

In the Matter of

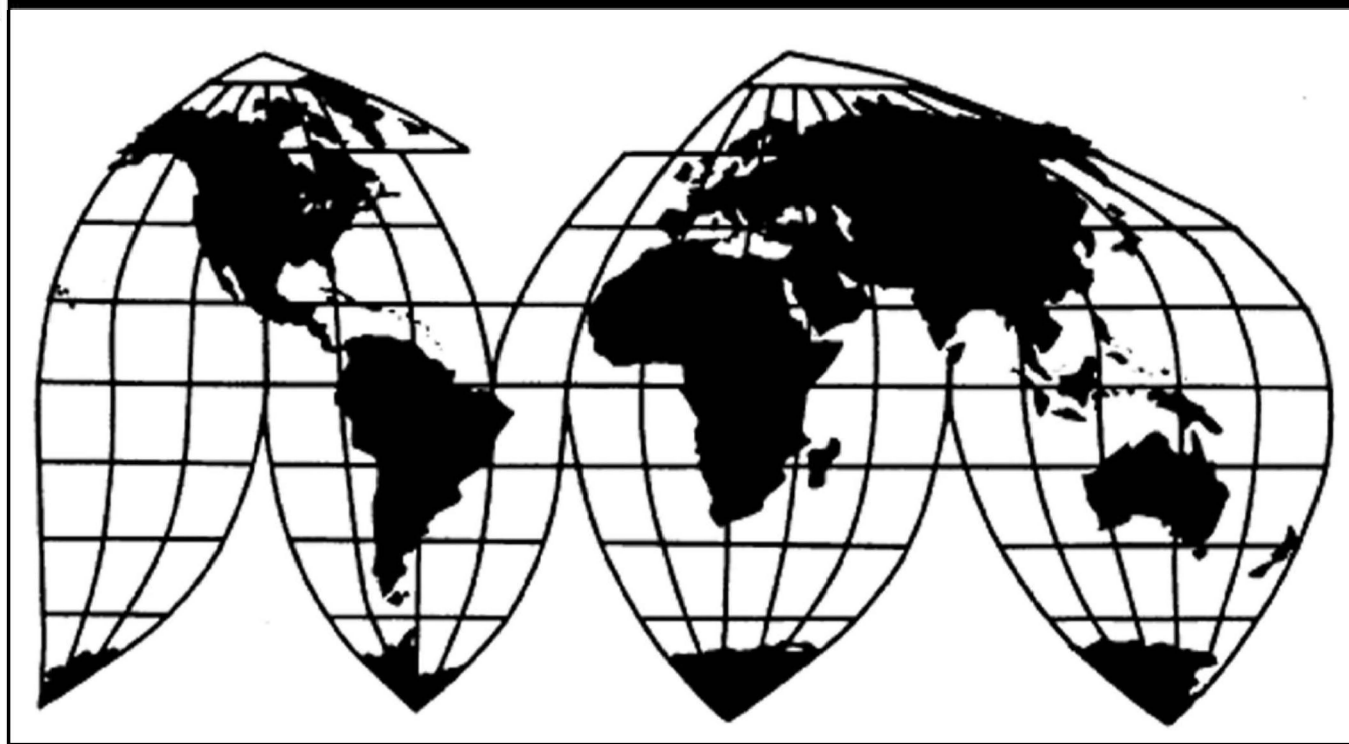
**CERTAIN CHILD CARRIERS AND
COMPONENTS THEREOF**

Investigation No. 337-TA-1154

Publication 5264

February 2022

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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U.S. International Trade Commission

Washington, DC 20436

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In the Matter of

CERTAIN CHILD CARRIERS AND COMPONENTS THEREOF

Investigation No. 337-TA-1154



UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN CHILD CARRIERS AND
COMPONENTS THEREOF**

Investigation No. 337-TA-1154

**NOTICE OF A COMMISSION DETERMINATION TO REVIEW IN PART A FINAL
INITIAL DETERMINATION FINDING NO VIOLATION OF SECTION 337;
TERMINATION OF THE INVESTIGATION**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission (the “Commission”) has determined to review in part, and on review, to affirm, the final initial determination (“FID”) of the administrative law judge (“ALJ”) finding no violation of section 337 of the Tariff Act of 1930, as amended (“section 337”), in connection with the asserted patent. The investigation is terminated.

FOR FURTHER INFORMATION CONTACT: Lynde Herzbach, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-3228. Copies of non-confidential documents filed in connection with this investigation may be viewed on the Commission’s electronic docket (EDIS) at <https://edis.usitc.gov>. For help accessing EDIS, please email EDIS3Help@usitc.gov. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission’s TDD terminal, telephone 202-205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on April 10, 2019, based on a complaint filed by LILLEbaby LLC of Golden, Colorado (“LILLEbaby”). 84 FR 14393-94 (April 10, 2019). The complaint alleges violations of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), in the importation into the United States, in the sale for importation, or the sale within the United States after importation of certain child carriers and components thereof, by reason of the infringement of certain claims of U.S. Patent Nos. 8,172,116 (“the ’116 patent”) and 8,424,732 (“the ’732 patent”). *Id.* The notice of investigation names twenty-seven respondents, including The Ergo Baby Carrier Inc. of Los Angeles, CA (“Ergo”); Blue Box OpCo LLC d/b/a Infantino of San Diego, CA (“Infantino”); Baby Tula LLC a/k/a New Baby Tula LLC of San Diego, CA (“Baby Tula”); BabyBjorn AB of Lanna, Sweden and BabyBjorn Inc. of New York, NY; BabySwede LLC of Cleveland, OH; Boba Inc. d/b/a Beco Baby Carrier of Boulder, CO; ByKay BV of Wijchen, The Netherlands (“ByKay”); Artsana USA, Inc. f/k/a Chicco USA Inc. of Lancaster, PA; Cybex GmbH of

Bayreuth, Germany; Columbus Trading Partners USA, Inc. of Boston, MA; Jonobaby Babytragen of Potsdam, Germany (“Jonobaby”); Mountain Buggy USA a/k/a Phil & Teds USA Inc. of Fort Collins, CO; Stokke AS of Alesund, Norway and Stokke LLC of Stamford, CT; Quanzhou Mingrui Bags Co. Ltd. of Quanzhou, China (“Mingrui”); Britax Child Safety, Inc. of Fort Mill, SC; and Wuxi Kangarouse Trading Co. Ltd. Enterprises d/b/a Kangarouse of Wuxi, China; Kokadi GmbH & Co. KG of Munich, Germany; Minimonkey BV of Amsterdam, The Netherlands; Soul US Inc. of Bangalore, India; Isara, Deneris Trade SRL of Floresti, Romania; Lenny Lamb Sp. Zo.o. Sp. K of Warsaw, Poland; L’Echarpe Porte Bonheur, Inc. d/b/a Chimparoo of Boucherville, Canada; Tingtao Sunveno Co., Ltd. of Shandong, China; Jing Jiang Dimarco Packaging & Gifts Co. of Jingjiang Jiangsu, China; and Jiangsu Matrix Textile Co., Ltd. of Jingjiang, Jiangsu, China (collectively, “Defaulting Respondents”). *Id.* The Office of Unfair Import Investigations (“OUII”) is also named as a party. *Id.*

The Commission terminated eleven participating respondents from the investigation based upon settlement or consent order. Order No. 12 (May 30, 2019), *not rev’d*, Notice (June 18, 2019); Order No. 17 (July 18, 2019), *not rev’d*, Notice (Aug. 12, 2019); Order No. 18 (July 18, 2019), *not rev’d*, Notice (Aug. 12, 2019); Order No. 21 (Aug. 13, 2019), *not rev’d*, Notice (Sept. 13, 2019); Order No. 22 (Aug. 23, 2019), *not rev’d*, Notice (Sept. 17, 2019); Order No. 23 (Aug. 29, 2019), *not rev’d*, Notice (Sept. 17, 2019); Order No. 25 (Sept. 6, 2019), *not rev’d*, Notice (Oct. 1, 2019); Order No. 33 (Nov. 9, 2019), *not rev’d*, Notice (Dec. 18, 2019). The Commission found ten non-participating Defaulting Respondents in default. Order No. 38 (Dec. 3, 2019), *not rev’d*, Notice (Dec. 20, 2019). For one non-participating respondent, Mingrui, the ALJ denied LILLEbaby’s motion to show cause as to why that respondent should not be held in default due to LILLEbaby’s failure to show adequate service. Order No. 29 (Oct. 28, 2019).

On January 30, 2020, LILLEbaby filed a motion to terminate respondents Jonobaby and ByKay on the basis of settlement. The subject FID grants the pending motion. *See* FID. The remaining respondents are Baby Tula, Ergo, Infantino (collectively, “Active Respondents”), and Mingrui.

The Commission terminated the ’732 patent from the investigation as to all respondents based on LILLEbaby’s partial withdrawal of the complaint. Order No. 39 (Dec. 4, 2019), *not rev’d*, Notice (Dec. 20, 2019). The Commission also terminated claims 1, 2, 5-7, 9, 11, 14-16, 19, 20, 23, 24, and 25 of the ’116 patent as to all respondents based on LILLEbaby’s partial withdrawal of the complaint. Order No. 31 (Nov. 12, 2019), *not rev’d*, Notice (Dec. 10, 2019); Order No. 41 (Dec. 18, 2019), *not rev’d*, Notice (Jan. 16, 2020). Claim 18 of the ’116 patent remains at issue.

On November 6, 2019, Active Respondents filed a motion to terminate the investigation for alleged lack of standing by LILLEbaby.

On March 10, 2020, the ALJ issued the subject FID finding no violation of section 337 with respect to the ’116 patent. *See* FID. The subject FID denies Active Respondents’ motion to terminate for alleged lack of standing. *See id.* at 28. The subject FID also includes the ALJ’s recommendations that, if a violation was found, then the Commission should issue a limited exclusion order and cease and desist orders as to Active Respondents.

On March 23, 2020, Active Respondents filed a contingent petition for review of the FID. On March 31, 2020, OUII filed a response to Active Respondents' petition. LILLEbaby did not file a petition for review or a response to Respondents' petition, thus abandoning all issues decided adversely to it. *See* 19 CFR 210.43(b)(4).

Having reviewed the record of this investigation, including the FID and Respondents' contingent petition, the Commission has determined to review the FID in part. Specifically, the Commission has determined to review and, on review, take no position regarding the FID's finding that claim 18 of the '116 patent is not obvious based on the prior art Hibiscus Carrier (RPX-0006) alone or in combination with the prior art Pikkolo Carrier (RPX-0005) or U.S. Patent Publ. No. 2005/0051582 (RX-0368) to Frost. The Commission has also determined to review, and on review, take no position on the FID's findings that claim 18 of the '116 patent is unenforceable for inequitable conduct during prosecution of the patent application. Further, the Commission has determined to review, and on review, take no position on the FID's findings that LILLEbaby has satisfied the economic prong of the domestic industry requirement with respect to the '116 patent under subsections 337(a)(3)(B) and (C) (19 U.S.C. 1337(a)(3)(B), (C)). The Commission has determined not to review the remainder of the FID.

Accordingly, the Commission finds no violation of section 337 based on the FID's findings that Active Respondents do not infringe claim 18 of the '116 patent, and claim 18 of the '116 patent is invalid as anticipated by and obvious in view of U.S. Patent No. 4,986,458 to Lindsay.

The investigation is terminated.

The Commission vote for these determinations took place on May 11, 2020.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337, and in Part 210 of the Commission's Rules of Practice and Procedure, 19 CFR Part 210.

By order of the Commission.

A handwritten signature in black ink, appearing to read 'Lisa R. Barton', is positioned above the printed name and title.

