

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THORLEY INDUSTRIES LLC, D/B/A 4MOMS,
Petitioner,

v.

KOLCRAFT ENTERPRISES, INC.,
Patent Owner.

Case IPR2016-00352
Patent 9,027,180 B2

Before MICHAEL R. ZECHER, BRIAN J. McNAMARA, and
DANIEL J. GALLIGAN, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a)

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.108, Thorley Industries LLC, d/b/a 4Moms (“Petitioner”) challenges the patentability of claims 1–18 of U.S. Patent No. 9,027,180 B2 (“the ’180 patent,” Ex. 1001), owned by Kolcraft Enterprises, Inc. (“Patent Owner”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during trial. For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–18 of the ’180 patent are unpatentable. *See* 35 U.S.C. § 316(e) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”).

A. Procedural History

On December 16, 2015, Petitioner requested an *inter partes* review of claims 1–18 of the ’717 patent. Paper 1, “Pet.” Patent Owner filed a Preliminary Response. Paper 12 (“Prelim. Resp.”). In a Decision on Institution of *Inter Partes* Review, we instituted trial of claims 1–18 on the following grounds of unpatentability:

1. Whether claims 1–4, 6–14, and 16–18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol¹ and Pasin;²

¹ U.S. Patent No. 4,985,948, issued Jan. 22, 1991 (Ex. 1003).

² U.S. Patent No. 6,004,182, issued Dec. 21, 1999 (Ex. 1009).

2. Whether claims 1–4, 6–14, and 16–18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Stoeckler;³
3. Whether claims 1–4, 6–8, 10–14, 16, and 18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Rexroad;⁴
4. Whether claims 1–8, 10–16, and 18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Johnston;⁵
5. Whether claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Pasin, and Hartenstine;⁶
6. Whether claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Stoeckler, and Hartenstine;
7. Whether claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Rexroad, and Hartenstine;
8. Whether claims 7 and 8 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Tharalson.⁷

Paper 14 (“Dec. on Inst.”), 22.

During the trial, Patent Owner filed a Response (Paper 18, “PO Resp.”), and Petitioner filed a Reply (Paper 20, “Pet. Reply”). In addition, Petitioner filed a Motion to Exclude evidence. Paper 21. Patent Owner filed

³ U.S. Patent No. 7,063,096 B2, issued June 20, 2006 (Ex. 1010).

⁴ U.S. Patent No. 6,076,448, issued June 20, 2000 (Ex. 1011).

⁵ U.S. Patent No. 3,875,623, issued Apr. 8, 1975 (Ex. 1006).

⁶ U.S. Patent No. 6,510,570 B2, issued Jan. 28, 2003 (Ex. 1013).

⁷ U.S. Patent No. 5,845,349, issued Dec. 8, 1998 (Ex. 1012).

an Opposition to Petitioner's Motion to Exclude (Paper 23), and Petitioner filed a Reply in support of its Motion to Exclude (Paper 24).

No oral hearing was held. See Paper 22 (ordering that no oral hearing would be held because neither party requested it).

B. Related Matters

Petitioner and Patent Owner cite the following two judicial matters in the U.S. District Court for the Northern District of Illinois as involving the '180 patent: (1) *Kolcraft Enterprises, Inc. v. Thorley Industries LLC*, No. 1-15-cv-07954; and (2) *Kolcraft Enterprises, Inc. v. Graco Children's Products Inc.*, No. 1-15-cv-07950. See Pet. 3; Paper 6.

C. The '180 Patent

The '180 patent is directed to foldable, portable "play yards." Ex. 1001, Abstract. In particular, the '180 patent discloses an exemplary play yard having

a collapsible upper frame, a collapsible lower frame, and posts to support the upper frame above the lower frame. The posts include respective tracks. The example also includes a foldable, frameless enclosure operatively coupled to the upper frame, the lower frame and the posts. The enclosure has a plurality of sides and a bottom to define an enclosure volume. The enclosure also has a plurality of corner beads dimensioned for receipt in a respective one of the tracks to secure the enclosure to the posts.

Ex. 1001, Abstract. Figure 1 of the '180 patent is reproduced below:

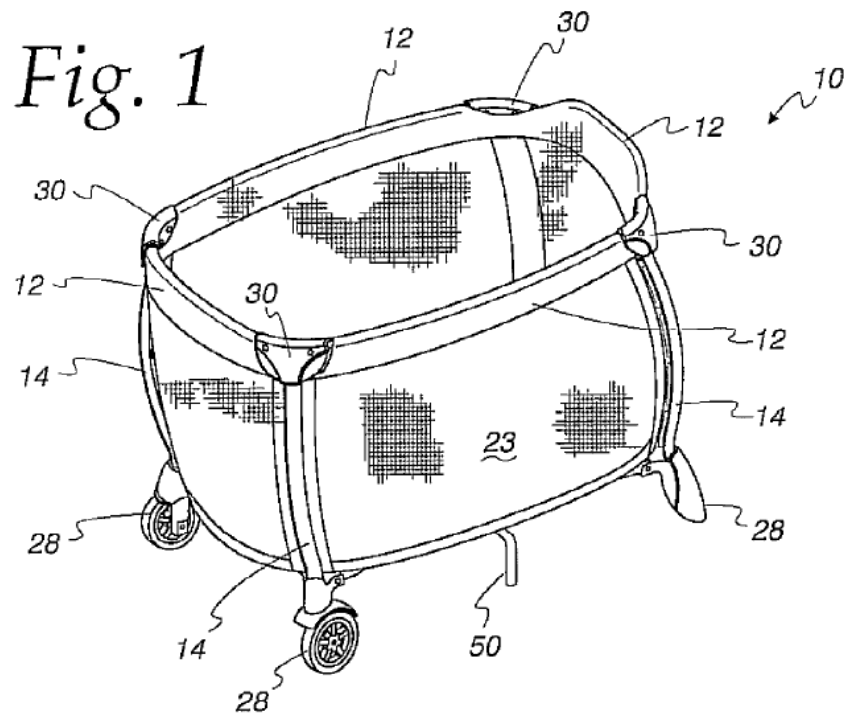


Figure 1 depicts “an example play yard constructed in accordance with the teachings of the invention.” Ex. 1001, 1:39–40, 2:11.

D. Illustrative Claims

Claims 1, 7, and 11 are independent claims. Claims 2–6 depend directly or indirectly from independent claim 1; claims 8–10 depend from claim 7; and claims 12–18 depend directly or indirectly from claim 11. Claims 1 and 7 are illustrative of all the challenged claims and are reproduced below:

1. A play yard comprising:
a collapsible upper frame;
a collapsible lower frame;
posts to support the upper frame above the lower frame,
the posts including respective channels; and
a foldable, frameless enclosure operatively coupled to the
upper frame, the lower frame and the posts, the enclosure having
a plurality of sides and a bottom to define an enclosure volume,
the enclosure having a plurality of corner beads dimensioned for

receipt in a respective one of the channels to secure the enclosure to the posts.

Ex. 1001, 6:35–45.

7. A play yard comprising:
 - a frame movable between an erected position and a collapsed position, the frame including an upper frame and a lower frame;
 - a post positioned between the upper frame and the lower frame, the post having an inner portion including a channel; and
 - a flexible enclosure having a first side, a second side and a bottom side, a corner bead threaded into the channel to couple the enclosure to the post.

Id. at 6:61–7:3.

II. ANALYSIS

A. Claim Construction

In the Decision on Institution, we determined that the terms in the challenged claims did not need to be construed expressly (Dec. on Inst. 5–6), and we see no reason to modify that determination in light of the record developed at trial. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

B. Principles of Law

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). Although the elements must be arranged or combined in the same way as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e.,

identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

C. Level of Ordinary Skill in the Art

Based on the record, we agree with Petitioner that the skill level of a person of ordinary skill in the art, at the relevant time for the ’180 patent, would have been that of “a mechanical engineer or industrial designer with five or more years of experience in product design and/or manufacturing, including for juvenile products such as play yards and the like (e.g., cribs, play pens, etc.), or equivalent educational and vocational experience.” Pet. 8 (citing Ex. 1002 ¶ 24). Patent Owner does not dispute Petitioner’s assertion of the level of ordinary skill in the art.

