any recitations corresponding to the “slit” in the upright tubes. Nevertheless, new independent claims 8, 15, and 20 each recite that the fabric member is “substantially out of contact” with the outwardly facing surfaces of the outer walls of the upright tubes, a

recitation which was not present in original independent claim 1. This claim phrase was also added to independent claim 1. For this “substantially out of contact” limitation, the Examiner required a clarification of Figure 5 prior to allowance for reissue. Ex. 1004, 222–223.

New independent claims 15 and 20 also contain the recitation that the enclosure member includes “a plurality of side panels.” The patentee added text in reissue to the written description portion of the Specification, “to form an enclosure member having a plurality of side panels.” Ex. 1004, 169 (Amendment of Oct. 12, 2011); Ex. 1001, 2:67–3:2 (“to form an enclosure member having a plurality of side panels”).

III. Dispositive Issue

The dispositive issue raised by the grounds on which we instituted review, which depends on the history of the attempted broadening in reissue, is whether, under the broadest reasonable interpretation of claims in light of the original Specification, the fabric enclosure may be composed of separate, discrete panels. As set forth below with respect to the two claim limitations, it is my view that the enclosure is configured such that two edges of the same fabric member emerge through one slit in each corner post opening. In sum, the patentee invented a connection piece for a unitary enclosure member.

I do not believe that there is sufficient evidence that the patentee was in possession of the invention of a connection piece for a plurality of *separate* side panels prior to reissue. To the extent that the patentee now may attempt to claim multiple panels, such a plurality of panels would be within the scope of the patent if sewn together as a unitary fabric, as depicted in original Figure 5.

The majority observes that the original Specification discloses an embodiment with “four lateral sides” when the enclosure member is “mounted” on the bedframe. *See* Ex. 1001, 2:43–45 (*cited ante* at 24). This embodiment, of an enclosure member with four sides is, in my view, fully consistent with the understanding that the sides or side panels were part of a unitary “fabric member” or “enclosure member.” Indeed, in the original Specification, four sides are formed when the fabric enclosure is “mounted” on the corner connection pieces.

The distinction between a unitary enclosure member and an enclosure member composed of separate panels is not a trivial distinction because the invention relates to the connection piece. In some respects, it is more complex to connect separate panels. However, in other respects, the corner connection piece of the recited invention may be understood as elegant in its simplicity, i.e., as the creation of a geometric arrangement that is synergistic in connecting two sides at one corner slit using one piece of fabric. *Cf. In re Edge*, 359 F.2d 896, 899 (CCPA 1966) (omission of element while retaining function may be inventive). In my view, connecting separate panels, composed of more than one piece of fabric, is a different invention, which is not supported by the original disclosure. In other words, because the invention relates to a particular connectivity, this is not simply a situation where one may pluralize the components within the scope of the same invention. Nor is there a clear and unequivocal disclosure of any such invention. *See Antares Pharma, Inc.*, 771 F.3d at 1362

Thus, as described in more detail below, I would conclude that the broadest reasonable interpretation of the original Specification is that the

enclosure member is necessarily unitary, such that two (connected) pieces of fabric emerge from the same corner piece.

IV. Claim Construction

“through each of said slits” and “substantially out of contact”

Independent claim 1

Independent claim 1 recites “a plurality of upright tubes, . . . *each of which has a slit* that extends along the length of said outer tube wall.”

As originally issued, claim 1 further recited “said fabric member . . . extending outward *through said slit in each of said upright tubes.*” During reissue, as part of a larger amendment on the extension of the fabric member between tubes, the patentee changed the wording of the latter limitation to read “said fabric member . . . extending outward *through each of said slits of said upright tubes.*”

There is no support in the original Specification for the use of multiple slits in corner connections. I would conclude that the patentee’s amendment does not broaden the claims beyond the meaning of the original disclosure. In other words, I would construe “*each of said slits of said upright tubes*” to have the same numerical meaning as “*said slit in each of said upright tubes,*” i.e., a one-to-one correspondence between the slit and the upright tube. Thus, one slit in each tube is the broadest reasonable interpretation of the claim language in light of the original Specification.