Lisa R. Barton
Secretary to the Commission

Issued: May 11, 2020

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served via EDIS upon the Commission Investigative Attorney, **Andrew Beverina, Esq.**, and the following parties as indicated, on **May 11, 2020**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
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Washington, DC 20436

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Completed by Complainants

**CERTAIN CHILD CARRIERS AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1154

Certificate of Service – Page 2

Isara, Deneris Trade SRL
Str. Tautului Nr 21g Apt. 1
Floresti, Cluj 407280
Romania

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Jonobaby Babytragen
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14467 Potsdam
Germany

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☒ Other: Service to Be
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Kokadi GmbH & Co. KG
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85551 Kirchheim B.
Munich
Germany

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Lenny Lamb Sp. z.o.o. Sp.K
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Warsaw
Poland

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Larikslaan 9
Amsterdam, Noord-Holland, 1087 SC
The Netherlands

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Quanzhou Mingrui Bags Co. Ltd.
Room 301, No. 3 Building, East JinPu Road
Hi-Tech Park JiangNan, FuQiao, Quanzhou, Fujian 362000
China

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Bangalore KA 560026
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**CERTAIN CHILD CARRIERS AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1154

Certificate of Service – Page 3

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Qingdao, Shandong 266044
China

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China

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Jingjiang Jiangsu, 214500
China

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Jiangsu Matrix Textile Co., Ltd.,
No. 21st, Xinyi Road, Chengbei Section
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☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Service to Be
Completed by Complainants

L'Echarpe Porte Bonheur, Inc. d/b/a Chimparoo
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☐ Via Hand Delivery
☐ Via Express Delivery
☐ Via First Class Mail
☒ Other: Service to Be
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PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN CHILD CARRIERS AND
COMPONENTS THEREOF**

INV. NO. 337-TA-1154

**INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND
RECOMMENDED DETERMINATION ON REMEDY AND BOND**

Administrative Law Judge Clark S. Cheney

(March 10, 2020)

Appearances:

For the complainant LILLEbaby, LLC:

Frank M. Gasparo, Michael P. Sandonato, Andrew P. MacArthur, Gianna Cricco-Lizza, Douglas Sharrott, and Seth Boeshore of Venable LLP of New York, NY

For respondent Blue Box OpCo LLC d/b/a Infantino:

Craig S. Summers, David G. Jankowski, Alan G. Laquer, Brandon G. Smith, and Adam R. Aquino of Knobbe, Martens, Olson & Bear, LLP of Irvine, CA

For respondents The Ergo Baby Carrier Inc. and New Baby Tula, LLC:

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Beau Jackson of Husch Blackwell, LLP of Kansas City, MO

Paul L. Smelcer and Michael Martinich-Sauter of Husch-Blackwell LLP of St. Louis, MO

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TABLE OF ABBREVIATIONS

CDX	Complainant's demonstrative exhibit
CIB	Complainant's initial post-hearing brief
CPB	Complainant's pre-hearing brief
CPX	Complainant's physical exhibit
CRB	Complainant's reply post-hearing brief
CX	Complainant's exhibit
Dep.	Deposition
JX	Joint Exhibit
RDX	Respondent's demonstrative exhibit
RIB	Respondent's initial post-hearing brief
RPX	Respondent's physical exhibit
RPB	Respondent's pre-hearing brief
RRB	Respondent's reply post-hearing brief
RRX	Respondent's rebuttal exhibit
RX	Respondent's exhibit
SIB	Staff's initial post-hearing brief
SPB	Staff's pre-hearing brief
SRB	Staff's reply post-hearing brief
Stip.	Stipulation of the parties
Tr.	Transcript
Markman Tr.	Transcript of claim construction hearing

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN CHILD CARRIERS AND
COMPONENTS THEREOF**

INV. NO. 337-TA-1154

**INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND
RECOMMENDED DETERMINATION ON REMEDY AND BOND**

Administrative Law Judge Clark S. Cheney

(March 10, 2020)

Pursuant to the Notice of Investigation, 84 Fed. Reg. 14393 (April 10, 2019), this is the final Initial Determination in the matter of *Certain Child Carriers and Components Thereof*, Inv. No. 337-TA-1154. 19 C.F.R. §§ 210.10(b), 210.42(a)(1)(i).

For the reasons stated herein, I have determined that no violation of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1330 or “section 337”), has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain child carriers and components thereof, alleged to infringe U.S. Patent No. 8,172,116.

PUBLIC VERSION

I. INTRODUCTION

A. Procedural History

On March 6, 2019, complainant LILLEbaby, LLC (“LILLEbaby”) filed a complaint alleging violations of section 337 based upon the importation into the United States, the sale for importation, and the sale within the United States after importation of certain child carriers and components thereof, by reason of infringement of one or more of U.S. Patent No. 8,172,116 (JX-0006, hereinafter “the ’116 patent”) and U.S. Patent No. 8,424,732 (JX-0007, hereinafter “the ’732 patent”). 84 Fed. Reg. 8893 (March 12, 2019).

On April 4, 2019, the Commission instituted this investigation to determine:

whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain products identified in paragraph (2) by reason of infringement of one or more of claims 1, 2, 5–7, 9, 11, 14–16, 18–20, and 23–25 of the ’116 patent and claims 1–14 of the ’732 patent; and whether an industry in the United States exists as required by subsection (a)(2) of section 337;.

84 Fed. Reg. 14393 (April 10, 2019). The investigation has subsequently been terminated with respect to all asserted claims except for claim 18 of the ’116 patent. *See* Order Nos. 31, 39, and 41.

The named respondents were BabyBjörn AB; BabyBjörn Inc.; BabySwede LLC; Baby Tula LLC a/k/a New Baby Tula LLC (“Tula”); Boba Inc. d/b/a Beco Baby Carrier; ByKay BV; Artsana USA, Inc. f/k/a Chicco USA Inc.; Cybex GmbH; Columbus Trading Partners USA, Inc.; The Ergo Baby Carrier Inc. (“Ergo”); Blue Box OpCo LLC d/b/a Infantino LLC (“Infantino”); Isara, Deneris Trade SRL; Jonobaby Babytragen; Kokadi GmbH & Co. KG; Lenny Lamb Sp. z.o.o. Sp.K; Minimmonkey BV; Mountain Buggy USA a/k/a Phil & Teds USA Inc.; Soul US Inc.; Stokke AS; Stokke LLC; Tingtao Sunveno Co., Ltd.; Wuxi Kangarouse Trading Co. Ltd. Enterprises d/b/a Kangarouse; Nantong Shi Keen Home Textile; Jing Jiang Dimarco Packaging & Gifts Co. Ltd.; Jiangsu Matrix Textile Co., Ltd.; Quanzhou Mingrui Bags Co. Ltd.; You + Me;

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L'Echarpe Porte Bonheur, Inc. d/b/a Chimparoo; and Britax Child Safety, Inc.. 84 Fed. Reg. 14393.

In the course of this investigation, the following respondents were terminated from the investigation by consent order:

- Artsana USA, Inc. f/k/a Chicco USA Inc. *See* Order No. 12 (EDIS Doc. ID 677456) (May 30, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 678850) (June 18, 2019);
- BabySwede LLC. *See* Order No. 17 (EDIS Doc. ID 682193) (July 18, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 685013) (August 12, 2019);
- Britax Child Safety, Inc. *See* Order No. 18 (EDIS Doc. ID 682197) (July 18, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 685013) (Aug. 12, 2019);
- Mountain Buggy USA a/k/a Phil & Teds USA Inc. *See* Order No. 21 (EDIS Doc. ID 685209) (Aug. 13, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 688196) (Sep. 13, 2019).

Other respondents were terminated due to settlement:

- Stokke LLC. *See* Order No. 22 (EDIS Doc. ID 686117) (Aug. 23, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 688420) (Sep. 17, 2019);
- Cybex GmbH and Columbus Trading Partners USA, Inc. *See* Order No. 23 (EDIS Doc. ID 686707) (Aug. 28, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 688428) (Sep. 17, 2019);
- Boba Inc. d/b/a Beco Baby Carrier. *See* Order No. 25 (EDIS Doc. ID 687397) (Sep. 6, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 689781) (Oct. 1, 2019);
- BabyBjörn AB and BabyBjörn Inc. *See* Order No. 33 (EDIS Doc. ID 694890) (Nov. 19, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID 697547) (December 18, 2019).

On May 10, 2019, LILLEbaby filed a motion for an order to show cause and for default as to respondents Kokadi GmbH & Co. KG; Minimonkey BV; and Soul US Inc. Motion Docket No. 1154-010. On June 25, 2019, I ordered those three parties to show cause by July 10, 2019, why they should not be held in default. Order No. 14.

PUBLIC VERSION

On May 16, 2019, LILLEbaby filed a motion for an order to show cause as to respondents Isara, Deneris Trade SRL; Lenny Lamb Sp. z o.o. Sp. K; L'Echarpe Porte Bonheur d/b/a/ Chimparoo; Tingtao Sunveno Co. Ltd.; Jing Jiang Dimarco Packaging & Gifts Co.; and Jiangsu Matrix Textile Co., Ltd. Motion Docket No. 1154-012. I subsequently ordered those respondents to show cause by July 9, 2019, why they should not be held in default. Order No. 13.

On November 6, 2019, LILLEbaby filed a motion seeking an initial determination finding in default the respondents that were the subject of Order Nos. 13 and 14. Motion Docket No. 1154-035.

On October 15, 2019, LILLEbaby filed a motion for an order to show cause and for default as to respondents Kangarouse Trading Co. Ltd. and Quanzhou Mingrui Bags Co. Ltd. EDIS Doc. ID 691120. On October 28, 2019, I ordered Kangarouse to show cause why it should not be held in default, but I denied the motion for an order to show cause as to Mingrui. Order No. 29.

On December 3, 2019, I issued an initial determination finding the respondents subject to Order Nos. 13, 14, and 29 in default. Order No. 38 (EDIS Doc. ID 696153 (December 3, 2019), *not reviewed*, Comm'n Notice (EDIS Doc. ID . 697820) (December 12, 2019).

On January 30, LILLEbaby filed a motion to terminate respondents JonoBaby Babtragen and ByKay BV on the basis of settlement. Motion Docket No. 1154-055. That motion remains pending and is disposed of herein.

The Commission investigative staff ("Staff") is a party to this investigation. 84 Fed. Reg. 14394.

On August 13, 2019, Respondents filed a motion for summary determination, Motion Docket No. 1154-026, which motion I denied on November 21, 2019. Order No. 35. Respondents also filed a motion, on November 6, 2019, to terminate the investigation for lack of standing by

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LILLEbaby. Motion Docket No. 1154-034. That motion remains pending and is disposed of herein.

I convened an evidentiary hearing on December 9-13, 2019, to determine whether section 337 has been violated by reason of the importation into the United States, the sale for importation, or the sale within the United States after importation of the infringing child carriers and components thereof.

All other pending motions, if any, are denied as moot in view of this final initial determination.

B. The Parties

1. Complainant LILLEbaby

LILLEbaby is a limited liability company organized and existing under the laws of the State of Delaware, with a principal place of business in Golden, Colorado. CPB at 3. LILLEbaby was founded by Lisbeth Lehan, who is a named inventor on the '116 patent. CPB at 3.

2. Respondents

Three respondents remain active in the investigation: Ergo, Tula, and Infantino.

a) *Ergo*

Ergo is headquartered in Los Angeles, California, and offers juvenile products, including some of the carriers accused of infringement in this investigation. RPHB at 4-5.

b) *Tula*

Tula is headquartered in San Diego, California, and sells, among other things, some of the carriers accused in this investigation. RPHB at 5. Tula was acquired by Ergo in 2016. *Id.*

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c) Infantino

Infantino is based in San Diego, California, and is owned by toy manufacturer Blue Box. RPHB at 5. Infantino sells a variety of child-related products, including some of the carriers accused in this investigation. *Id.*

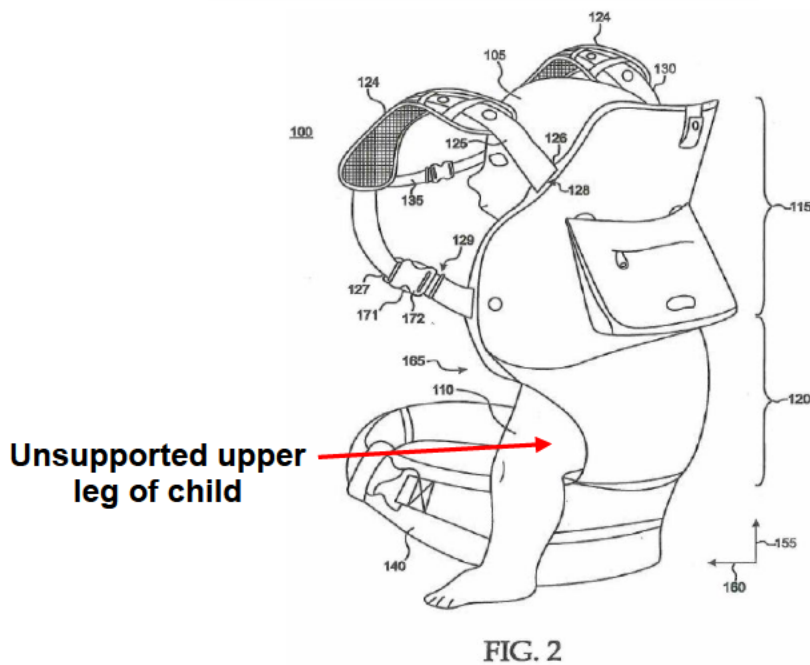
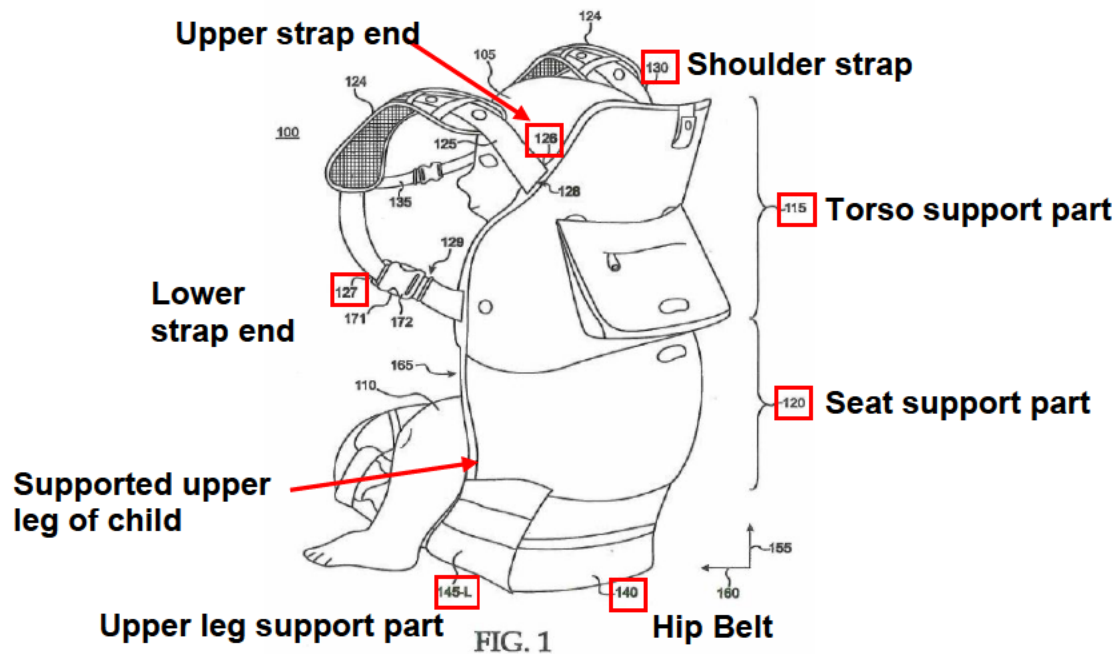
C. The Asserted Patent: U.S. Patent No. 8,172,116

The only remaining asserted claim is claim 18 of the '116 patent. *See* Order No. 41. The '116 patent is titled “Child carrier having adaptive leg supports” and discloses and claims a child carrier that can be used by an adult in different configurations, such that a child can be carried in several different positions. '116 patent at 9:45-48. The application leading to '116 patent was filed on July 28, 2008. '116 patent at cover. As explained in more detail herein, LILLEbaby asserts priority for the invention claimed in the '116 patent before the application date. *See infra* part VI.A.1.