*D. Unpatentability Grounds Based on Mariol in View of Each of Pasin,
Stoeckler, Rexroad, and Johnston
(Claims 1–18)*

Petitioner contends that independent claims 1, 7, and 11 would have been obvious over Mariol in view of each of Pasin, Stoeckler, Rexroad, and Johnston. Pet. 9, 13–43. Furthermore, Petitioner contends that each dependent claim would have been obvious over Mariol in combination with at least one of Pasin, Stoeckler, Rexroad, and Johnston. *Id.* at 9, 43–51. In particular, Petitioner explains how the cited prior art references teach the claimed subject matter, provides reasoning as to why one of ordinary skill in the art would have been motivated to combine or modify their respective teachings, and relies upon the Declaration of Mr. Bert L. Reiner (Ex. 1002, hereinafter, the “Reiner Declaration”) to support its positions.⁸ Pet. 13–51.

1. Independent Claims 1, 7, and 11

Petitioner contends Mariol teaches all limitations of independent claims 1, 7, and 11, except for the use of “corner bead[s]” as recited in each independent claim. Pet. 13–16.

a. Analysis of Mariol

Petitioner contends Mariol discloses a play yard having “upper horizontal support 14” and “lower horizontal support 16,” and Petitioner contends that these upper and lower supports teach upper and lower frames, respectively, recited in claims 1, 7, and 11 and that these supports are

⁸ According to Petitioner, Patent Owner did not depose Mr. Reiner. Pet. Reply 1. Furthermore, Patent Owner does not proffer the testimony of an expert to support its positions. Mr. Reiner’s testimony, therefore, is un rebutted.

“collapsible,” as recited in claims 1 and 11. Pet. 13–14 (citing Ex. 1003, 4:44–56, 5:51–54, Fig. 1). With respect to independent claim 7, Petitioner argues frame assembly 12 is “movable between an erect[ed] position and a collapsed position,” as recited in claim 7. *Id.* at 14 (citing Ex. 1003, 2:65–67).

We are persuaded by Petitioner’s contentions, and we find Mariol discloses these limitations of claims 1, 7, and 11. In particular, Mariol discloses a foldable play yard, as depicted in Figure 1, reproduced below:

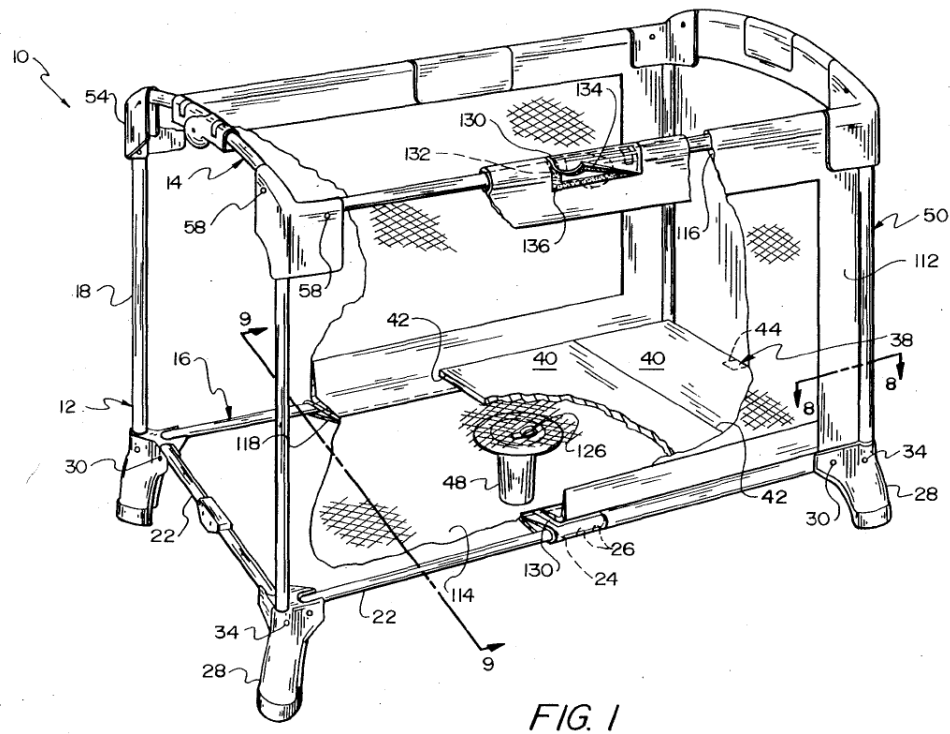


Figure 1 depicts “a foldable playyard constructed in accordance with the principles of” Mariol. Ex. 1003, 4:16–18. Foldable playyard 10 has “frame assembly 12[, which] includes an upper horizontal support 14, a lower horizontal support 16 and vertical support rails 18, all pivotally coupled with respect to each other.” *Id.* at 4:40–43.

We find “upper horizontal support 14” and “lower horizontal support 16” are “collapsible,” as recited in claims 1 and 11, because they include hinges 60 and 24 that permit the supports to be folded. Ex. 1003, 4:44–56, 5:50–54, Fig. 1. For example, Mariol discloses: “The lower horizontal support has four sides but is constructed of eight rails 22 with central hinges 24 connecting the rail pairs at the center of each side. Each hinge 24 *pivotaly couples* the rail pairs of each side by pins 26.” Ex. 1003, 4:46–50 (emphasis added); *see also* Ex. 1003, 5:51–54 (“[H]inges 60 constitute locking components of the folding, unfolding and locking of the playyard between its folded, collapsed orientation and its opened operative orientation.”). Furthermore, we find Mariol teaches a “frame movable between an erected position and a collapsed position” because it discloses that the play yard can be “in an unfolded condition for operation and use” and “in a folded condition for storage.” Ex. 1003, 2:66–68.

Petitioner further contends Mariol’s “vertical support rails 18” teach “posts to support the upper frame above the lower frame, the posts including respective channels,” as recited in claim 1, and “a post positioned between the upper frame and the lower frame, the post having an inner portion including a channel,” as recited in claim 7. Pet. 14–15 (citing Ex. 1003, Abstract, 4:40–44, Figs. 1, 8; Ex. 1002 ¶¶ 34, 35). Petitioner notes claim 11 differs from claim 1 only in reciting “the posts defining respective channels,” rather than “including respective channels.” *Id.* at 16. Petitioner argues that Mariol’s vertical support rails 18 have inner channels. *Id.* at 14–15 (quoting Ex. 1003, Abstract; citing Ex. 1003, Fig. 8; Ex. 1002 ¶¶ 34–35).

We are persuaded by Petitioner’s contentions, and we find Mariol discloses these limitations of claims 1, 7, and 11. In particular, Mariol

describes the vertical supports as “vertical tubes,” and Figure 8, which depicts a cross section of a vertical support rail, illustrates the rail as a tube. *See* Ex. 1003, Abstract, 4:29–31, 6:65–68, Fig. 8. We credit Mr. Reiner’s un rebutted testimony that Mariol’s disclosure of a tube teaches a post having a channel. *See* Ex. 1002 ¶ 35 (“Because the vertical support rails 18 are tubular, it is my opinion that Mariol’s vertical support rails 18 are essentially hollow and define an interior passageway or ‘**respective channels**’ as recited in independent claims 1 and 11 . . .”).

Petitioner also contends Mariol’s fabric assembly 50 teaches “a foldable, frameless enclosure operatively coupled to the upper frame, the lower frame and the posts, the enclosure having a plurality of sides and a bottom to define an enclosure volume,” as recited in claims 1 and 11, and “a flexible enclosure having a first side, a second side and a bottom side,” as recited in claim 7. Pet. 15–16 (citing Ex. 1003, 6:56–67; Ex. 1002 ¶¶ 36, 37). We are persuaded by these contentions, and we find Mariol discloses these limitations. In particular, Mariol discloses “fabric assembly 50 . . . is of essentially box-like construction without a top” and “includes vertical side panels or walls 112 and a horizontal bottom panel or wall 114 all coupled together as to stitching to form a unitive fabric assembly with each panel or wall positively supported about its periphery by rails on all four sides.” Ex. 1003, 6:54–60. Because assembly 50 is fabric, we find Mariol teaches that it is “foldable,” as recited in claims 1 and 11, and “flexible,” as recited in claim 7. *See* Ex. 1002 ¶ 36.