As above, I do not regard the difference between singular and plural to be trivial here as a matter of inventive concept, nor do I consider one to be inherent in the other as a matter of disclosure of the original Specification.

Independent claims 8, 15, and 20

The single “slit” limitation was omitted when new independent claims 8, 15, and 20 were introduced during reissue. Omissions from claim language are typically broadening in nature, and I do not find written description support in the original Specification for such a broadening. The new reissue independent claims 8, 15, and 20 do contain a new limitation, as does reissue independent claim 1, i.e., that the edges of the fabric member must be “substantially out of contact” with the outer wall of the tube. It is my view that the Examiner understood the “substantially out of contact” limitation to serve a similar purpose as the omitted single “slit” limitation, inasmuch as both describe the emergence of the edges of the fabric from the corner piece.

Indeed, it is doubtful that the “substantially out of contact” limitation would be necessary if two pieces of fabric were emerging from two different openings in the corner piece. The fact that the Examiner required a clarification to Figure 5 prior to allowance for reissue further supports the understanding that the embodiment of Figure 5 is that which provides written description support for the new independent claims 8, 15, and 20 in reissue. Taken literally, the “substantially out of contact” limitation refers to the ends of fabric being out of contact with the outer walls of the tube as they diverge. Figure 5 discloses the splaying of the ends of the fabric as they emerge through the single slit and diverge from each other to form the sides of the enclosure. (The two ends of fabric will ultimately form at or about a 90 degree angle when the rectangular baby crib is assembled.)

Based on the broadest reasonable interpretation of the claim language in light of the original Specification, I would conclude that the “substantially

out of contact” limitation describes the emergence of the ends of fabric as they emerge from a corner piece, and is premised on the understanding that the fabric is emerging from a single slit when it is substantially out of contact with the outer walls of the tube.

“enclosure member” or “fabric member”

Independent claims 1 and 8

Independent claims 1 and 8 recite an “enclosure member” or “fabric member” and do not recite a “plurality of side panels.” It is my view that independent claims 1 and 8, like independent claims 15 and 20 that follow, describe a unitary enclosure member.

Independent claims 15 and 20

New independent claims 15 and 20 specifically recite that the “enclosure member” has a “plurality of side panels.” The mention of a “plurality of side panels” in the Specification was added during reissue. There was no written disclosure support for a plurality of separate side panels in the original disclosure.⁹ As above, although the original

⁹ When asked at the oral hearing as to whether the addition to the Specification was broadening, counsel for Patent Owner stated that there was also a change made to Figure 5 by the Examiner. Tr. 70:11–20. In context, the patentee overcame an obviousness rejection by the Examiner through amendment and argument, which resulted in a concomitant clarification of Figure 5 of the Specification. Patent Owner’s statements during an IPR (i.e., post-issuance) do not have the same prosecution history force as statements made prior to issuance (e.g., during original prosecution or during reissue prosecution). *Cf. Microstrategy, Inc. v. Zillow, Inc.*, Case IPR2013-00034, slip op. at 12 (PTAB March 27, 2014) (Paper 42) (not accepting attempted post-issuance disclaimer of claim scope by Patent Owner made in same IPR proceeding). Nevertheless, Patent Owner’s statement at the oral hearing (Tr. 70:11–20) is consistent with the

Specification stated that the enclosure member formed four sides when mounted, it is my view that this is fully consistent with the notion that the four sides are part of the same piece of fabric.¹⁰

Thus, it is my view that the “plurality of side panels” are configured as set forth in the original Specification, e.g., original Figure 5, such that two edges of the same fabric member emerge from each corner post opening to form two side panels that are seamlessly connected or sewn together in a unitary enclosure member.

V. Application of Prior Art in Asserted Grounds of Unpatentability

None of the prior art references discloses a unitary “enclosure member” with side panels emerging from the same corner piece in such a

understanding that the written description support for the reissued claims lies in Figure 5 of the Specification.

Indeed, during reissue prosecution, the patentee and the Examiner focused on Figure 5 and the corresponding material added to the Specification to distinguish what the patentee regarded as his invention from the prior art. *See* Ex. 1004, 240–241, 222–223, 168–169, 147. In this connection, I am not relying for construction of the claims on the presence or absence of a prosecution history disclaimer, but rather on the reissue statute itself which requires support in the original Specification for broadening claims.