The carrier of claim 18 is configurable to allow the child's upper legs to either be supported or “not support[ed].” *Id.* at claim 18. The claimed carrier comprises a torso support part, a seat support part coupled thereto, left and right shoulder straps configured for coupling at upper and lower ends to upper and lower coupling points on the torso support part, and a hip belt coupled to the seat support part. '116 patent at claim 18. The seat support part comprises left and right upper-leg-support parts on, respectively the left and right sides of the seat support part. *Id.* The left and right upper-leg-support parts are configurable to “optionally support and otherwise not support” the child's left and right thighs. *Id.* The upper leg support parts are configured for coupling to their respective sides of the hip belt.

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Figures 1 and 2 below (as annotated)¹ show an embodiment with a child's upper legs supported and unsupported, respectively:

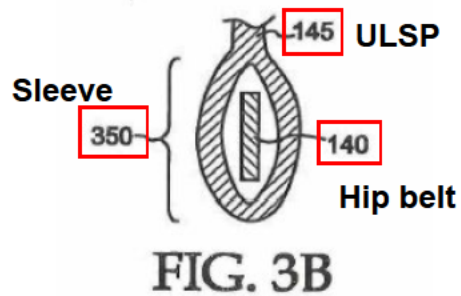
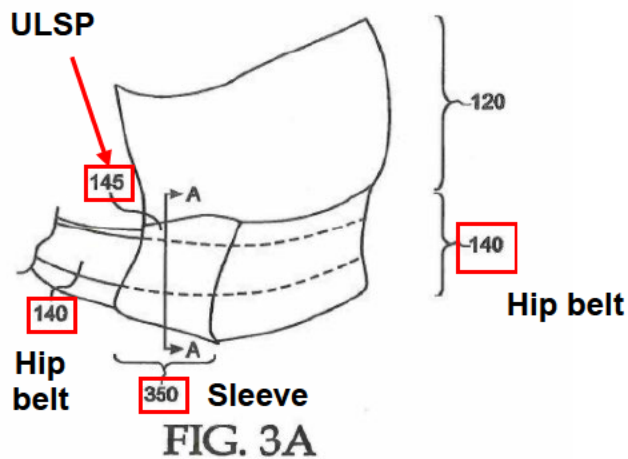


¹ Several figures and images reproduced in this final initial determination are annotated to assist in explaining certain elements and features shown therein. These annotations are not constructions of the asserted patent claim.

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'116 patent at Figs. 1 and 2 (annotated); *see id.* at 1:24–30. The patent describes Figure 1 as showing a child carrier “configured for supporting the thighs 110 of the child 105 proximately perpendicular to the body 165 of the child 105.” ’116 patent at 3:65–4:1. The patent describes Figure 2 as showing the child carrier configured such that “the upper legs 110 of the child 105 [are] unsupported.” *Id.* at 4:23–25.

The patent describes at least three ways that the upper-leg-support-parts can be coupled to the hip belt. One of those ways, illustrated below, is a sleeve embodiment, where the upper-leg-support-parts couple to the hip belt by passing “a portion of the hip belt 140 . . . through a sleeve 350 which provides coupling of the upper-leg-support part 145 to the hip belt 140 and thereby support of one of the upper legs (thighs) 110 of the child 105 when the child 105 is placed in the carrier 100.” *Id.* at 5:59–63.



'116 patent at Figs. 3A, 3B (reproduced above as annotated in RIB at 4). In this embodiment, the upper-leg-support-parts are attached to the hip belt, but that attachment can be undone by a user.

When the upper-leg-support-parts are not “in use in supporting the thighs 110 of the child 105,” the upper-leg-support-parts may be “folded into the inside of the seat support part 120 of the child carrier 100 for storage.” ’116 patent at 6:16–20. This is shown in Figure 3E below:

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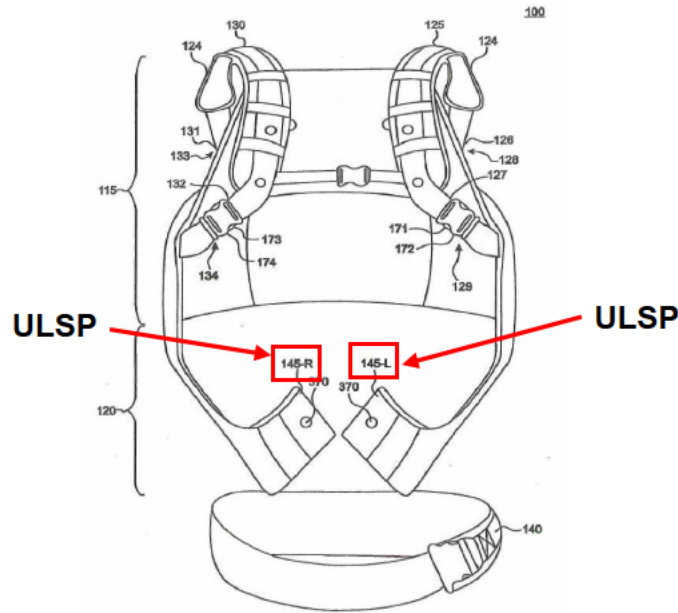


FIG. 3E

'116 patent at Fig. 3E (as annotated in RIB at 5).

Claim 18 is reproduced below with labels added to identify different limitation:

[18p] A carrier for transporting a child² by a transporting individual, comprising:

- [18a] a torso support part configured to support the torso of the child placed in the carrier;
- [18b] a left shoulder strap having an upper and a lower left-strap ends configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;
- [18c] a right shoulder strap having an upper and lower right-strap ends configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;
- [18d1] a seat support part coupled to the torso support part and configured to support the posterior of the child,
- [18d2] wherein the seat support part comprises a left upper-leg-support part

² For purposes of the hearing in this investigation, the parties agreed to use JPX-0001, a “David Doll” considered standard for testing of child carriers in the industry, in lieu of a live human child.

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disposed on the left side of the seat support part and configurable to optionally support at least part of the left thigh of the child and otherwise not support the left thigh of the child and

[18d3] a right upper-leg-support part disposed on the right side of the seat support part and configurable to optionally support at least part of the right thigh of the child and otherwise not support the right thigh of the child; and

[18e] a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual,

[18f] wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.

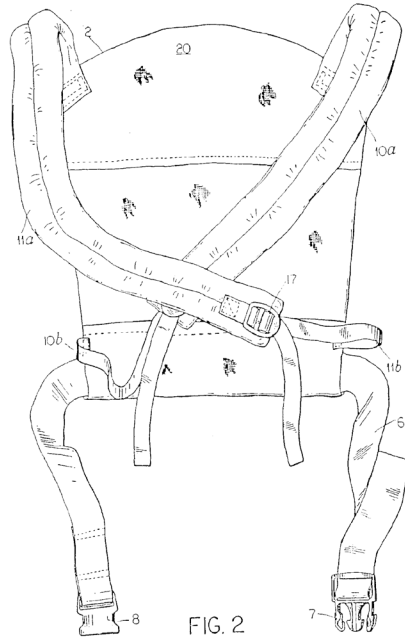
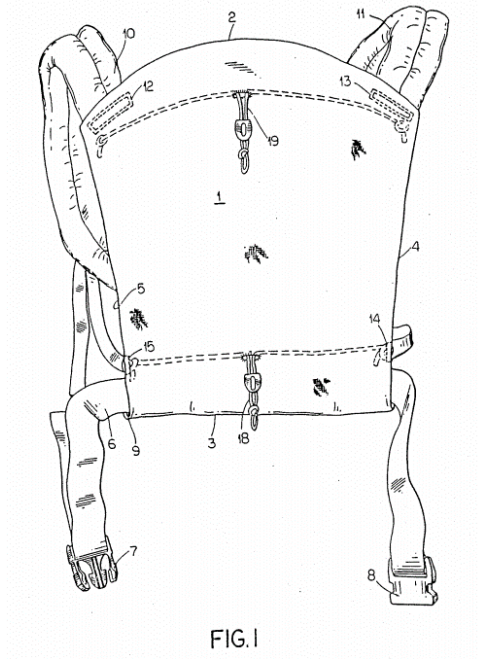
1. The Prosecution History of the '116 patent

Because it is relevant to the discussion of invalidity below, I will briefly discuss key elements of the prosecution history of the '116 patent. As noted above, the application resulting in the '116 patent was filed on July 28, 2008, although LILLEbaby claims priority to an earlier date. '116 patent at p. 2; JX-0002 at 3. After the applicant filed a preliminary amendment, the sole difference between proposed claim 8 and issued claim 18 was that proposed claim 8 did not include the final limitation of issued claim 18, which has been labeled 18f for convenience. That limitation recites, “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.” Proposed claim 26 depended from proposed claim 8, and proposed claim 26 added limitation 18f. JX-0002 at 68. Stated differently, proposed claim 26 was identical to issued claim 18, if written in independent form.

On September 15, 2011, the examiner rejected proposed claim 8 as being anticipated by, among other references, a patent to Linday, U.S. Patent No. 4,986,458 (RX-0355, hereinafter “Linday”). *See* JX-0002 at 93-98. The examiner concluded that Linday disclosed limitations 18p,

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18a, 18b, 18c, 18d, and 18e. Figures 1 and 2 of Linday, showing the front and back of the carrier, are reproduced below:



Linday at Figs. 1, 2.

The examiner explained that Linday’s upper-leg-support-parts are “configurable to optionally support at least part of the left [or right] thigh of the child and otherwise not support the left [or right] thigh of the child (i.e. when (18) is pulled & tighten[ed]).” JX-0002 at 95–96. The examiner also found that Linday discloses a hip belt 6 “coupled to the seat support part (3) and configured for securing about the hips of the transporting individual.” *Id.* at 96.

The examiner concluded that proposed dependent claim 26, which included limitation 18f, would be allowable if rewritten in independent form. JX-0002 at 102. The examiner distinguished proposed claim 26 from Linday based solely on limitation 18f, which required that “the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

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The applicant responded by both traversing the rejection based on Linday and rewriting proposed claim 26 as an independent claim. JX-0002 at 116-117, 122. After receiving the amendment rewriting proposed claim 26 in independent form, the examiner issued a Notice of Allowance, *id* at 129-130, and proposed claim 26 became issued claim 18 asserted in this investigation. *Id.* at 141.

D. The Accused Products

1. Ergo Accused Products

LILLEbaby has accused four Ergo products: the Ergo 360 (“360”), the Ergo Omni 360 (“Omni 360”), the Ergo Omni 360 Mesh (“Omni 360 Mesh”), and the Ergo Adapt (“Adapt”). Ergo also has produced an accused redesign product, the Ergo Omni Alternate (“Omni Alternate”). JPX-0027. The parties have stipulated the design of the Omni Alternate is ripe for an infringement determination by the Commission: EDIS Doc. ID 696627 (stipulation regarding redesign products).

2. Tula Accused Products

LILLEbaby has accused two Tula products: the Tula Free-to-Grow (“Free-to-Grow”) and Tula Explore (“Explore”). Tula has also produced an accused redesign product, the Tula Explore Alternate (“Explore Alternate”). JPX-0028. The parties have stipulated the design of the Explore Alternate is ripe for an infringement determination by the Commission: EDIS Doc. ID 696627 (stipulation regarding redesign products). A second redesign product, the Free-to-Grow Alternate, is no longer accused.

3. Infantino Accused Products

LILLEbaby accuses several Infantino products of infringement. Those products fall into six categories. The first category is the “Harness Carriers,” which include the Flip 4-in-1, the

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Carry On, the Go Forward, and the In Season. The second category has only one product, the Upscale. The remaining four categories are redesigns: the “Scrunch” redesign, the “Harness Attachment” redesign, the “Split Harness” redesign, and the “Slider Lever” redesign. CIB at 25; EDIS Doc. ID 696671 at ¶ 1-4 (stipulation regarding redesign products). The parties have stipulated the Infantino redesigns are ripe for an infringement determination by the Commission. EDIS Doc. ID 696671 at ¶ 7-9.

E. The Domestic Industry Products

LILLEbaby contends that its LILLEbaby COMPLETE Original carrier (JPX-0012) practices claim 18 and is representative of its other domestic industry products, including the LILLEbaby COMPLETE Organic, LILLEbaby COMPLETE Organi-Touch, LILLEbaby COMPLETE Woven, LILLEbaby COMPLETE Embossed, LILLEbaby COMPLETE All Seasons, LILLEbaby COMPLETE Airflow, LILLEbaby Pursuit Pro, LILLEbaby Pursuit All Seasons, LILLEbaby Pursuit Sport, LILLEbaby Serenity All Seasons, LILLEbaby Serenity Airflow, and the unreleased LILLEbaby Easy Go. Representative images of each line are reproduced below:

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CIB at 98; CPX-0001-0010.