Claims 1 and 11 further recite “the enclosure having a plurality of corner beads dimensioned for receipt in a respective one of the channels to secure the enclosure to the posts,” and claim 7 recites “a corner bead

threaded into the channel to couple the enclosure to the post.” Petitioner acknowledges Mariol does not teach the use of “corner beads,” as claimed. Pet. 15. Rather, Mariol teaches the fabric assembly has “vertical hems 122,” which, according to Petitioner, “form corner *sleeves*, as opposed to corner *beads*.” *Id.* (citing Ex. 1003, 6:65–67).

Petitioner cites four prior art references—namely, Pasin, Stoeckler, Rexroad, and Johnston—as teaching the use of “corner beads” for attaching material to a post or frame member, and Petitioner contends it would have been obvious to one of ordinary skill in the art to modify the play yard of Mariol such that the enclosure would couple to the frame using the corner beads taught by either Pasin, Stoeckler, Rexroad, or Johnston. Pet. 18, 28–43.

Next, we discuss Petitioner’s contentions and our findings with respect to Pasin, Stoeckler, Rexroad, and Johnston before turning to Petitioner’s rationales for combining the teachings of Mariol with those of Pasin, Stoeckler, Rexroad, and Johnston.

b. Analysis of Pasin

Pasin is directed to the construction of “temporary structure[s],” including those “for the amusement of children, . . . such as simulated forts, houses, tents, tunnels, caves, etc.” Ex. 1009, 1:4–7, 1:39–41. “The structures . . . comprise a plurality of panels which may be formed of plastic, canvas, or from a variety of fabrics.” *Id.* at 1:27–29. Referring to Figure 1, Pasin discloses that the “structure is composed of a plurality of panels 12 which are interconnected by means of joining frame members 14 and connectors 16.” *Id.* at 2:15–17.

Figures 4 and 6 of Pasin are reproduced below:

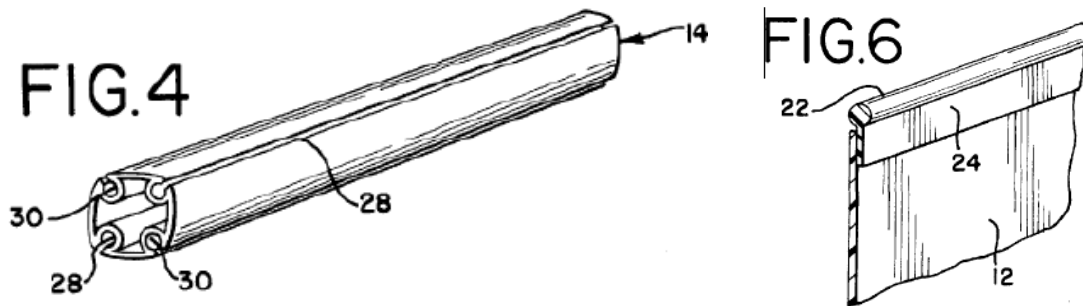


Figure 4 depicts a joining frame member, and Figure 6 depicts “a fabric panel and associated rod formation.” Ex. 1009, 1:62, 2:1–3.

Petitioner argues “Pasin uses beads at corners to attach the panels 12 to the frame member 14.” Pet. 29. In particular, Petitioner contends rod formations 22 together with rods 27 and 29 teach “corner beads” that insert into “receptacle area 30” (channel) to attach panel 12 to joining frame member 14. *Id.* at 29–30 (citing Ex. 1009, 2:64–3:14, Figs. 4, 4A, 6, 6A, 6B; Ex. 1002 ¶ 43).

We are persuaded by Petitioner’s contentions, and we find Pasin teaches corner beads for attaching panel 12 to joining frame member 14. This finding is supported by the disclosure of Pasin reproduced above as well as Pasin’s disclosure that

each of the joining frame members 14 includes a plurality of slots 28 on its outer surface. Each slot extends inwardly to an enlarged receptacle area 30. The receptacle areas 30 are dimensioned for receiving the rod formations 22 or a rod 27 or 29 with the associated fabric material. Thus, the rod formations or rods are adapted to be forced through the slots 28 and then seated within the receptacle areas 30.

Ex. 1009, 3:9–16.

c. Analysis of Stoeckler

Stoeckler is directed to “collapsible tent structures” in which “a side cover made of fabric or keder 7 with an edge bead or flange or keder-profile 8 or 9 is supported in a vertical position between two corner posts.”

Ex. 1010, 1:18–25. Figures 3 and 5 of Stoeckler are reproduced below:

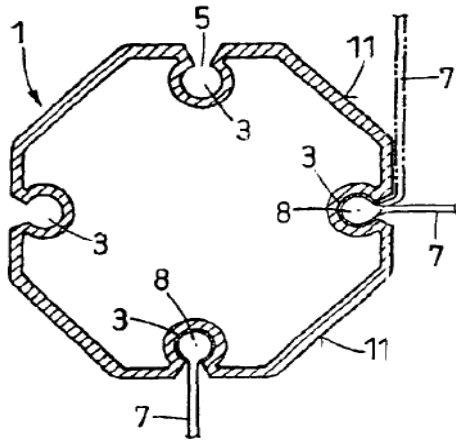


FIG. 3

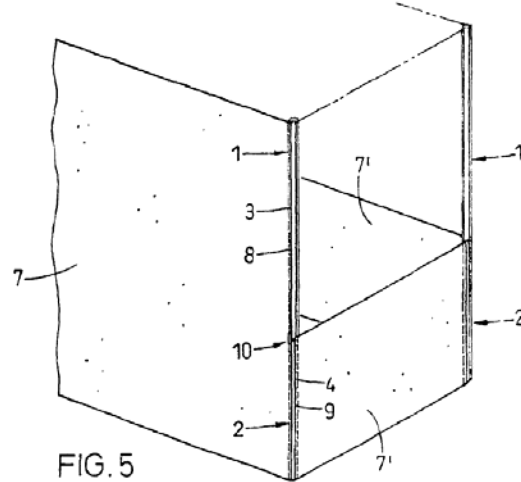


FIG. 5

Figure 5 depicts edge posts with an inserted side wall, and Figure 3 depicts a cross-section of the upper portion 1 of a post in Figure 5. Ex. 1010, 2:44–47.

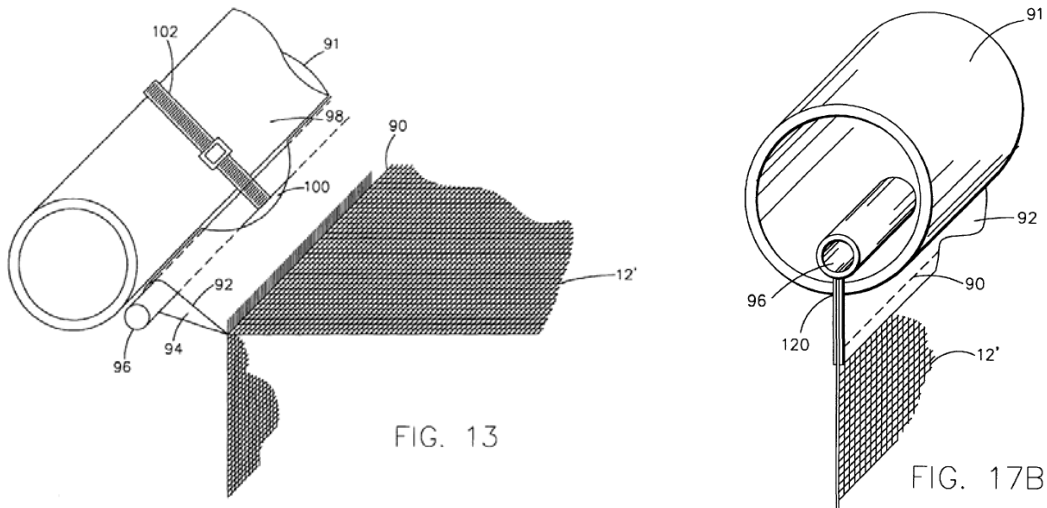
Petitioner contends beads 8 and 9 in Stoeckler teach “corner beads” that insert into the grooves or channels of the post to attach side covers 7 to the post. Pet. 32–33 (citing Ex. 1010, Abstract, 1:18, 2:32–36, Figs. 3, 5; Ex. 1002 ¶ 46).