¹⁰ It bears mention here that Petitioner argues against a unitary enclosure, relying on Patent Owner’s deletion by amendment in reissue of claim terms (originally introduced in reissue for new independent claim 8) that would have required the enclosure member of that claim to be “formed in a single body.” Pet. Reply 4 (citing Ex. 1004, 178). Nevertheless, fabric may be sewn together, even if not formed as a single unit, or may be joined in some other way. Therefore, I do not regard as dispositive of the resulting structure of the enclosure member how the enclosure member fabric is formed.

manner as to be “substantially out of contact” with the upright tube, as construed above.

Grounds I and II: Claims 1–5 and 8–29 as obvious over Vaiano and Pasin, alone or further in combination with Stoeckler

The parties dispute whether Vaiano (Ex. 1021) discloses a unitary enclosure. Patent Owner argues that it is unclear from Vaiano whether netting 32 is a continuous member. See PO Resp. 22. At the oral hearing, Patent Owner argued that Vaiano’s netting is not continuous, noting that the cross-hatch lines in the Figures from Vaiano do not match up. Tr. 73:17–20. In any event, inherency cannot be established by possibilities or probabilities. *PAR Pharmaceutical, Inc. v. TWI Pharmaceuticals, Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014). Pasin (Ex. 1015) and Stoeckler (Ex. 1017) also lack a unitary enclosure member.

Similarly, it is, at best, unclear how the ends of fabric 32 in Vaiano emerge from the corner posts 10. See Pet. 22 (averring that Vaiano “does not show the connection mechanisms that create the ‘exposed’ tube look”). Thus, Vaiano does not disclose two ends of fabric emerging out of a single slit, as I understand the “substantially out of contact” limitation to require. This understanding of the “substantially out of contact limitation” hinges on the above claim construction—i.e., the understanding that the transmogrification of the single “slit” limitation into the “substantially out of contact” limitation in reissue, through omission of one and introduction of the other (with concomitant clarification of Figure 5 required by the Examiner), does not permit a broadening of the claims beyond the original disclosure. Pasin and Stoeckler also fail to disclosure this limitation as they

use a plurality of Keder-type connections,¹¹ with one piece of fabric emerging from each opening. See Ex. 1015, Fig. 4, 6; Ex. 1017, Fig. 1, 3, 4. In other words, they do not disclose two pieces of connected fabric emerging from a single, common opening.

As for the asserted combination of the enclosure of Vaiano with the Keder-type connections of Pasin, alone or further in view of the Keder-type connections of Stoeckler, to arrive at the invention as recited in claims 1–5 and 8–29, this is not a matter of simple substitution, but rather the creation of a geometric arrangement that is synergistic and simpler in combination than any of the component parts. See *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007); *In re Edge*, 359 F.2d 896, 899 (CCPA 1966) (simpler structure may be nonobvious).¹²

Therefore, I am not persuaded that any of claims 1–5 and 8–29 would have been obvious over Vaiano and Pasin, alone or further in combination with Stoeckler.

¹¹ See Ex. 1027 for a depiction of a Keder connection.

¹² Petitioner also relies on Rexroad (Ex. 1026) as evidence of the knowledge of a person of ordinary skill in the art for joining two sides with a corner post. See Pet. Reply 12; Tr. 5:5–15. For example, Figure 13 of Rexroad illustrates fabric 12’ lashed to post 96. Patent Owner responded that this Figure of Rexroad does not make use of a Keder-type connection because there is no slot used. See Tr. 77:23–78:7. To the extent that Petitioner argues that it would have been obvious to combine all references to arrive at the claimed invention, with two ends of fabric emerging from a common slit, such an argument, is in my view based on hindsight.

VI. Conclusion

I would determine that Petitioner has not proven by a preponderance of the evidence that claims 1–5 and 8–29 of the '919 patent are unpatentable as asserted. Because I conclude that the claims are not unpatentable, I would not reach Patent Owner's contingent motion to amend.

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