The COMPLETE Original is a child carrier with a main body portion, two shoulder straps that are permanently sown to the main body at their top ends and attached to the main body at their lower ends by trident-style clips, and a hip belt permanently sown to the bottom of the main body portion. A child may be carried in the COMPLETE Original in at least three configurations: (1) with the carrier body on the front of an adult with the child facing outward, (2) with the carrier body on the front of an adult but with the child facing the adult, and (3) with the carrier body on the back of the adult with the child facing the adult. The portion of the COMPLETE Original that supports the carried child's posterior can be adjusted by sliding sleeves on or off of the hip belt. Snap-style fasteners inside the sleeves can further secure fabric panels to the hip belt when the seat is in the wider configuration. When the hip belt is not fed through the sleeves, the sleeves and panels can be folded inside the main body of the carrier and snapped to one another.

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II. JURISDICTION & IMPORTATION

A. Subject Matter Jurisdiction

Section 337 confers subject matter jurisdiction on the Commission to investigate, and if appropriate, to provide a remedy for, unfair acts and unfair methods of competition in the importation of articles into the United States and the sale of such articles. *See* 19 U.S.C. §§ 1337(a)(1)(B) and (a)(2). LILLEbaby filed a complaint alleging a violation of section 337, and the Commission has subject matter jurisdiction over the complaint. *See Amgen, Inc. v. Int'l. Trade Comm'n*, 902 F.2d 1532, 1536 (Fed. Cir. 1990).

B. Personal Jurisdiction

Ergo, Tula, and Infantino are domestic entities that have appeared and participated in this investigation. The Commission therefore has personal jurisdiction over them. *See, e.g., Certain Magnetic Tape Cartridges and Components Thereof*, Inv. No. 337-TA-1058, ID at 12 (Aug. 17, 2018) (EDIS Doc. No. 653306) (unreviewed in relevant part).

C. In Rem Jurisdiction and Importation

1. Ergo

Ergo has stipulated that, since 2018, it has sold for importation into the United States, imported into the United States, and sold within the United States after importation, each of the Ergo accused products. CX-0312C:0001 at ¶ 2; *see* EDIS Doc. ID 696627 (Joint Stipulation regarding the Ergo Baby Carrier Inc. and New Baby Tula, LLC's Redesigns) at ¶ 1. Ergo further has stipulated that the 360, Adapt, Omni 360, and Omni 360 Mesh are manufactured in Vietnam by [REDACTED] and in India by [REDACTED]. CX-0312C:0002 at ¶¶ 3-4. The Ergo products are then imported into the United States and sold within the United States by at least Ergo. *Id.* Based on these stipulated facts, I find that the importation requirement of section 337 has been satisfied with respect to each

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of the Ergo accused products and the Commission has in rem jurisdiction over those products. *See Sealed Air Corp. v. Int'l Trade Comm'n*, 645 F.2d 976, 985-86 (C.C.P.A. 1981) (noting that the Commission has jurisdiction over imported goods).

2. Tula

Tula has stipulated that, since 2017, it has sold for importation into the United States, imported into the United States, and sold within the United States after importation, each of the Tula accused products. CX-0313C:0001 at ¶ 2; *see* EDIS Doc. ID 696627 (Joint Stipulation regarding the Ergo Baby Carrier Inc. and New Baby Tula, LLC's Redesigns) at ¶ 1. Tula has further stipulated that the Free to Grow and Explore are manufactured in India by [REDACTED] and [REDACTED] and in Poland by [REDACTED]. CX-0313C:0001-0002 at ¶¶ 3-4. The Tula products are then imported into the United States by at least New Baby Tula LLC and sold within the United States after importation by at least Tula. *Id.* Based on these stipulated facts, I find that the importation requirement of section 337 has been satisfied with respect to each of the Tula accused products and the Commission has in rem jurisdiction over those products. *See Sealed Air Corp.* 645 F.2d at 985-86.

3. Infantino

Infantino has stipulated that, since the filing date of the complaint, it has sold for importation into the United States, imported into the United States, and sold within the United States after importation each of the Infantino accused products, including the relevant redesigns. CX-0505C:0001 at ¶ 2; JX0472:0002 at ¶ 7. Infantino has further stipulated that its Flip 4-in-1, Carry On, Go Forward, In Season, and Upscale are manufactured in China by [REDACTED] and in Hong Kong by [REDACTED]. CX-0505C:0001 at ¶ 2. Those Infantino products are sold for importation into the United

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States by [REDACTED]
[REDACTED], and are imported into the United States by [REDACTED]
[REDACTED] *Id.* After importation, those products are sold within the United States by at least Infantino, Aldi, Marshalls, Inc., [REDACTED] *Id.* Infantino has also stipulated that the Scrunch, Harness Attachment, Split Harness, and Slider Lever redesigns were manufactured in China. JX-0472:0002 at ¶ 7. Based on these stipulated facts, I find that the importation requirement of section 337 has been satisfied with respect to each of the Infantino accused products, including the Infantino redesigned products. The Commission therefore has in rem jurisdiction over the Infantino accused products. *See Sealed Air Corp.* 645 F.2d at 985-86.

D. Standing

Respondents Ergo, Tula, and Infantino challenge LILLEbaby's standing to bring the present complaint. *See* Motion Docket No. 1154-034 ("Mot.").³ They contend LILLEbaby transferred substantial rights in the asserted patents to an entity called Tree Line Direct Lending, LP ("Tree Line"), in a 2017 document titled Guarantee and Security Agreement ("Security Agreement"). Respondents focus on section 7.1 of the Security Agreement, which in their view grants Tree Line the right to initiate suits related to the patents, the right to assign the patents, and the right to sell the patents. Respondents also contend that Section 5.3 of the Agreement limits LILLEbaby's ability to assign the patents. Respondents argue that Tree Line's rights in the '116 patent are so substantial that Tree Line is a "co-owner" of that patent, a necessary party to this investigation. Mot. at 4, 11, 15-16. Respondents contend the investigation should be terminated

³ LILLEbaby's response to Motion No. 1154-034 is hereinafter referred to as "LILLEbaby Resp."; Staff's response to the pending motion is hereinafter referred to as "Staff Resp."

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without a finding of violation because Tree Line did not participate in the investigation. *Id.* at 24, 26.

LILLEbaby and Staff disagree that Tree Line is a co-owner of the '116 patent. They note that the Security Agreement is part of a set of agreements that provide LILLEbaby with certain loans and financing. LILLEbaby Resp. at 10-13. They contend the Security Agreement merely grants Tree Line a security interest in LILLEbaby's patents to protect Tree Line in the event that LILLEbaby defaults on its financial obligations, and Tree Line may only exercise patent rights after such a default. Staff Resp. at 7-9; LILLEbaby Resp. at 13, 14-19. They note that the Security Agreement lays out a formal procedure for transferring LILLEbaby's intellectual property in the event of default, which would be superfluous if Tree Line became a co-owner of LILLEbaby's patents upon execution of the Security Agreement. Staff Resp. at 7-9; LILLEbaby Resp. at 13, 14-19. LILLEbaby and Staff also note provisions of the Security Agreement that refer to LILLEbaby, not Tree Line, as owner of the patents. Staff Resp. at 9-10.

Commission Rule 210.12 requires that intellectual property-based complaints "include a showing that at least one complainant is the owner or exclusive licensee of the subject intellectual property." 19 C.F.R. § 210.12(a)(7). In applying this rule, the Commission has adopted the standing requirement established by the federal courts in patent infringement cases. *See SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1326 n.4 (Fed. Cir. 2010) (noting the Commission strictly reads the federal standing precedent into its rules of procedure); *Certain Optical Drives, Components Thereof, and Products Containing the Same*, Inv. No. 337-TA-897, Comm'n Op. at 4, EDIS Doc. No. 548902 (Dec. 4, 2014) (public version Jan. 7, 2015) ("*Optical Drives*"). Complainants bringing an action under 19 U.S.C. § 1337(a)(1)(B) based on patent

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infringement must therefore show that they have constitutional standing to assert patent rights. *Optical Drives*, Comm’n Op. at 4.

Constitutional standing arises from the “case or controversy” clause in Article III, Section 2 of the U.S. Constitution. *Arizonans for Official English v. Arizona*, 520 U.S. 43, 64 and 67 (1997) (citations omitted); *Lone Star Silicon Innovations LLC v. Nanya Tech. Corp.*, 925 F.3d 1225, 1234 (Fed. Cir. 2019). Under that provision, the federal courts only have jurisdiction to hear disputes brought by a party who has suffered or is imminently threatened with “a concrete and particularized ‘injury in fact’ that is fairly traceable to the challenged action of the defendant and likely to be redressed by a favorable judicial decision.” *Lexmark Int’l, Inc. v. Static Control Components, Inc.*, 572 U.S. 118, 125 (2014); *see also Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1338-39 (Fed. Cir. 2007). In causes of action involving patent infringement, the “injury in fact” is derived from the legal right to exclude others from practicing the patented invention created by the Patent Act. *See, e.g., Optical Drives*, Comm’n Op. at 5. Thus, “when a party performs at least one prohibited action with respect to the patented invention that violates these exclusionary rights,” the party holding those rights is injured and has constitutional standing. *Morrow*, 499 F.3d at 1339.

In addition to the constitutional standing requirement, the federal courts also require a complainant to demonstrate a statutory cause of action at the time of filing suit. *Optical Drives*, Comm’n Op. at 4; *Lone Star Silicon Innovations*, 925 F.3d at 1234 (Fed. Cir. 2019).⁴ The Supreme

⁴ The Federal Circuit has recently clarified that whether a party has a statutory cause of action under the Patent Act is not a question of constitutional standing. *Lone Star Silicon Innovations*, 925 F.3d at 1235-36 (“We therefore firmly bring ourselves into accord with Lexmark and our sister circuits by concluding that whether a party possesses all substantial rights in a patent does not implicate standing or subject-matter jurisdiction.”). A party that does not possess all substantial rights in a patent may yet satisfy the standing requirement of Article III of the Constitution, *id.* at 1236, but such a party may not have a statutory cause of action under the Patent Act, *id.* at 1234.

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Court has explained that “a statutory cause of action extends only to plaintiffs whose interests ‘fall within the zone of interests protected by the law invoked.’” *Lexmark*, 572 U.S. at 126 (citations omitted). In the scheme the Commission has adopted from the federal courts, the relevant statute for this analysis is the Patent Act, which grants exclusive rights to a patentee. *See* 35 U.S.C. §§ 154(a)(1), 281; *Optical Drives*, Comm’n Op. at 4-5. The Patent Act requires that a complaint of patent infringement “be brought by a party holding legal title to the patent.” *Abbott Labs. v. Diamedix Corp.*, 47 F.3d 1128, 1130 (Fed. Cir. 1995); *see also Ball v. Coker*, 168 F. 304, 307 (C.C.D.S.C. 1909) (“[N]o person may bring suit for profits or damages for infringement who is not the patentee, or such assignee or grantee as the statute points out.”).

In certain circumstances, however, the federal courts have allowed parties that do not hold legal title to a patent to join the patentee as a co-plaintiff. To be joined as a co-plaintiff with the patentee, a party “must have the right to exclude others from making, using, or selling the invention in the United States.” *Morrow*, 499 F.3d at 1340. Anyone “who lacks exclusionary rights has no authority to assert a patent (even along with the patentee).” *Lone Star Silicon Innovations*, 925 F.3d at 1228; *see also Ortho Pharm. Corp. v. Genetics Inst., Inc.*, 52 F.3d 1026, 1032 (Fed. Cir. 1995) (it is the “right to prevent others from making, using or selling the patented technology that provides the foundation for co-plaintiff standing”).

Here, Respondents assert that Tree Line should—and must—be a co-complainant with LILLEbaby. The first step in testing Respondents’ argument is to determine who holds legal title to the ’116 patent, because, as explained above, standing to assert a claim of patent infringement begins with legal title to the patent. *See Abbott Labs. v. Diamedix Corp.*, 47 F.3d at 1130. The record demonstrates that LILLEbaby retains legal title to the asserted patent. The inventors assigned the patent to LILLEbaby, and LILLEbaby recorded its ownership interest with the U.S.

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Patent and Trademark Office. JX-8. The record contains no evidence that title to the patent has been transferred to another entity. Section 4.10 and Schedule 4 of the Security Agreement also aver LILLEbaby is the owner of the '116 patent. Mot. Ex. 1 at Section 4.10 (grantor LILLEbaby “exclusively owns good and marketable title to each item of Intellectual Property” in Schedule 4, which lists the '116 patent). Respondents concede these facts, acknowledging in their motion that LILLEbaby is the “title holder” to the '116 patent. Mot. at 22.

Having established that LILLEbaby holds title to the '116 patent, the next question is whether Tree Line has been granted rights in the '116 patent sufficient to entitle Tree Line to bring a claim of infringement along with LILLEbaby.⁵ As noted above, Tree Line may only do so if it has “the right to exclude others from making, using, or selling the invention in the United States.” *Morrow*, 499 F.3d at 1340. Tree Line must have had the exclusionary right when the action was initiated. *See Aspex Eyewear, Inc. v. Miracle Optics, Inc.*, 434 F.3d 1336, 1343 (Fed. Cir. 2006) (examining patent rights at the time of the complaint to determine standing).