We are persuaded by Petitioner’s contentions, and we find Stoeckler teaches corner beads for attaching side covers 7 to the post. This finding is supported by the disclosure of Stoeckler reproduced above. It is further supported by Stoeckler’s disclosure that “[t]he keder-profile is a border thickening that is kept in a channel or groove in a rail and is held therein due to its shape. The opening slot for the side cover is thereby much more

narrow than the cross-sectional area for the receipt of the keder profile.”
Ex. 1010, 2:32–36.

d. Analysis of Rexroad

Rexroad “relates to a material used in partitioning children’s play areas and industrial guards.” Ex. 1011, 1:6–7. Figures 13 and 17B of Rexroad are reproduced below:



Figures 13 and 17B illustrate ways to attach mesh material 12' to structural member 91. *Id.* at 8:38–9:3.

Petitioner contends Rexroad’s support rod or rope 96 inserted into sleeve 92 teaches a “corner bead” that is inserted into “a channel (longitudinal slit 120) of an associated post (structural member 91) to secure (or couple) the enclosure (mesh 12’) to the post (structural member 91).” Pet. 36–38 (citing Ex. 1011, 8:38–9:1, Figs. 13, 17B; Ex. 1002 ¶ 52).

We are persuaded by Petitioner’s contentions, and we find Rexroad teaches a corner bead to secure mesh 12' to structural member 91. This finding is supported by the disclosure of Rexroad reproduced above, as well as Rexroad’s disclosure, referring to Figure 17B, that

member 91 has a longitudinal slit 120 which extends lengthwise therealong which is sufficiently wide to receive the width of the border 92 therein, but is too narrow enough to prohibit the member 96 from passing therethrough. Thus the mesh 12, 12' is held in place by the oversized diameter of the elongate member 96 to effect connection.

Ex. 1011, 8:64–9:3. Furthermore, referring to Figure 13, Rexroad discloses inserting “support rod or rope 96” into “hollow border member 92” and using “plastic tie wrap 102 or lashing cord” to secure the support rod or rope so as to attach mesh 12’ to structural member 91. Ex. 1011, 8:38–54.

e. Analysis of Johnston

Johnston is directed to fabric joints. Ex. 1006, 1:2. Figures 2 and 4 of Johnston are reproduced below:

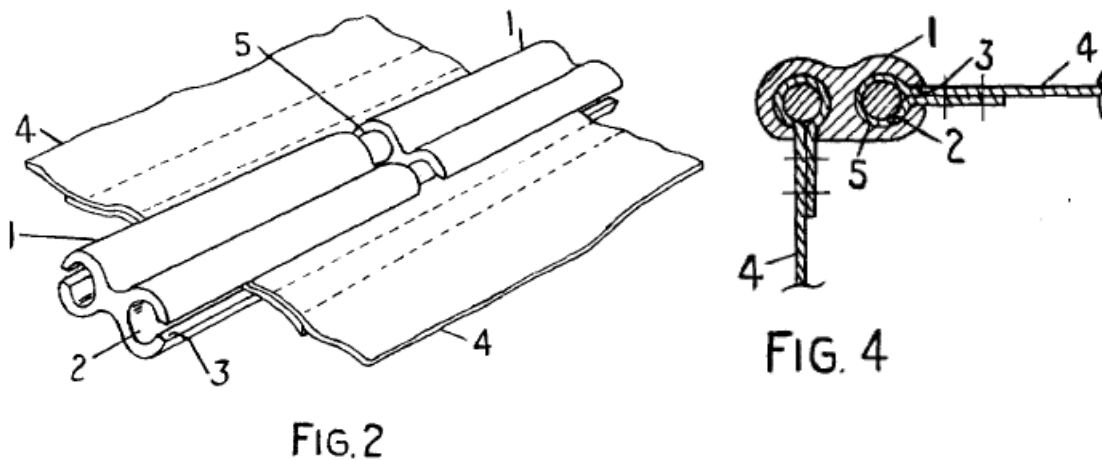


Figure 2 depicts “a perspective view of the joint showing the meeting point of two adjacent short ribs forming sections of a longer rib,” and Figure 4 depicts “a cross section of a joint at a corner.” *Id.* at 2:1–3, 7.

Petitioner contends beads 5 in Johnston teach “corner bead[s]” that attach fabric 4 to ribs 1. Pet. 41 (citing Ex. 1006, Abstract, 1:6–9, 1:36, 2:7, Fig. 4; Ex. 1002 ¶ 55).

We are persuaded by Petitioner’s contentions, and we find Johnston teaches corner beads that attach fabric 4 to ribs 1. This finding is supported by the disclosure of Johnston reproduced above, as well as Johnston’s disclosure, referring to Figure 2, that “[t]wo sheets of fabric 4 are formed along edge portions to be joined with integral enlarged beads 5. The bead 5 of each sheet is located within the respective passageway 2 and the portion of the sheet extending back from the bead passes through the respective slot 3.” Ex. 1006, 2:12–17. Furthermore, in the corner configuration of Figure 4, “the lateral slots 3 face in directions at right angles to one another.” *Id.* at 2:23–24.

f. Rationales to Combine

Petitioner presents a number of reasons, supported by evidence in the record, that a person of ordinary skill in the art would have been motivated to modify Mariol to incorporate the corner beads taught by each of Pasin, Stoeckler, Rexroad, and Johnston. Pet. 18–27. For example, for all of these references Petitioner contends that a person of ordinary skill in the art would have been “motivated to replace Mariol’s corner sleeves with the claimed corner beads to improve the manufacturability and ease of use of the play yard.” Pet. 26 (citing Ex. 1002 ¶¶ 66–67). As to each of the references, Petitioner also contends that using corner beads in place of the corner sleeves disclosed in Mariol would have been a matter of simple substitution of one known attachment technique for another. *Id.* at 19–21. Relying on the testimony of its declarant, Mr. Reiner, Petitioner contends that such a substitution would be straightforward and would yield the predictable result of attaching a flexible enclosure to corner posts. *Id.* (citing 1002 ¶¶ 60–63). Petitioner further contends that “[t]here are only a finite number of ways to

attach the enclosure to the corner posts,” and for all of these references, Petitioner argues that “corner beads provide an attachment that is durable and strong, which are desirable characteristics for juvenile products.” Pet. 21, 24–25 (citing Ex. 1002 ¶¶ 62, 64; Ex. 1006, 1:31–32, 2:37–38).

Petitioner’s contentions are supported by the unrebutted testimony of Mr. Reiner. With respect to ease of manufacturing using corner beads, Mr. Reiner testifies:

It is desirable to manufacture juvenile products easily and economically. In my opinion, it would be easier to manufacture a play yard like Mariol’s to have corner beads instead of corner sleeves because it would be more difficult to sew the enclosure around curved posts, which would result in higher labor cost and more rejects.

Ex. 1002 ¶ 66. Mr. Reiner further testifies: “In my opinion, it would be easier to use a play yard like Mariol’s but with corner beads instead of corner sleeves because it would be easier to collapse the play yard because there would be less bunching of the fabric in the corners.” Ex. 1002 ¶ 67.

Mr. Reiner still further testifies:

The corner beads disclosed in the secondary references perform the same function as the corner sleeves disclosed in Mariol—that is, attach a flexible enclosure to corner posts. Modifying the flexible enclosure of Mariol to include corner beads is merely the simple substitution of one known attachment technique—corner sleeves of the enclosure around the posts—with another known attachment technique—corner beads of the enclosure within the posts. . . .

The replacement of a corner bead for Mariol’s corner sleeves is straightforward. Such a simple substitution does not require any special considerations or skills. And a [person having ordinary skill in the art] would recognize that using corner beads would realize the strength and durability associated with corner bead attachments. As such, the skill level of a [person

having ordinary skill in the art] at the relevant time, would allow the [person having ordinary skill in the art] to expediently evaluate corner beads to determine that they are functionally equivalent to corner sleeves for attaching a flexible enclosure to corner posts and use them as a substitute.

In my opinion, the combination of Mariol's play yard and the corner beads disclosed in the secondary references does not provide unpredictable results. The beads provide the exact result that a [person having ordinary skill in the art] would expect—the attachment of the enclosure to the corner posts.

Ex. 1002 ¶¶ 60, 62–63.

Patent Owner argues the use of corner beads would complicate manufacture and assembly of Mariol, making it unsatisfactory for its intended purpose “to more safely, efficiently, conveniently and economically fabricate and use foldable playyards.” PO Resp. 5–7 (quoting Ex. 1003, 2:33–35). In support of its argument, Patent Owner cites a decision denying *inter partes* reexamination of U.S. Patent 6,859,957 (“Chen”). PO Resp. 5–7 (citing Ex. 2003). Patent Owner argues:

In denying the request for reexamination (Exhibit 2002), the patent examiner noted that the Petitioner's proposed modifications “would complicate the assembly of the crib . . . by replacing the simple sleeve and tube connection with a more complicated loop, rod, and tube arrangement in which the loop and rod must be slid or forced through the cavity for the length of the tube.” (Ex. 2003, Page 9). As in the Petitioner's previous failed attempt to invalidate the Chen reference, the Petitioner's proposed modification of the Mariol play yard in this proceeding complicates Mariol's assembly from a “simple sleeve and tube connection” to one where a “loop and rod must be slid or forced through the cavity for the length of the tube.” *Id.*

PO Resp. 6–7.

We note at the outset that the patentability of Chen is not before us. Regardless, Patent Owner's argument quotes only a portion of one paragraph

of the Examiner's decision denying *inter partes* reexamination of Chen. The full paragraph in which the quoted portion appears is reproduced below:

Still further, the Request has not shown why or how the modification of Oliphant by Colby would yield a predictable result with a reasonable expectation of success. The statement that the combination "increases the stability and durability of the connection between the frame and fabric member" is merely a conclusory statement, and the Request has not even alleged a predictable result. There is no showing that the modification actually would increase the stability or durability of the connection. Instead, the proposed modification using Colby would complicate the assembly of the crib of Oliphant by replacing the simple sleeve and tube connection with a more complicated loop, rod, and tube arrangement in which the loop and rod must be slid or forced through the cavity for the length of the tube.

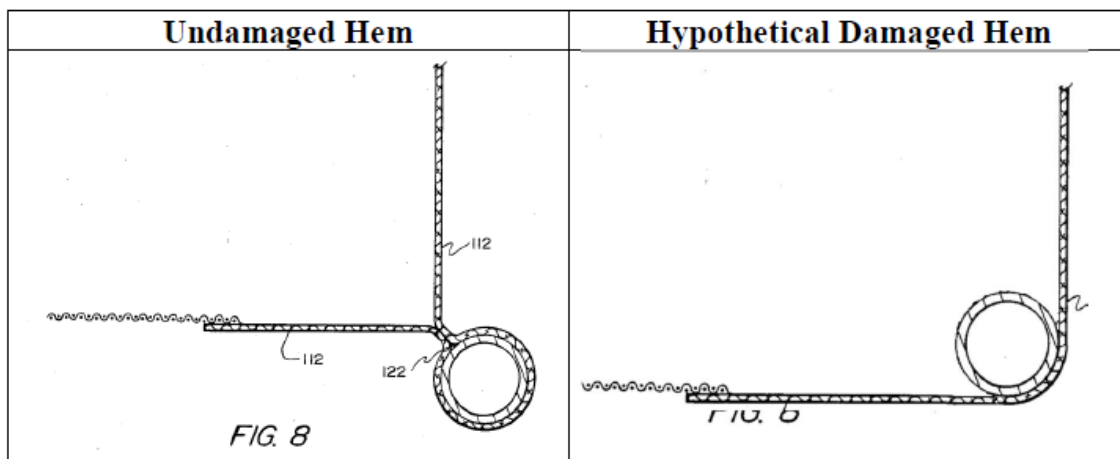
Ex. 2003, 9.

This paragraph provides useful context and highlights an important distinction between the record before the Examiner in the request for *inter partes* reexamination of Chen and the record in this trial. In particular, in this trial, Petitioner proffers as evidence the unrebutted testimony of Mr. Reiner, who testifies that the use of corner beads has certain benefits, such as improved manufacturability and ease of usage. See Ex. 1002 ¶¶ 66, 67. Therefore, the record in this trial contains the type of evidence that the Examiner found lacking in the request for *inter partes* reexamination of Chen. Patent Owner's assertion that Petitioner's proposed modification would complicate assembly ignores the unrebutted testimony of Mr. Reiner.

Patent Owner also argues that modifying the play yard of Mariol to use corner beads could introduce safety concerns that undermine Petitioner's rationale to combine. PO Resp. 7–13. Patent Owner notes Mr. Reiner's testimony that "[s]afety is paramount in designing products for infants and

young children” and that “an infant might suffocate in the enclosure if it became detached from the posts.” PO Resp. 8 (quoting Ex. 1002 ¶ 65). Patent Owner then gives examples of alleged potential safety issues with Petitioner’s proposed modification. PO Resp. 8–13.

Patent Owner argues that, if an infant damages the vertical hems of Mariol, the side walls will still provide an enclosed space, as allegedly illustrated in the figures presented by Patent Owner that are reproduced below.



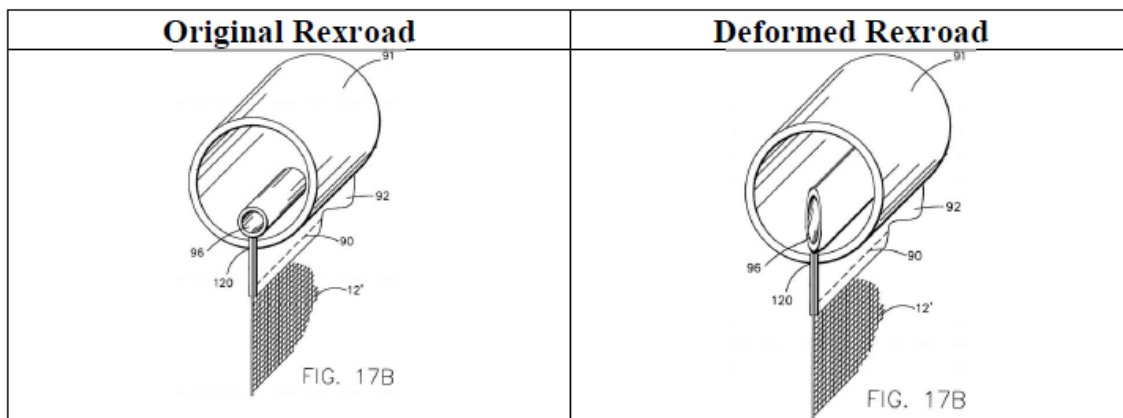
PO Resp. 9. According to Patent Owner, the figure reproduced above on the left is Figure 8 from Mariol, and the figure on the right is a modified version of Figure 8 labeled “Hypothetical Damaged Hem.” PO Resp. 9. Patent Owner argues that using a corner bead instead of the vertical hem would remove the redundancy provided by the vertical hem, introducing safety concerns. PO Resp. 9–10.