Respondents claim that the Security Agreement granted Tree Line sufficient rights to be a co-complainant. To test Respondents’ theory, I must examine “the substance of what was granted rather than formalities or magic words.” *Lone Star Silicon Innovations*, 925 F.3d at 1229. Under the Security Agreement and a set of related documents, LILLEbaby pledged its intellectual property as collateral to induce lenders to fund loans and credit. Mot. Ex. 1 at LLBOO576153-54 (recitals), Section 3(i) (defining “Collateral” to include “Intellectual Property”), Schedule 4 (listing the '116 patent as Intellectual Property collateral); Mot. Ex. 2 (Credit Agreement). The Security Agreement grants Tree Line the ability to take certain actions if LILLEbaby defaults on its

⁵ Respondents never argue that Tree Line is entitled to bring a complaint of patent infringement on its own, without LILLEbaby. I determine that Tree Line is not entitled to do so, for the same reasons that Tree Line is not entitled to be a co-plaintiff.

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financial obligations. For example, Tree Line may sell the intellectual property collateral “[i]f an Event of Default shall have occurred and be continuing.” Mot. Ex. 1 at Section 6.6. Similarly, Tree Line may bring an action to enforce any rights “in any Intellectual Property in the Collateral” or may require LILLEbaby to assign its intellectual property to Tree Line “upon the occurrence and during the continuation of an Event of Default.” *Id.* at Sections 6.8(b)(i), (ii). Additionally, Section 7.1(a) of the Agreement grants Tree Line power of attorney to act in LILLEbaby’s place and commence or defend suits involving the intellectual property collateral, but Tree Line “agrees that it will not exercise any rights under the power of attorney provided for in this Section 7.1(a) unless an Event of Default shall have occurred and be continuing.” Mot. Ex. 1 at ¶ 7.1(a). Section 7.1(a) also reiterates that Tree Line’s power of attorney to execute assignments of the collateral is tied to the remedies for default provided in Section 6.6. *Id.* at Section 7.1(a)(iv).

The Security Agreement here is similar to the security agreement discussed in *Town & Country Linen Corp. v. Ingenious Designs LLC*, No. 18 CIV. 5075, 2020 WL 470234 (S.D.N.Y. Jan. 29, 2020), *order vacated in immaterial part on reconsideration*, No. 18 CIV. 5075, 2020 WL 996732 (S.D.N.Y. Mar. 2, 2020). Both agreements created a security interest in patents. *Compare* Mot. Ex. 1 with 2020 WL 470234, at *4. Both agreements are governed by New York law. *Id.* Both here and in *Town & Country Linen*, parties accused of infringement sought to terminate the action because third parties holding security interests in the patents were not named as co-complainants. The court in *Town & Country Linen* rejected that argument, holding that “the security interest agreements do not provide the Collateral Parties with rights to the patent or standing to bring suit now; rather, the Collateral Parties have rights to the ‘Collateral IP’ only if Plaintiffs default on the loans.” 2020 WL 470234, at *4. The court explained the security interest agreements “created future – not present – rights.” *Id.* In particular, the court noted that the

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Collateral Parties had no present right to sue, so no transfer of “sufficient substantial rights” had occurred that would make joinder of the Collateral Parties necessary, or even possible. *Id.* The same conclusion follows here. The Security Agreement did not grant Tree Line a present right to exclude anyone from infringing the ’116 patent; it only granted future rights contingent on default by LILLEbaby. *Id.*; see also *Pantone v. A.I. Friedman, Inc.*, 294 F.Supp. 545, 551-2 (S.D.N.Y. 1968) (security assignment of a copyright would effectuate a transfer of ownership only in event of default, which had not occurred, so copyright owner could maintain suit for infringement); *Holt v. United States*, No. 1976-72, 1973 WL 614, at *3 (D.D.C. Aug. 23, 1973) (grant of a security interest “did not convey title in the patent application”); *Hearst Corp. v. Stark*, 639 F. Supp. 970, 973 (N.D. Cal. 1986) (“assignments of the copyrights for security purposes did not divest New American Library of its rights to enforce the copyrights”).

Respondents counter that LILLEbaby has been in default of the Security Agreement during the pendency of the investigation, which resulted in patent rights automatically transferring to Tree Line. Mot. at 17-19. [REDACTED]

[REDACTED] See, e.g., CX-507C at ¶ B. But Respondents are incorrect about the consequence of that [REDACTED]

[REDACTED] If LILLEbaby defaults, the Security Agreement requires Tree Line to issue a “written request” for LILLEbaby to assign its title to the intellectual property collateral, and then LILLEbaby “shall execute and deliver to the Collateral Agent [Tree Line] such necessary or appropriate documents” transferring LILLEbaby’s rights. Mot. Ex. 1 at Section 6.8(b)(ii). It is undisputed that Tree Line has issued no such request for assignment.

The Security Agreement contains other evidence that patent rights do not pass automatically to Tree Line upon default by LILLEbaby. Section 6.8(b)(iv) describes a procedure

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for LILLEbaby to get transferred patent rights back after curing a default. That section speaks of transferring back patent rights that “shall have *become* absolute and effective” with respect to Tree Line, implying that mere default does not automatically result in Tree Line obtaining patent rights. *See* Mot. Ex. 1 at Section 6.8(b)(iv) (emphasis added). And if there were any doubt on this point, LILLEbaby and Tree Line executed a Confirmatory Agreement stating the Security Agreement does not automatically transfer patent rights in the event of default by LILLEbaby. *See* CX-508C at ¶ 4.

The procedure in the Security Agreement for transferring rights in the '116 patent after default accords with procedures in other similar security agreements. For example, in *In re Tower Tech, Inc.*, 67 F. App'x 521 (10th Cir. 2003) (not selected for publication), the Tenth Circuit examined a security agreement where patent rights were pledged as collateral for loans. The promissory notes entitled the creditor to “an immediate assignment of all right, title, and interest to the patents, with the right and power to execute and record an assignment of the patents as attorney-in-fact on behalf of debtor after notice of default.” *Id.* at 524. But the terms of the notes provided that “some further act would be required to complete the assignment of the Patents,” and the parties never executed separate documents “evidencing an assignment of collateral.” *Id.* The 10th Circuit affirmed that “no actual assignment of the patents occurred.”

Like the agreement in *Tower Tech*, the Security Agreement here requires an additional procedure after default for patent rights to transfer: Tree Line must issue a “written request” for LILLEbaby to assign the patents, after which LILLEbaby must “execute and deliver” appropriate documents accomplishing the transfer of rights. Mot. Ex. 1 at Section 6.8(b)(ii). To date, neither Tree Line nor LILLEbaby have followed that procedure.

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Apart from the transfer procedure outlined in the Security Agreement, the New York Uniform Commercial Code (“NYUCC”) also counsels against Respondents’ position. Article 9 of the NYUCC captures a broad range of transactions that pass under different names but are designed to secure payment or performance of an obligation. *See* NYUCC § 9-109 (Article 9 applies to “a transaction, regardless of its form, that creates a security interest in personal property”). Secured interests in patents fall within the scope of Article 9. *See Holt*, 1973 WL 614, at *2 (secured interests in patents are subject to the UCC); *see also* Thomas M. Ward & Stephen M. McJohn, *Intellectual Property in Commerce* § 2:5 (March 2019). I find the parties to the Security Agreement at issue here contemplated the NYUCC Article 9 scheme, as manifest by references to the UCC within the Agreement and inclusion of a schedule of UCC filings for perfecting the lenders’ security interests. *See* Mot. Ex. 1 at Section 1.1 (adopting certain UCC definitions), Section 6.6 (“UCC and Other Remedies”), and Schedule 2.

NYUCC Article 9 allows a party with a security interest to accept collateral in satisfaction of the obligation “only if” certain conditions are met. NYUCC §§ 9-620(a). Under one such procedure, Tree Line must send a proposal to LILLEbaby that Tree Line will accept patent rights in satisfaction of LILLEbaby’s obligations. *See id.* at § 620(a)(2), (d), § 621. If Tree Line receives no objection from LILLEbaby within twenty days, the patent rights may transfer. *See id.*; *see also Digigan, Inc. v. Invalidate, Inc.*, No. 02 CIV. 420, 2004 WL 203010, at *2 (S.D.N.Y. Feb. 3, 2004). Respondents do not contend that this or any other NYUCC procedures for accepting or transferring collateral were followed here.

Other jurisdictions adopting the UCC have rejected the notion that a creditor automatically obtains title to collateral automatically upon default. *See, e.g., McDonald v. Rockland Trust Co.*, 798 N.E.2d 323, 327 (Mass. App. Ct. 2003) (“an event of default does not automatically transfer

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possession to the creditor”); *see also* Ward & McJohn, *supra*, § 3:24 (describing UCC requirements for the transfer of title in collateral after default). As one Massachusetts court has explained, even after default a creditor remains entitled to release its security interest or to forbear from enforcing the security agreement. *McDonald*, 798 N.E.2d at 327. Thus, even if LILLEbaby were in default, Tree Line is entitled to forbear enforcement of its security interest. The record contains no evidence that Tree Line has enforced any transfer of intellectual property collateral [REDACTED]

[REDACTED] To the contrary, the record contains evidence that [REDACTED]

[REDACTED] *See* CX-507C.

Because some additional procedure [REDACTED] is required for patent rights to transfer to Tree Line, LILLEbaby’s standing to bring suit does not “blink on and off like a holiday light,” as respondents erroneously suggest. *Cf.* Mot. at 19. Tree Line has not yet obtained—and may never obtain—exclusionary rights under the ’116 patent. Accordingly, Tree Line does not have sufficient rights for it to be named as an infringement complainant with LILLEbaby.

One other provision in the Security Agreement merits discussion. Respondents claim that under Section 5.3 Tree Line has the power to prohibit LILLEbaby from assigning the ’116 patent, and “a party with power to restrict such assignment must be joined as a necessary party to any enforcement action.” Mot. at 7. Respondents are mistaken about the scope of Section 5.3. That section states that LILLEbaby may not “enter into any Contractual Obligation or undertaking restricting the right or ability of such Grantor or Collateral Agent to sell, assign, convey or transfer any Collateral if such restriction could reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.”⁶ Mot. Ex. 1 at Section 5.3(a). It is not true, as

⁶ “Material Adverse Effect” is defined in the parties’ Credit Agreement, but the definition adds nothing helpful in this dispute. If the reader is curious, the definition is “a material adverse

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Respondents contend, that *any* assignment of the '116 patent would have a “Material Adverse Effect” on Tree Line. The Security Agreement, and its recording with the State of Delaware and the U.S. Patent and Trademark Office, prioritizes Tree Line’s claim as a secured party against later claimants. Indeed, the Patent Office and UCC recording schemes specifically contemplate a debtor selling or assigning an intellectual property asset. *See Ward & McJohn, supra*, § 2:36 (security interests in intellectual property are “designed to protect the lien creditor, other secured parties, and a variety of subsequent third party purchasers,” including “subsequent assignees and subsequent licensees who take through the secured party’s debtor”). Section 5.3 of the Security Agreement, titled “Maintenance of Perfected Security Interest; Further Documentation,” merely prohibits LILLEbaby from undermining Tree Line’s priority in the collateral. Nothing in Section 5.3 restricts LILLEbaby’s right to sell or assign the '116 patent. Indeed, LILLEbaby and Tree Line executed a document confirming that understanding. *See CX-508C at ¶ 3* (LILLEbaby maintains the right to “sell” the '116 patent). If LILLEbaby were to sell or assign the '116 patent, any assignee or purchaser would obtain title subject to Tree Line’s secured interest, and no “Material Adverse Effect” on Tree Line would result. Because Section 5.3 does not restrict LILLEbaby’s right to assign the '116 patent, it does not manifest a transfer of substantial patent rights to Tree Line.

effect on (a) the business, assets, liabilities (actual or contingent), operations, financial condition, results of operations or performance of Holding and its Subsidiaries taken as a whole, (b) the validity or enforceability of this Agreement or any of the Security Documents or any intercreditor agreement, (c) the ability of any Credit Party to perform its material obligations under this Agreement or any of the Security Documents or any intercreditor agreement of Document or (d) the rights or remedies of the Secured Parties of the Lenders hereunder or thereunder.” Mot. Ex. 2 at LLB00575579.

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In sum, I determine LILLEbaby has standing to assert a claim of infringement without joining Tree Line as a co-complainant. Respondents' motion to terminate for lack of standing, Motion No. 1154-034, is denied.

III. LEGAL PRINCIPLES

A. Claim Construction

“An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*) (internal citations omitted), *aff'd*, 517 U.S. 370 (1996). Claim construction resolves legal disputes between the parties regarding claim scope. *See Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d at 1314, 1319 (Fed. Cir. 2016).

Evidence intrinsic to the application, prosecution, and issuance of a patent is the most significant source of the legally operative meaning of disputed claim language. *See Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*); *see also Markman*, 52 F.3d at 979. As the Federal Circuit explained in *Phillips*, courts must analyze each of these components to determine the “ordinary and customary meaning of a claim term” as understood by a person of ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1313.

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). “Quite apart from the

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written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claims terms.” *Phillips*, 415 F.3d at 1314; *see Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to ‘particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.’”). The context in which a term is used in an asserted claim can be “highly instructive.” *Phillips*, 415 F.3d at 1314. Additionally, other claims in the same patent, asserted or unasserted, may also provide guidance as to the meaning of a claim term. *Id.*

The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Id.* As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323. In the end, “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be . . . the correct construction.” *Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

When the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence (*i.e.*, all evidence external to the patent and the prosecution history, including dictionaries, inventor testimony, expert testimony, and learned treatises) may be considered.

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Phillips, 415 F.3d at 1317. Extrinsic evidence is generally viewed as less reliable than the patent itself and its prosecution history in determining how to define claim terms. *Id.* “The court may receive extrinsic evidence to educate itself about the invention and the relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence.” *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999).