Patent Owner further argues that Mariol’s vertical hems are outside the vertical posts such that damage to the hems can be easily observed but that, in the modified play yard, the corner beads are within the vertical rails such that “it would be difficult for an adult to visualize damage to the corner

beads until a catastrophic failure occurs.” PO Resp. 10. According to Patent Owner, modifying the play yard of Mariol to include corner beads, therefore, would hinder the ability of an adult to see damage and repair it because, “[b]efore the users are able to replace damaged portions of a play yard, they must first be able to visualize and assess the damage done by infants.” PO Resp. 11.

In Petitioner’s proposed modification, however, “the corner beads would be concealed within the posts such that tampering with the attachment features is prevented or at least deterred.” Pet. 26 (citing Ex. 1002 ¶ 65). Mr. Reiner testifies that “tampering with the attachment features is prevented or at least deterred” by virtue of the concealment of the corner beads. Ex. 1002 ¶ 65. We find this unrebutted testimony credible because it is consistent with the evidence of record that corner beads are inserted into channels or grooves to effect attachment. *See generally* Exs. 1006, 1009, 1010, 1011.

Patent Owner also argues that non-infant damage could result from the use of corner beads in Mariol’s play yard. PO Resp. 11–13. For example, Patent Owner presents the figures reproduced below.



PO Resp. 12. According to Patent Owner, the figure reproduced above on the left is Figure 17B from Rexroad, and the figure on the right is labeled “Deformed Rexroad” and depicts a narrowed “rod or rope 96.” Patent Owner argues that plastic corner beads are “susceptible to the degradation or deformation described above.” PO Resp. 12. Patent Owner, however, presents no evidence to support its argument that the depicted deformation would happen in Rexroad. Patent Owner does not even direct us to disclosure within Rexroad stating that “support rod or rope 96” is constructed of plastic. Stoeckler describes that its keder-profile (i.e., “corner bead”) is “leather or plastic” (Ex. 1010, 2:29–31), but Patent Owner does not explain how a plastic “keder-profile” in Stoeckler would deform to the point of failure, nor does Patent Owner allege failure of one made of leather. Still further, the deformed corner bead of Rexroad, as depicted, appears wide enough to hold the panel in place and, thus, avoid “catastrophic failure.” See PO Resp. 12.

As another example, Patent Owner cites a document stating that temperatures in a closed vehicle can reach 140°F to 190°F on a hot day. Ex. 2004. Noting that Pasin discloses using “extruded polyvinyl material” (Ex. 1009, 2:66–3:1), Patent Owner argues that “[t]he vicat softening point and the heat deflection temperatures of polyvinyl chloride (181°F and 179°F, respectively) are both less than the temperatures a play yard may experience in a hot car.” PO Resp. 13 (citing Ex. 2005). Patent Owner, however, does not explain what the “vicat softening point” and the “heat deflection temperature” signify, nor does Patent Owner provide evidence as to what would happen to the extruded polyvinyl corner beads of Pasin if the temperature reached either of those points. If anything, Exhibit 2005, which

purports to be a document from Plastics International regarding polyvinyl chloride (“PVC”), provides motivation to use PVC as it touts several benefits of the product: “*Strength* – PVC combines tensile strength and stiffness for the toughest applications. . . . *Workability* – PVC can be machined, cut, welded and glued for fabrication versatility. *Low Cost* – PVC is an economical choice for fabricating equipment, tanks, pumps etc.” Ex. 2005.

Based on the evidence before us, including the unrebutted testimony of Mr. Reiner, we find that a person of ordinary skill in the art would have been motivated to use the corner beads taught by either Pasin, Stoeckler, Rexroad, or Johnston in the play yard of Mariol. In particular, the evidence before us demonstrates that using corner beads would have improved manufacturability and usability of the play yard. See Ex. 1002 ¶ 66. Furthermore, the evidence demonstrates that corner beads provide strong and durable attachments. See Ex. 1002 ¶ 62. Still further, the evidence demonstrates that modifying Mariol to incorporate corner beads taught by either Pasin, Stoeckler, Rexroad, or Johnston would have been straightforward for a person of ordinary skill in the art and would have yielded the result a person of ordinary skill in the art would have expected—attachment of the enclosure to the posts. See Ex. 1002 ¶¶ 62–63.

g. Conclusion as to Independent Claims 1, 7, and 11

Based on the record developed during trial, Petitioner has demonstrated by a preponderance of the evidence that the subject matter of claims 1, 7, and 11 would have been obvious to a person of ordinary skill in the art over Mariol in view of each of Pasin, Stoeckler, Rexroad, and Johnston.

2. *Dependent Claims*

Petitioner further contends (1) dependent claims 2–4, 6, 8–10, 12–14, and 16–18 would have been obvious over Mariol in view of each of Pasin and Stoeckler; (2) dependent claims 2–4, 6, 8, 10, 12–14, 16, and 18 would have been obvious over Mariol in view of Rexroad; and (3) dependent claims 2–6, 8, 10, 12–16, and 18 would have been obvious over Mariol in view of Johnston. Pet. 43–51. Although Patent Owner does not provide specific arguments with respect to the dependent claims in these asserted grounds of unpatentability, the burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware LLC, v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). We have analyzed Petitioner’s contentions and supporting evidence in light of the limitations recited in dependent claims 2–6, 8–10, and 12–18, and we agree with and adopt Petitioner’s analysis, as explained more fully below with respect to the particular subject matter recited in the dependent claims. *See* Pet. 43–51.

The evidence demonstrates that the asserted combinations of references teach that “each of the posts includes a substantially exposed, outward facing surface,” as recited in claims 2 and 16. *See* Pet. 44–45 (citing Ex. 1002 ¶ 69; Ex. 1006, Fig. 4; Ex. 1009, Fig. 4; Ex. 1010, Fig. 1; Ex. 1011, Fig. 17B).

The evidence demonstrates that Mariol teaches that “the enclosure includes first sleeves dimensioned to receive the upper frame and second

sleeves dimensioned to receive the lower frame,” as recited in claims 3 and 18. *See* Pet. 45 (quoting Ex. 1003, 6:60–65;⁹ citing Ex. 1002 ¶ 70).

The evidence demonstrates Mariol teaches that “at least a portion of each of the posts is curved,” as recited in claims 4 and 14. *See* Pet. 46 (citing Ex. 1003, Figs. 2A–2C, 8; Ex. 1002 ¶ 71).

The evidence demonstrates that the asserted combinations of references teach the configurations recited in claims 6, 10, and 13 because Mariol discloses one corner sleeve at each corner such that Mariol modified with corner beads would result in one corner bead at each corner from which two sides extend. *See* Pet. 46–47 (citing Ex. 1003, Fig. 8 (depicting vertical hem 122); Ex. 1006; Ex. 1009; Ex. 1010; Ex. 1011; Ex. 1002 ¶¶ 72–73).

The evidence demonstrates Mariol teaches that “the enclosure extends along the post between the upper frame and the lower frame,” as recited in claim 8. *See* Pet. 47 (citing Ex. 1003, 6:54–67, Fig. 1; Ex. 1002 ¶ 73).

The evidence demonstrates that the asserted combinations of references teach that “the channels are integrally formed within respective ones of the posts,” as recited in claim 12. *See* Pet. 48 (citing Ex. 1002 ¶ 75; Ex. 1006 (“passageways 2” within rib 1); Ex. 1009 (“slots 28” within frame member 14); Ex. 1010 (“grooves 3 and 4” within post sections 1, 2); Ex. 1011 (“longitudinal slit 120” within structural member 91)).

With respect to claims 5 and 15, the evidence demonstrates that Johnston discloses longitudinally curved posts such that the channels for

⁹ Although Petitioner’s citation is to column 6, lines 63–65, of Mariol, the material Petitioner quotes and upon which we rely appears in column 6, lines 60–65, of Mariol.

receiving the corner beads would follow the curvatures of the posts. See Pet. 48–49 (quoting Ex. 1006, 2:43–45; Ex. 1002 ¶ 81).

With respect to claims 9 and 17, the evidence demonstrates that the asserted combinations of references teach posts having a wall that defines an interior cavity and a channel separate from the interior cavity. See Pet. 49–51 (citing Ex. 1009, Fig. 4; Ex. 1010, 1:28, Fig. 3; Ex. 1002 ¶¶ 83–84).