B. Validity

A patent is presumed valid. *See* 35 U.S.C. § 282; *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2242 (2011). A respondent who has raised patent invalidity as an affirmative defense has the burden of overcoming this presumption by clear and convincing evidence. *See i4i*, 131 S. Ct. at 2242.

1. Priority Date

If a patentee claims priority in an invention before the application filing date, the patentee bears the burden of establishing they are entitled to that earlier date. *See In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016) (“[A] patentee bears the burden of establishing that its claimed invention is entitled to an earlier priority date than an asserted prior art reference.”). To establish such an earlier date, the patentee must prove the inventor actually reduced to practice the invention of that claim by the earlier date, or that she conceived of the invention by the earlier date and thereafter diligently reduced the invention to practice. *Apator Miitors ApS v. Kamstrup A/S*, 887 F.3d 1293, 1295 (Fed. Cir. 2018).

To have conceived of an invention, an inventor must have formed in her mind “a definite and permanent idea of the complete and operative invention.” *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994). The idea must be “so clearly defined in the

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inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.” *Id.*

Uncorroborated inventor testimony of conception is insufficient on its own to prove an earlier priority date. *Price v. Symsek*, 988 F.2d 1187, 1195 (Fed. Cir. 1993). Courts apply a rule of reason analysis when assessing corroboration of testimony. *Id.* Under a rule of reason analysis, “[a]n evaluation of all pertinent evidence must be made so that a sound determination of the credibility of the inventor's story may be reached.” *Id.* “An inventor’s testimony on conception can be corroborated through several pieces of evidence, even though no one piece of evidence independently proves conception, and even [through] circumstantial evidence.” *E.I. du Pont de Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1076 (Fed. Cir. 2019) (citations and quotations omitted). The same requirement for evidence that corroborates inventor testimony on conception also applies to the reduction to practice determination. *Id.*

2. Anticipation

Under 35 U.S.C. § 102, a claim is anticipated, and therefore invalid, when “the four comers of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). To be considered anticipatory, the prior art reference must be enabling and describe the applicant’s claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *See Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000).

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3. Obviousness

Under 35 U.S.C. § 103, a patent may be found invalid as obvious if “the differences between the subject matter sought to be patented 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.” 35 U.S.C. § 103(a). Because obviousness is determined at the time of invention, rather than the date of litigation, “[t]he great challenge of the obviousness judgment is proceeding without any hint of hindsight.” *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1375 (Fed. Cir. 2011).

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417-418 (2007). Thus, when a combination of several prior art references is asserted, “the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007) (citations omitted). Though rare, “in appropriate circumstances, a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016).

Obviousness is a determination of law based on underlying determinations of fact. *Star Scientific*, 655 F.3d at 1374. The factual determinations behind a finding of obviousness include: (1) the scope and content of the prior art, (2) the level and content of the prior art, (3) the differences between the claimed invention and the prior art, and (4) secondary considerations of non-obviousness. *KSR*, 550 U.S. at 399 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)).

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“The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.” *In re Heck*, 699 F.2d 1331, 1332-33 (Fed. Cir. 1983).

Secondary considerations of non-obviousness include commercial success, long felt but unresolved need, and the failure of others. *Id.* Evidence of direct copying may also be an objective indicator of non-obviousness. *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 26 (Fed. Cir. 2000). When present, secondary considerations “give light to the circumstances surrounding the origin of the subject matter sought to be patented,” but they are not dispositive on the issue of obviousness. *Geo. M. Martin Co. v. Alliance Mach. Sys. Int’l.*, 618 F.3d 1294, 1304-06 (Fed. Cir. 2010). For evidence of secondary considerations to be given substantial weight in the obviousness determination, its proponent must establish a nexus between the evidence and the merits of the claimed invention. *See W. Union Co. v. MoneyGram Payment Sys. Inc.*, 626 F.3d 1361, 1372-73 (Fed. Cir. 2010) (citing *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995)).

C. Inequitable Conduct

Inequitable conduct is a judicially-created equitable defense to patent infringement. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285 (Fed. Cir. 2011) (*en banc*). When a court determines that inequitable conduct has occurred as to one or more claims of a patent, the entire patent is rendered unenforceable. *Id.* at 1287; *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 877 (Fed. Cir. 1988). Inequitable conduct generally requires a showing of (1) specific intent to deceive the Patent Office and (2) “but-for materiality,” meaning that the patent would not have issued but for the misrepresentation or omission. *Therasense*, 649 F.3d at 1287. The Federal Circuit has also recognized an exception to the materiality requirement. “[A]ffirmative acts of egregious misconduct,” such as filing an “unmistakably false affidavit,” has

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been held to be material even if the misconduct would not have influenced the issuance of the patent. *Therasense*, 649 F.3d at 1292.

Under the intent prong of the standard two-part test, a party can prove intent to deceive the Patent Office based on direct evidence or on circumstantial evidence “with the collection of inferences permitting a confident judgment that deceit has occurred.” *McKesson Info. Sols., Inc. v. Bridge Med., Inc.*, 487 F.3d 897, 913 (Fed. Cir. 2007) (internal quotation marks omitted); *see also Merck & Co., Inc. v. Danbury Pharmacal, Inc.*, 873 F.2d 1418, 1422 (Fed. Cir. 1989) (“Intent need not, and rarely can, be proven by direct evidence.”). In evaluating intent, the factfinder must consider evidence that the patent applicants withheld information from the Patent Office in good faith. *See Purdue Pharma L.P. v. Endo Pharm. Inc.*, 438 F.3d 1123, 1134 (Fed. Cir. 2006). “Intent to deceive cannot be inferred simply from the decision to withhold the reference where the reasons given for the withholding are plausible.” *Dayco Prod., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1367 (Fed. Cir. 2003). In short, a factfinder should only infer intent to deceive when the evidence is clear and convincing. “[T]he inference [of intent to deceive] must not only be based on sufficient evidence and be reasonable in light of that evidence, but it must also be the single most reasonable inference able to be drawn from the evidence to meet the clear and convincing standard.” *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008) (alterations added).

D. Infringement

In a section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a preponderance of the evidence. *See Spansion Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1349 (Fed. Cir. 2010). This standard “requires proving that infringement was more likely than not to have occurred.” *Warner-Lambert Co. v. Teva Pharm. USA, Inc.*, 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005). Direct infringement of an apparatus claim requires the

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accused device to contain each and every limitation set forth in a claim. *Centrak, Inc. v. Sonitor Techs., Inc.*, 915 F.3d 1360, 1371 (Fed. Cir. 2019).

E. Domestic Industry

For a patent-based complaint, a violation of section 337 can be found “only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2). This domestic industry requirement of section 337 is often described as having an economic prong and a technical prong. *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 707 F.3d 1295, 1298 (Fed. Cir. 2013); *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, USITC Pub. 4120, 2009 WL 5134139 (Dec. 2009), Comm’n Op. at 12-14. The complainant bears the burden of establishing that the domestic industry requirement is satisfied. *See Certain Set-Top Boxes and Components Thereof*, Inv. No. 337-TA-454, ID at 294, 2002 WL 31556392 (June 21, 2002) (unreviewed by Commission in relevant part).

1. Economic Prong

Section 337(a)(3) sets forth the following economic criteria for determining the existence of a domestic industry in such investigations:

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned -

- (A) significant investment in plant and equipment;
- (B) significant employment of labor or capital; or
- (C) substantial investment in its exploitation, including engineering, research and development, or licensing.

Given that the statutory criteria are listed in the disjunctive, satisfaction of any one of them will be sufficient to meet the economic prong of the domestic industry requirement. *See Certain Variable*

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Speed Wind Turbines and Components Thereof, Inv. No. 337-TA-376, USITC Pub. 3003, (Nov. 1996), Comm’n Op. at 15.

1. Technical Prong

The technical prong of the domestic industry requirement is satisfied when the complainant in a patent-based section 337 investigation establishes that it is practicing or exploiting the patents at issue. *See* 19 U.S.C. § 1337(a)(2) and (3); *Certain Microsphere Adhesives, Process for Making Same and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm’n Op. at 8, 1996 WL 1056095 (Jan. 16, 1996). “The test for satisfying the ‘technical prong’ of the industry requirement is essentially [the] same as that for infringement, *i.e.*, a comparison of domestic products to the asserted claims.” *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). To prevail, the patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. *See Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm’n Op. at 38 (Aug. 1, 2007).

IV. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art is a hypothetical person who is presumed to be aware of all pertinent prior art. *Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1992). Determining the appropriate level of skill for this hypothetical person can involve consideration of the types of problems encountered in the art, prior art solutions to those problems, rapidity with which innovations are made, sophistication of the technology at issue, the educational level of active workers in the field, and the level of education of the inventors themselves. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Because respondents did not propose a level of skill for a hypothetical ordinary artisan in their opening claim construction brief, I previously determined in the context of claim construction

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that a person of ordinary skill in the art at the time of the invention of the '116 patent would “have had a level of knowledge roughly equivalent to that of a person holding a bachelor’s degree in mechanical engineering or industrial design and would have had a general understanding of child carrier development and ergonomic principles or alternatively have had about three years of experience in developing child carriers.” Order No. 34 at 4.

Although all parties appear to agree their proposed definitions of an ordinary artisan would not alter the claim construction, infringement, or invalidity analyses in this case, there was some dispute at the hearing as to whether Respondents experts qualified as persons of ordinary skill under the definition I previously adopted. *See* Tr. at 8:1-9:4. Based on evidence adduced at the hearing, I invited further briefing on the issue. Tr. at 1080:16-17.

Respondents now propose that a person of ordinary skill in the art would have a level of knowledge roughly equivalent to that of a person holding a bachelor’s degree in mechanical engineering or industrial design or would alternatively have had about three years of experience in developing child carriers. RIB at 10-11. In other words, Respondents concede that a person with generalized engineering or design education would not need to also have particular experience with child carriers. Respondents argue that any differences in the proposed levels of skill do not affect how the claims would be construed. *Id.* Staff supports this proposal. SIB at 22-23. LILLEbaby maintains that the definition in my claim construction order should not be changed. CIB at 22.

As the hearing made clear, multiple workers in the child carrier field have educational and experience levels below the ordinarily skilled artisan defined in my claim construction order. As discussed below in the invalidity section, Ms. Sikora, inventor of the Hibiscus prior art carrier, had some college credits and less than three years of experience in designing carriers. Ms.

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Leistensnsider, inventor of the Pikkolo prior art carrier, also did not have a mechanical engineering or industrial design degree. Likewise, Ms. Lehan, the inventor of the '116 patent, does not have the educational background of the earlier adopted person of ordinary skill in the art.

Although the parties agree the construction of the claim terms disputed in this investigation will not change depending on the level of skill of a hypothetical artisan, LILLEbaby nevertheless has argued that Respondents' experts do not qualify as people of skill in the art. The issue is therefore material, and I will make findings about it to assist in weighing the testimony of various witnesses.

The record reflects that my previously adopted hypothetical level of skill exceeds the skill levels of actual workers described at the hearing. The hearing included evidence from several child carrier developers that had little or none of the educational background I adopted in my claim construction order. Nor was alternative requirement of multiple years of experience developing child carriers supported by record evidence. I note further that, despite having no prior experience with children's products at all and neither a mechanical engineering nor industrial design degree, LILLEbaby CEO Jeff Colton began making substantial contributions to research and development on LILLEbaby's carriers almost immediately after starting at the company in 2018. *See, e.g.*, Tr. at 229:1-231:5; 265:22-266:5; 266:16-267:9 ("Q: And were you involved, personally involved in R&D? A: Yes . . . Q: How much time, on a percentage basis, do you believe you spent on designing and developing the domestic industry products? A: When I first joined, it was a very substantial portion of my time, 50 percent.").

In light of the record as a whole, I have determined it is appropriate to revise my earlier determination of as to the level of skill possessed by an ordinary artisan. The record indicates that ordinarily skilled artisans in the relevant field would have approximately one year of experience

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designing child carriers or would have a bachelor's degree in mechanical engineering or industrial design. This determination does not change my earlier decisions about how the patent claims would be interpreted by a person of ordinary skill in the art.

V. CLAIM CONSTRUCTION

A. “not support”

Although I previously construed the disputed claim term “[does] not support” to have its plain and ordinary meaning, several of the material disputes between the parties turn on the correct understanding of that term. I will therefore attempt to further clarify the plain and ordinary meaning of “[does] not support” as that term is used in the '116 patent.

Limitation 18d2 and 18d3 require that “the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right] side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the [left/right] thigh of the child.” '116 patent at claim 18.

LILLEbaby argues that the “not support” requirement is satisfied when the carried child's legs “hang down.” But allowing legs to “hang down” is not the plain and ordinary meaning of a structure that does “not support.” As just one example, a saddle provides support to an equestrian's thighs, but the legs of the rider still hang down. LILLEbaby's position is also contradicted by the patent's specification. At column 2, the '116 patent teaches that “[w]hen the child is described as being in the child carrier in a hanging position, the thighs of the child are **for the most part unsupported** with both the upper (thighs) and lower parts of the child's legs generally hanging downward.” '116 patent, 2:37-41. This distinction is carried forward into the claims of the patent. For example, claim 19, which depends from the asserted claim 18, requires:

Claim 19 states:

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The carrier as recited in claim 18, wherein if the left upper-leg-support part is coupled to the left side of the hip belt and the right upper-leg-support part is coupled to the right side of the hip belt, **the left upper-leg-support part and the right upper-leg-support part are configured for supporting the child's thighs proximately perpendicular to the child's body**, and wherein if the left upper-leg-support part is decoupled from the left side of the hip belt and the right upper-leg-support part is decoupled from the right side of the hip belt, **the left upper-leg-support part and the right upper-leg-support part are configured to enable the child's thighs to hang proximately parallel to the child's body**.