Based on the record developed during trial, Petitioner has demonstrated by a preponderance of the evidence that (1) the subject matter of dependent claims 2–4, 6, 8–10, 12–14, and 16–18 would have been obvious over Mariol in view of each of Pasin and Stoeckler; (2) the subject matter of dependent claims 2–4, 6, 8, 10, 12–14, 16, and 18 would have been obvious over Mariol in view of Rexroad; and (3) the subject matter of dependent claims 2–6, 8, 10, 12–16, and 18 would have been obvious over Mariol in view of Johnston. See Pet. 43–51.

E. Unpatentability Grounds Based on Mariol in Combination with Each of Pasin, Stoeckler, and Rexroad, in Further View of Hartenstine (Claims 5 and 15)

Petitioner contends that the subject matter of claims 5 and 15 would have been obvious in view of Mariol in combination with each of Pasin, Stoeckler, and Rexroad, as explained in its contentions for claims 1, 4, 11, and 14, in further view of Hartenstine. Pet. 57–59.

Claim 5 depends from claim 4 and further recites that “the channels follow curvatures of the posts.” Ex. 1001, 6:54–55. Claim 15 depends from claim 14 and further recites that “the channels follow *respective* curvatures of the posts.” *Id.* at 8:10–11 (emphasis added). Petitioner argues “Mariol does not explicitly disclose longitudinally-curved posts, though it does not

explicitly mandate that the posts must be straight up-and-down either.”
Pet. 57. Petitioner cites Hartenstine’s disclosure of a play yard with longitudinally curved posts (legs 26) in Figures 2 and 3. *Id.* at 58. Petitioner argues it would have been obvious to a person of ordinary skill in the art “to modify Mariol’s vertical support rails 18 to be longitudinally-curved like Hartenstine’s legs 26” and, in that configuration, it would have been obvious “to have the channel for the corner bead run along the post,” i.e., follow curvatures of the posts. *Id.* Petitioner presents articulated reasoning with rational underpinning to support its obviousness argument, including that there are a finite number of design options for posts (straight or curved) and that modifying Mariol’s posts to be longitudinally curved, as taught in Hartenstine, would yield predictable results. *Id.* at 58–59 (citing Ex. 1002 ¶ 80).

We are persuaded by Petitioner’s arguments, and we find that a person of ordinary skill in the art would have had reason to modify Mariol’s posts to be longitudinally curved, as disclosed in Hartenstine (*see* Ex. 1012, Figs. 2 and 3), such that the channels for the corner beads follow the curvatures of the posts. This finding is supported by the unrebutted testimony of Mr. Reiner, who testifies that a post can either be partially curved lengthwise or not curved at all and that using a curved post does not yield unpredictable results. Ex. 1002 ¶ 80. Mr. Reiner also testifies that a person of ordinary skill in the art would have been motivated to develop an aesthetically pleasing design using curved posts, as described in Hartenstine. Ex. 1002 ¶ 80. Mr. Reiner further explains how the channels for the corner beads would follow the curvatures of the post. Ex. 1002 ¶ 80.

Consistent with the evidence of record, we conclude that the subject matter of claims 5 and 15 would have been obvious to a person of ordinary skill in the art in view of Mariol in combination with each of Pasin, Stoeckler, and Rexroad, in further view of Hartenstine. See Ex. 1002 ¶¶ 76–80; Ex. 1013.

*F. Unpatentability Ground Based on Anticipation by Tharalson
(Claims 7 and 8)*

Petitioner contends that Tharalson anticipated independent claim 7 and dependent claim 8. Pet. 9, 51–57. Tharalson discloses a playpen that can be converted into other configurations, including “a bassinet, changing table, or child’s bed-side sleeping enclosure.” Ex. 1012, 1:8–12. Figure 1 of Tharalson is reproduced below:

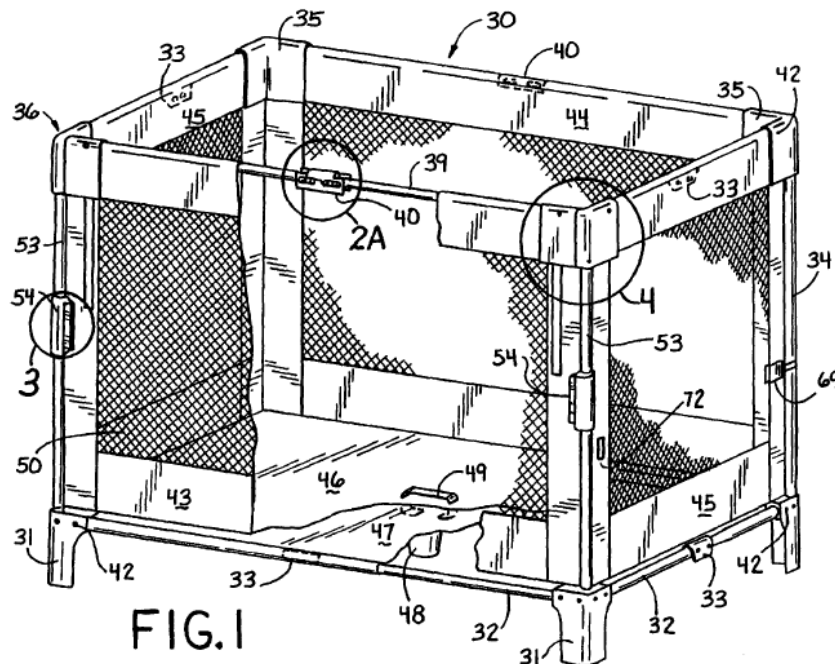


Figure 1 depicts the playpen disclosed in Tharalson. *Id.* at 4:64–65. The playpen has a “frame assembly” having “upper horizontal rails 39,” “lower horizontal rails 32,” “front vertical rails 53,” and “back vertical rails 34.” *Id.*

at 5:61–6:22, Fig. 1. The playpen has an “enclosure composed of four vertical panels, the front panel 43, back panel 44, two side panels 45, and two horizontal floor panels, the upper floor panel 46 and lower floor panel 47.” *Id.* at 6:30–33. “The upper floor panel 46 is stitched to the bottom of each vertical panel (43, 44 and 45) and forms the floor of the unit” *Id.* at 6:38–40.

Petitioner argues Tharalson’s “upper horizontal rails 39” and “lower horizontal rails 32” disclose an upper frame and a lower frame, respectively. Pet. 51 (citing Ex. 1002 ¶ 87). Petitioner argues Tharalson’s vertical rails 53 and 34 disclose posts “positioned between the upper frame and the lower frame,” as recited in claim 7. *Id.* at 51–52 (citing Ex. 1002 ¶ 87). Petitioner contends Tharalson discloses an enclosure in which “floor panel 46 constitutes the bottom side of the enclosure, and the vertical panels 43, 44, and 45 constitute a first side, a second side, a third side, and a fourth side of the enclosure.” *Id.* at 53 (citing Ex. 1002 ¶ 89). Petitioner argues the enclosure is “flexible” because the components of the enclosure are made of fabric. *Id.* at 53–54 (citing Ex. 1012, 6:33–36, 6:40–42, 10:5–9; Ex. 1002 ¶ 90); see Ex. 1012, 10:5–6 (“The fabric of the sides, floors and enclosure must be strong, durable and washable”).

Petitioner contends Tharalson discloses front vertical rails 53 have “an inner portion including a channel” in which a “corner bead” is threaded “to couple the enclosure to the post,” as required by claim 7. Pet. 54–56. Figures 4, 5, and 6 of Tharalson are reproduced below:

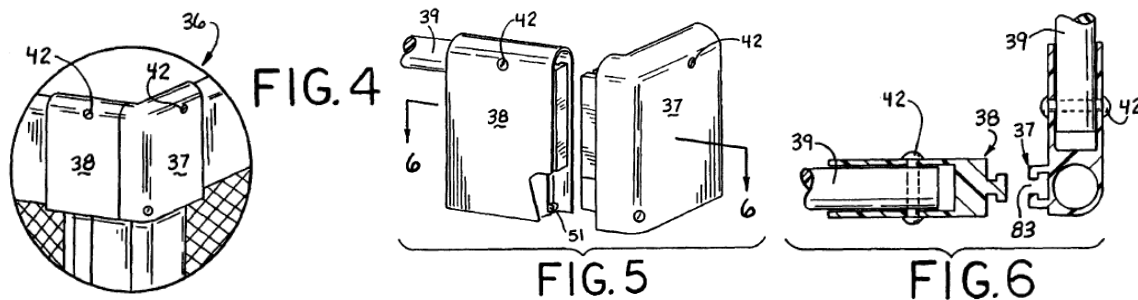


Figure 4 depicts an enlarged view of the right front upper corner designated “4” in Figure 1. Ex. 1012, 5:5–7. Figure 5 “is a perspective view of the male and female components of the right front upper corner of FIG. 4 in separated configuration,” and Figure 6 “is a sectional view through line 6—6 of” Figure 5. *Id.* at 5:8–11.

Petitioner contends “the elongate projections on the male sections 38 can be slidably threaded into the channels in the respective female section 37 or female receiver 54 to couple the front panel 43 of the enclosure to the front vertical posts 53 of the frame assembly,” thereby disclosing “a corner bead threaded into the channel to couple the enclosure to the post,” as recited in claim 7. Pet. 56 (citing Ex. 1012, 6:4–5;¹⁰ Ex. 1002 ¶ 93).

Patent Owner argues that male section 38 is not part of the flexible enclosure and, therefore, that Tharalson does not disclose “a flexible enclosure having a first side, a second side and a bottom side, a corner bead threaded into the channel to couple the enclosure to the post,” as recited in independent claim 7. PO Resp. 15–16. Petitioner contends, however, that Tharalson does not require front upper corner 36 and male projection 38 to

¹⁰ Petitioner mistakenly cites column 6, lines 49–50, of Tharalson for the cited material. Instead, based on our review of the arguments presented in Petition and the relevant disclosures in Tharalson, we presume Petitioner intended to cite column 6, lines 4–5.

be part of the frame and that “[t]he front upper corners 36 and the corner beads 38 in Tharalson can be considered to be a part of the flexible enclosure.” Pet. Reply 16–17. According to Petitioner, “front upper corners 36 are a portion of ‘something that encloses,’” which Petitioner argues is the broadest reasonable interpretation of “enclosure.” Pet. Reply 17.

We do not disagree with Petitioner’s assertion that various components in Tharalson all make up an apparatus that is “something that encloses” (i.e., the playpen disclosed in Tharalson). However, the “play yard” of independent claim 7 itself is something that encloses, and claim 7 recites “a flexible enclosure” as a separate limitation (i.e., only one component) of the claim. This is consistent with the ’180 patent’s description of the “enclosure” as one component of the play yard:

[T]he illustrated play yard 10 includes an enclosure 23 that is supported by the frame 22. Preferably, the enclosure includes five flexible sides, namely, a bottom and four sides. The top is open. The enclosure 23 may be made of fabric, plastic, mesh and/or any other material which is sufficiently strong and durable to define the enclosure volume throughout the desired useful life of the play yard 10 and which is flexible enough to be folded. In the illustrated example, the enclosure 23 is a fabric structure including mesh side panels. The illustrated enclosure 23 includes upper sleeves which receive the rails 52 of the upper frame 26 and lower sleeves which receive the rails 32 of the lower frame 24. In other words, the sides of the enclosure 23 are stretched between the upper and lower frames 24, 26.

Unlike traditional play yards, the posts 14 are not covered or encased in the enclosure 23. Instead, the enclosure 23 of the illustrated play yard is coupled to the inner surface of the posts 14. As a result, the outward facing surfaces, (particularly of the curved sections 68), of the posts 14 are completely exposed.

Ex. 1001, 4:64–5:16.

Petitioner's contention that front upper corner 36 of Tharalson can be considered part of the flexible enclosure is inconsistent with its position that part of that corner discloses a claimed component of the "post," which is a separate limitation of claim 7. In particular, Petitioner contends "[t]he inner walls of the open channels 83 in the female sections 37 constitute inner portions of the vertical rails 53." Pet. 55. Figures 4, 5, and 6, discussed above, depict female section 37 as part of corner 36. The written description of Tharalson confirms this: "The rear upper corners 35 are of a single construction, while *the front upper corners 36 are fabricated in two sections, a female section 37 and a male section 38*, that slidably and reversibly interact to complement each other. See FIGS. 4, 5, 6 and 7." Ex. 1012, 6:1–5. Moreover, the Petition states that "*the female sections 37 of the upper corners 36* 'are coupled to each vertical rail.'" Pet. 55 (quoting Ex. 1012, 5:67–6:1) (emphasis added). Therefore, we are not persuaded by Petitioner's contention that front upper corner 36, as a whole, can be considered to be part of the flexible enclosure in light of Petitioner's other contentions.

We are also not persuaded by Petitioner's contention that male section 38, the alleged "corner bead," is part of a component of Tharalson's play yard that discloses the claimed "flexible enclosure." Tharalson discloses:

There is a first enclosure composed of four vertical panels, the front panel 43, back panel 44, two side panels 45, and two horizontal floor panels, the upper floor panel 46 and lower floor panel 47. The vertical panels are stitched to form channels along the top edges to receive the upper horizontal rails 39 and along the sides to receive the vertical corner rails 34 and 53.

Ex. 1012, 6:30–36. Tharalson discloses, therefore, that the front, back, and side panels attach to the upper horizontal rails and to the vertical rails, which Petitioner contends disclose the claimed “upper frame” and “post,” respectively. *See* Pet. 51–52. Tharalson further discloses that “[u]pper horizontal rails 39 are pivotally connected to the upper corners by means of pivot pins 42.” Ex. 1012, 6:12–14; *see also* Figs. 4–6. Petitioner does not direct us to, nor do we find, a disclosure within Tharalson demonstrating that male section 38 is attached directly to the panels that form the enclosure such that male section 38 would be “part of the flexible enclosure,” as alleged by Petitioner. *See* Pet. Reply 15 (emphasis removed).

Therefore, we are not persuaded by Petitioner’s contentions that Tharalson discloses a play yard having “a flexible enclosure having a first side, a second side and a bottom side, a corner bead threaded into the channel to couple the enclosure to the post,” as recited in independent claim 7. As such, Petitioner has not demonstrated by a preponderance of the evidence that Tharalson anticipated claim 7 or dependent claim 8.

III. MOTION TO EXCLUDE

Petitioner filed a Motion to Exclude Exhibits 2002–2005. Paper 21. Exhibit 2002 is a request for *inter partes* reexamination of Chen, and Exhibit 2003 is a decision denying the request in Exhibit 2002. Exhibit 2004 purports to be a printout from the Arizona Department of Homeland Security website, accessed on September 7, 2016. Exhibit 2005 purports to be a document from Plastics International regarding PVC. Because we do not rely on any of that evidence in a manner adverse to Petitioner, we dismiss the Motion to Exclude as moot.

IV. CONCLUSION

Based on the information presented and the record developed during trial, we conclude that Petitioner has shown by a preponderance of evidence that (1) claims 1–4, 6–14, and 16–18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Pasin; (2) claims 1–4, 6–14, and 16–18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Stoeckler; (3) claims 1–4, 6–8, 10–14, 16, and 18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Rexroad; (4) claims 1–8, 10–16, and 18 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol and Johnston; (5) claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Pasin, and Hartenstine; (6) claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Stoeckler, and Hartenstine; and (7) claims 5 and 15 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over Mariol, Rexroad, and Hartenstine. Petitioner, however, has not shown by a preponderance of evidence that claims 7 and 8 are unpatentable as anticipated by Tharalson.

V. ORDER

Accordingly, it is:

ORDERED that claims 1–18 of the '180 patent have been shown to be unpatentable; and

FURTHERED 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.

IPR2016-00352
Patent 9,027,180 B2

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