'116 patent at claim 19.

The patentee thus distinguished between concepts of support, on the one hand, and leg position, on the other. “Hanging” does not answer the question, because, as the specification and claim 19 indicate, part of a child’s leg can hang downward when part of the child’s leg is supported.

Aside from being contrary to the intrinsic record, LILLEbaby’s argument relies on the formal logical fallacy of affirming the consequent: it may be that the patent teaches a child’s legs hang downward whenever in the “not support” position, but it does not follow from that teaching that the child’s legs are not supported whenever the legs hang downward. Claim 18 only requires that a carrier in a “support” configuration has an upper-leg-support part that supports “at least part of the [left/right] thigh of the child.” As the patent specification and claim 19 demonstrate, it is possible for a child’s legs to hang down while some part of his or her thigh is still supported.

Related claim language in the relate '732 patent is also instructive. *See Phillips*, 415 F.3d at 1314 (“unasserted [claims] can also be valuable sources of enlightenment”); *Boss Indus., Inc. v. Yamaha Motor Corp. U.S.A.*, 333 F. App'x 531, 536 (Fed. Cir. 2009) (not selected for publication) (appropriate to harmonize construction of shared and similar terms across patent family); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (applying disclaimer from prosecution history of one patent to sibling patent issued prior to date of disclaimer). Claim 10 of the '732 patent resulted from a continuation of the application that led to

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the '116 patent. Claim 10 contains a limitation nearly identical to limitation 18d3. However, unlike claim 18 of the '116 patent, claim 10 of the '732 patent describes a structure with asymmetrical support between the right and left legs of the child. In the '732 patent, the equivalent limitation to limitation 18d2, concerning the left thigh, requires that the leg support part does not “*substantially* support the” left thigh of the child when in the “not support” configuration. '732 patent at claim 10 (emphasis added). The different language in claim 10 of the '732 patent is presumed to have a different meaning from the language in claim 18 of the '116 patent. *See CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000); *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n. 3 (Fed. Cir. 2006).

The only workable boundary between “not support,” “not substantially support,” and “support” is where “not support” means *no* support, as all technical experts for both LILLEbaby and Respondents agreed. *See* Tr. at 833:5-21 (Brookstein), 1123:2-3 (Kemnitzer), 1276:17-21 (Myers). Such an understanding is in accord with the term’s plain and ordinary meaning: “not support” means “not support.” LILLEbaby’s argument, which relies on the position of the child’s legs and which would allow *some* support of those legs, must be rejected.⁷

Ultimately, neither LILLEbaby nor its experts staked out a clear position on what “support” means. LILLEbaby argues that “support occurs when the uplifting force (or pressure) exerted on a child’s thighs *exceeds* the force of gravity.” CIPB at 70 (emphasis added). Aside from being at

⁷ LILLEbaby cites to a portion of the transcript repeating the content of a video clip played for impeachment purposes to suggest “Respondents’ experts agreed with Mr. Myers that no equipment or force analysis was necessary to determine” whether there was no support. CIB at 71 (citing Tr. at 1166:17-20); *see* Tr. at 1166:15-16. But prior testimony played for impeachment is not evidence. *See* Tr. at 298:5-299:22. If LILLEbaby wished to rely on the video for the truth of the matter asserted therein, LILLEbaby should have adduced affirmative evidence to that effect. Impeachment is not a backdoor to circumvent the notice requirements for hearing evidence found throughout my Ground Rules.

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odds with its proposed definition of support based on leg position, LILLEbaby's argument is contrary to basic physics, namely Newton's first law of motion. I take judicial notice that Newton's well-established first law indicates that an object at rest will stay at rest unless acted upon by an unbalanced force. If the "uplifting" force on a child's thigh "exceeds" the force of gravity, the child's leg would experience an unbalanced force and would not remain at rest; it would be moving away from the earth. That is not what "support" means in the context of claim 18.

I reaffirm that the term "[does] not support" in claim 18 carries its plain and ordinary meaning, which is "provides no support."

B. "a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends"

As agreed by the parties at the claim construction hearing, I previously construed the disputed claim term "strap end(s)" to have its plain and ordinary meaning. Nevertheless, several of the material disputes between the parties continue to hinge on the exact understanding of that term. I therefore further clarify the plain and ordinary meaning of "strap end(s)" as that term is used in the '116 patent.

Limitation 18b (left) and 18c (right) require that the carrier comprise "a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part." '116 patent at claim 18.

LILLEbaby argues that a "strap end" is the end of *any* strap attached to the left and right shoulder straps. CIB at 23, 43-48. LILLEbaby relies in large part on my statement at the *Markman* hearing that "the claim allows a shoulder strap to have more than one distal end and more than one

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proximate end . . . The shoulder strap can have more than one upper end, and it can have more than one lower end.” *Markman* Tr. at 221:13-23.

LILLEbaby misconstrues my statement, and, in any event, fails to account for the full context in which the claim uses the term “strap ends.” The plain meaning of “strap end” does not preclude a strap with multiple ends. For example, the shoulder strap of a pair of trouser suspenders may terminate in a Y-shape with button holes. Each leg of the Y may be at the end of the shoulder strap. But no matter the number, the strap ends in claim 18 must still be *shoulder strap* ends, not random strap ends. Additionally, the portion of the strap satisfying this limitation must be at the “end” of the shoulder strap, not at some midpoint along the strap.

LILLEbaby appears to rely on the claim’s reference to plural strap “ends” in support of its position that various strap parts can satisfy the limitation. *See* CIMB at 29. But as Staff notes, *see* SIB at 26-27, claim 18 refers to plural “ends” because the antecedents for the term are the earlier recited upper and lower strap ends. Although the claim language is awkward—“an upper and a lower left-strap ends”—the patent drawings and the description in the specification resolve any ambiguity by disclosing shoulder straps that have two distinct ends: an upper end and a lower end.

I reaffirm that this term in claim 18 carries its plain and ordinary meaning, which is a left shoulder strap having a upper left-strap end and a lower left-strap end, and a right shoulder strap having a upper right-strap end and a lower right-strap end.

VI. VALIDITY

A. Obviousness and Anticipation

Respondents contend the invention of claim 18 is anticipated by a U.S. patent issued to Linday, U.S. Patent No. 4,986,458 (“Linday”). RIB at 45-58. Staff does not join in that contention.

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But Staff and Respondents both argue that the invention of claim 18 is obvious in view of Linday alone and in view of several prior art combinations. RIB at 58-72; SIB at 70.

LILLEbaby disputes that the prior art discloses all or almost all of the elements of claim 18. *See* CRB at 23-53. LILLEbaby also attacks the credibility of many of Respondents' witnesses and disputes that there was sufficient motivation to combine any of the identified prior art. *See generally id.* LILLEbaby also contends that none of the primary references identified by Respondents and Staff—other than Linday—qualify as prior art. *Id.* a 28-31, 47, 49. LILLEbaby's argument on that point depends on a claim to priority for the invention as of December 30, 2007. CIB at 19-22; CRB at 21.

For ease of reference, I have organized my analysis into several sections below. Section 1 analyzes the appropriate priority date for claim 18. Section 2 considers whether the proposed prior art qualifies as such and describes the main elements of those references. Section 3 compares the scope and content of the prior art to claim 18, giving particular attention to the claim elements the parties dispute. Section 4 analyzes secondary considerations of non-obviousness in connection with the claimed invention. Section 5 contains my conclusions after considering the totality of the record evidence material to obviousness. Although I have organized analysis of the secondary considerations in its own Section 4, I do so only for readability; I have considered the evidence discussed in that section throughout my obviousness analysis.

1. Priority Date

The '116 patent claims priority on its face to July 28, 2008, the filing date of Application No. 12/220,765. '116 patent at cover. LILLEbaby asserts the invention of claim 18 is entitled to an earlier priority date of December 30, 2007, based on Lisbeth Lehan's alleged conception of the invention on that date. CIB at 20-22. LILLEbaby also contends, for the first time in its initial

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post-hearing brief, that it is alternatively entitled to a priority date “no later than January 16, 2008” based on the DATECREATED metadata associated with JX-00425, a PowerPoint file created by Lisbeth Lehan. *See* CPB at 649-50 (citing JPX-0425 at 22, n.4). Although this argument was not preserved in LILLEbaby’s prehearing brief and is therefore abandoned as to LILLEbaby, *see* Ground Rule 11.2, Staff timely raised a priority date of January 15, 2008. SPB at 63-64. I will therefore address evidence relating to that date below.

LILLEbaby has not met its burden to prove a priority date earlier than the July 28, 2008, application date. In support of the December 30, 2007, date, Lisbeth Lehan testified that she remembered her alleged moment of conception because it occurred after returning from a family Christmas trip. Tr. at 113:21-115:15. She testified she completed an initial prototype the morning of December 30, 2007, and she added the sleeves through which a hip belt could be coupled on January 2, 2008. *Id.*

As noted above, uncorroborated inventor testimony is insufficient to prove entitlement to an earlier priority date. *See Price*, 988 F.2d at 1195. As corroboration of Ms. Lehan’s testimony, LILLEbaby relies on family photos and December 2007 credit card statements showing a charge from an ice-skating rink and from a craft store near the Lehans’ home. CX-0314 and JX-0379 (photographs); JX-0381 (credit card statement). These documents might serve to corroborate that the Lehan family took a trip around the end of December 2007, but they do not corroborate conception of the claimed invention or reduction to practice of that invention. The photos do not depict a child carrier or any element of the invention, and the credit card statements make no mention of even components of the invention.

LILLEbaby points also to a PowerPoint presentation created by Lisbeth Lehan which contains illustrations of her prototype carrier and depicts each element in claim 18. JX-0425.

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Lisbeth Lehan testified that the file was created on January 16, 2008, and that the native file of the PowerPoint would reflect that. *See* Tr. at 118:16-119:1, 151:15-23. But LILLEbaby did not introduce the native file into evidence, and Lisbeth Lehan's testimony about what the metadata of the file would have shown is not corroborated. *See Price*, 988 F.2s at 1195; *Kolcraft Enterprises, Inc. v. Graco Children's Prods., Inc.*, 927 F.3d 1320, 1324-25 (Fed. Cir. 2019) (undated photographs insufficient corroboration when photograph dates are based solely on inventor testimony (discussing *Apator*, 887 F.3d at 1293-97)). Additionally, the PowerPoint images do not corroborate Ms. Lehan's priority claim because they do not originate from a source independent of Ms. Lehan; she admits she created the images and those images bear on the invention only through her testimony. *Apator Miitors ApS v. Kamstrup A/S*, 887 F.3d 1293, 1296-97 (Fed. Cir. 2018) (e-mails provided by inventor are insufficient corroboration when the inventor's testimony is needed to relate the emails to the invention).

The date the blank PowerPoint file was created, moreover, is also largely irrelevant for present purposes: the relevant date is when the content of the PowerPoint file depicted something that would corroborate Lisbeth Lehan's claims. The content of the PowerPoint file as it exists now can reliably be traced only as far back as the date it was last modified. The content of the file between the date of creation and the date of last modification is unknown. The record contains no evidence of the date the PowerPoint file was last modified, and Ms. Lehan admitted that the content of the file had been modified after its creation. Tr. at 170:15-171:25. Though LILLEbaby introduced JX-0245:0038 as purporting to show the metadata associated with the PowerPoint, that page does not appear to be part of the document as it originally existed; it appears on its face to show metadata for a version of the file in an e-discovery database. *See* Tr. at 170:14. The purported metadata includes information that would not have existed in a file created by Ms. Lehan

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in the 2007 or 2008 time frame. For example, JX-0245:0038 includes Bates numbering and confidentiality designations. No witness attested to the provenance of the metadata in JX-0425:0038. Evaluating the circumstances, testimony, and evidence surrounding JX-0425:0038, I find it does not represent the metadata of the original PowerPoint file created by Ms. Lehan. And even if JX-0425:0038 were reliable evidence (and it is not), it only purports to show a “DATECREATED”; it says nothing about the date the file was last modified. That absence is particularly peculiar given that LILLEbaby represented in its prehearing brief that the PowerPoints metadata showed that the file was last modified on February 18, 2008. CPHB at 649-650. If a document supporting that date existed, presumably LILLEbaby would have sought its admission into the record. Staff’s argument about February 18, 2008, also appears unsupported by any record evidence. In sum, LILLEbaby did not introduce competent corroborating evidence of conception by either December 30, 2007, or February 18, 2008. I therefore find LILLEbaby has not proved a date of conception earlier than the filing date of Application No. 12/220,765, which is July 28, 2008.

Reduction to practice cannot be earlier than the date of conception. *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578 (Fed. Cir. 1996) (“Reduction to practice follows conception.”). Accordingly, LILLEbaby has not shown a reduction to practice earlier than the constructive reduction to practice evidenced in the application filed on July 28, 2008.

I find that the priority date for the invention of claim 18 is properly July 28, 2008.

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2. The Prior Art

a) Hibiscus Carrier (RPX-0006)

RPX-0006 is a physical exhibit of an alleged prior art carrier called the “Hibiscus.” I first address why I find that the Hibiscus carrier constitutes prior art, and then I outline its pertinent features.

(1) Priority

LILLEbaby contends the Hibiscus carrier does not constitute prior art under 35 U.S.C. § 102(a) or (b) (pre-AIA). CRB at 28-31. LILLEbaby contends, primarily, that (1) uncorroborated witness testimony is insufficient to establish prior art status, citing *Barbed Wire Patent*, 143 U.S. 275, 288-89, 292 (1892), (2) the witnesses put forward concerning the Hibiscus are not credible because they were compensated for their time, and (3) the corroborating evidence is defective. CRB at 28-31. For the following reasons I find that the Hibiscus is prior art under 35 U.S.C. § 102(a) and (b) (pre-AIA).

(a) The Testimony Concerning Priority is Sufficiently Corroborated

Joline Sikora, the creator of the Hibiscus carrier, testified that she made and sold the Hibiscus as early as July 10, 2007. Tr. at 1019:14-20; 1030:13-20; 1032:18-1033:11; *see id.* at 1039:25-1040:8. That date is well before LILLEbaby’s earliest claimed priority date of December 30, 2007, and more than a year prior to the patent application filing date of July 28, 2008. Ms. Sikora’s sales are corroborated by three automatically generated emails confirming online purchases by others on July 10, 2007. *See* RX-0504-06.⁸ Ms. Sikora’s testimony was further

⁸ LILLEbaby asserted in its prehearing brief and at the hearing that because these sales were at a discounted price for “testers” that somehow disqualifies the sales as commercial sales. *See* Tr. at 21:7-25; CPB at 700. This claim is legally erroneous, *see Baxter Int’l, Inc. v. Baxter Healthcare*

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corroborated by additional emails confirming online purchases by others in September 2007. *See* RX-0507-0510. These emails, which originated from sources other than Ms. Sikora, strongly corroborate her testimony. Ms. Sikora testified that she had made no substantive structural changes to the carriers she sold over time. *See* Tr. at 1034:15-1036:7. That testimony was corroborated by photos depicting the physical structure of her carriers, with metadata reflecting dates in late summer 2007 through February 2008. *See* RX-520-525; *see also* RX-526. I find the photos show no material changes to the Hibiscus carrier during that period.

Ms. Sikora's testimony was further corroborated by Mischele McEntire, who provided and authenticated the physical Hibiscus carrier admitted to the record as RPX-0006. Ms. McEntire testified she received her Hibiscus carrier from Ms. Sikora on February 17, 2008. Tr. at 997:13-999:7, 1000:12-1003:7, 1042:13-1044:21. Ms. McEntire credibly testified about the provenance of her Hibiscus carrier and provided photographs of her wearing the carrier. Ms. McEntire's photographs include metadata indicated they were taken February 17, 2008, the day she received the carrier. *Id.*; RX-0351, RX-0515, RX-0527, RX-0528. Ms. McEntire testified she wore her Hibiscus carrier "constantly" outside her home. Tr. at 1003:13-15.

The deposition testimony of Ms. Di Linh Reichman and Dr. Kristin Dybvig-Pawelko also corroborate Ms. Sikora's testimony of prior sale. Ms. Reichman purchased a Hibiscus from Ms. Sikora in 2007 and used the carrier in public that same year and in Disney World the week of January 13, 2008. JX-0323 at 82:2-9, 74:20-75:12, 86:18-88:11. She also viewed Ms. McEntire's Hibiscus and testified that it had the same construction as hers except with a different fabric. *Id.* at 70:15-71:10. Photographs provided by Ms. Sikora with metadata reflecting a date in August

Corp., 88 F.3d 1054, 1060-61 (Fed. Cir. 1996), but LILLEbaby did not maintain this claim in its post-hearing briefs and it is therefore abandoned.

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2007 corroborated Ms. Reichman's testimony concerning receipt and use of a Hibiscus carrier. *See* Tr. at 1040:10-1042:9; RX-0216, RX-0218. Dr. Dybvig-Pawelko also provided testimony and corroborating physical evidence. Dr. Dybvig-Pawelko was one of the July 10, 2007, buyers of the Hibiscus. RX-0506; JX-0325 at 51:9-64:20;. Dr. Dybvig-Pawelko also provided photographs of her wearing the carrier outside in August 2007. RX-0235; RX-0237; JX-0325 at 60:15-61:11.

Although LILLEbaby contends that some of the corroborating photos are dated after the filing of the patent, *see* CRB at 30, the photos that corroborate the testimony of Ms. Sikora, Ms. McEntire, Ms. Reichman, and Dr. Dybvig-Pawelko all predate the priority date of the '116 patent.

Finally, LILLEbaby argues that some of the photos of the Hibiscus carrier in the record were taken inside private homes instead of "outside in public." CRB at 30. At the very least, that point does not negate record evidence of a prior sale under pre-AIA section 102(b). With respect to prior use, the photos shot inside homes do not contradict the record testimony of witnesses appearing in the photos who used the Hibiscus carrier prior to the Lehans' application date. Respondents rely on the photographs primarily as corroboration of testimony concerning use of Hibiscus in the United States under 35 U.S.C. § 102(a) (pre-AIA), which does not require "public" use. And LILLEbaby points to no authority suggesting that use in a private domicile observed by others, without more in terms of efforts to maintain secrecy, would not constitute public use under pre-AIA section 102(b). *Cf. Baxter Int'l, Inc. v. COBE Labs., Inc.*, 88 F.3d 1054, 1058 (Fed. Cir. 1996) (public use is "*any* use of [the claimed] invention by a person other than the inventor who is under no limitation, restriction or obligation of secrecy to the inventor" (emphasis added)).

(b) Credibility of the Witnesses

Several of the fact witnesses who either created or bought various prior art carriers were paid for their time. *See, e.g.*, Hearing tr. at 1049:10-1050:19 (Sikora); 1014:22-1015:14

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(McEntire). LILLEbaby argues this testimony should be given little weight based on the payments. CRB at 28-29; Tr. at 13:9-13.

Although several of the witnesses were compensated for their time gathering evidence and testifying, I find that the payments to witnesses noted in the record do not negate the credibility of the witness testimony, particularly in light of the corroborating evidence discussed above.

Ms. Sikora, the most important witness for the Hibiscus as its creator and seller, testified that her payment was not contingent on the content of her testimony. Tr. at 1051:12-19. Moreover, as noted above, Ms. Sikora's testimony was extensively corroborated by documentary and physical evidence and the testimony of other witnesses. *Supra* part VI.A.2.a)(1)(a).

Based on my observations of Ms. Sikora and Ms. McEntire during the hearing, and the fact that their testimony concerning the timeline of the development, sale, and use of the Hibiscus carrier is corroborated by other reliable evidence, I find their testimony credible.

(c) The Hibiscus Carrier Is Prior Art

LILLEbaby's argument against corroboration of the sale and use of the Hibiscus carrier relies heavily on *The Barbed Wire Case*, 143 U.S. 275 (1892). In that classic opinion, the Supreme Court expressed concern about the fallibility of human memory when it comes to claims of priority. *Id.* at 284. But the facts of *Barbed Wire* are easily distinguished from the facts here. In *Barbed Wire*, the sole evidence of the alleged invalidating use was inconsistent testimony about events occurring decades earlier. *Id.* Here, there is contemporaneous non-testimonial evidence that corroborates prior sale and use.

Additionally, as the Federal Circuit has explained, *Barbed Wire* does not apply when a party is not relying on oral testimony alone. *Meyer Intellectual Properties Ltd. v. Bodum, Inc.*, 690 F.3d 1354, 1377 (2012) (affirming invalidity based in part on oral testimony, where the

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testimony established that the “evidence was an accurate example of the product as it existed prior to the patents-in-suit.”). Here, the testimony of Ms. Sikora and the other witnesses concerning the dates of use and sale of the Hibiscus carrier are corroborated by other evidence. Where there were drawings and catalogs in *Meyer*, in this investigation there are photographs, sales records, and physical carriers. *See, e.g.*, RPX-0006 (physical Hibiscus carrier), RX-0520-25 (photos of Hibiscus), RX-0504-0506 (sales receipts of Hibiscus carrier).

For the foregoing reasons, I find that the record convincingly demonstrates the Hibiscus was sold and in public use in the United States as early as July 10, 2007, *see* RX-0504-06, RX-0507-0510. Even if the record does not support that date (and it does), the record shows that the Hibiscus carrier was sold and in use in the United States no later than February 17, 2008. *See, e.g.*, Tr. at 997:13-999:7, 1000:12-1003:7, 1003:13-15, 1042:13-1044:21; RX-0351, RX-0515, RX-0527, RX-0528. Accordingly, I find that the Hibiscus constitutes prior art to the ’116 patent under 35 U.S.C. § 102(a) and (b) (pre-AIA).

(2) Features

The parties agree that Hibiscus carrier includes every claim 18 limitation except that the lower ends of the shoulder straps are not configured for coupling to lower coupling points on the torso support, as required by limitations 18b and 18c. *See* Tr. at 1251:11-1252:7; CRB at 31 (challenging only limitations 18b and 18c); *see id.* at 1003:12-1005:12, 1015:24-1016:20 (McEntire), 1022:12-1023:13, 1024:17-1029:15, 1065:3-25 (Sikora), 1082:2-1083:21, 1088:2-1090:21, 1091:8-1095:6 (Kemnitzer); RPX-0006; *see also* RX-0512-0515, RX-0520-0526 (depicting Hibiscus carriers).

The annotated images below show how the claim 18 limitations correspond to features of Hibiscus.

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Limitations 18p, 18a, 18d1:

Torso support part

Seat support part

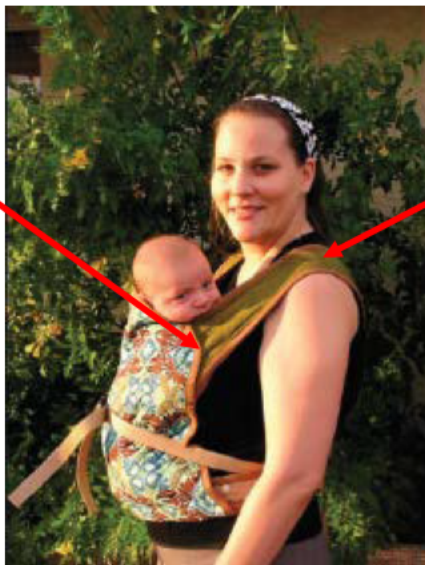


RX-0526:0038; RPX-0006

Limitations 18b, 18c:

Upper coupling point

Shoulder strap



RX-0237; RX-0526:006; RPX-0006

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Limitations 18d2, 18d3, 18e:



RX-0525:0039; RPX-0006.

Limitation 18f:



Upper Leg Support Parts coupled to hip belt



Upper Leg Support Parts decoupled from hip belt

RX-0525:0037, 0039; RPX-0006.

The Hibiscus upper-leg-support parts are “configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the [left/right] thigh of the child” (Limitations 18d2, 18d3). In the narrow configuration, the Hibiscus’ upper-leg-support parts are

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folded away from the child's thighs. Tr. at 1027:8-1029:8 (Sikora); 1092:8-19 (Kemnitzer). When folded away, the upper-leg-support parts are not in contact with the thighs of a carried child and provide no support for them. *Id.* The Hibiscus upper-leg-support parts are folded in the same manner as the Fig. 3E embodiment of the '116 patent.

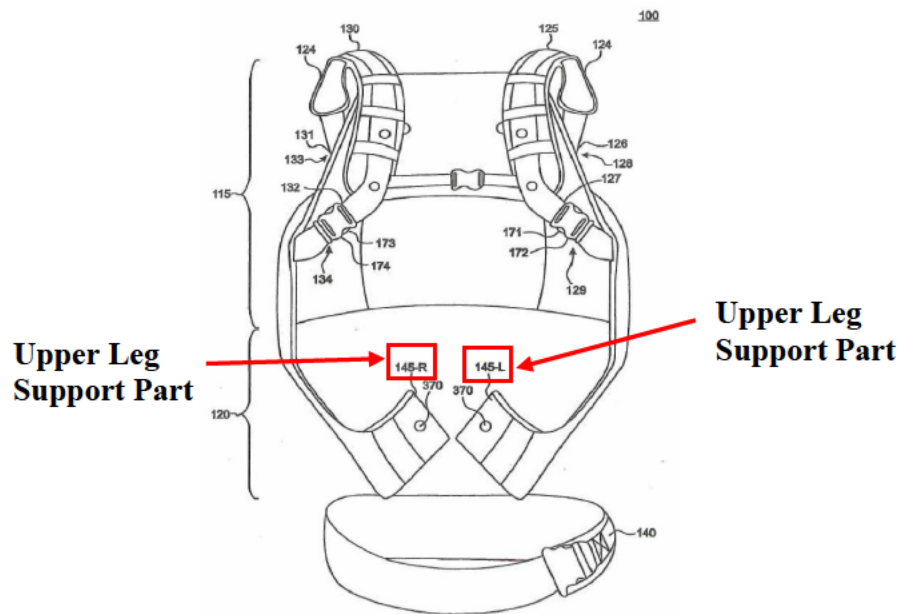


FIG. 3E

JX-0006, Fig. 3E (annotated).

I find that to the extent a child's thighs are receiving any support when the Hibiscus is in the narrow-seat configuration, that support is not being provided by the upper-leg-support parts; instead any support for the thighs is being provided by the hip belt. Tr. at 1065:11-1067:4 (Sikora).

The two photographs below show the Hibiscus upper-leg-support parts coupled to the hip belt and supporting the child's thighs. This configuration and use of the Hibiscus upper-leg-support parts was demonstrated by Ms. Sikora at the hearing. Tr. at 1024:17-1027:2.

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RX-0526:0036, 0038; RPX-0006.

The photograph below shows the Hibiscus upper-leg-support parts decoupled from the hip belt, folded out of the way:



RX-0526:0028; RPX-0006.

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As demonstrated by Ms. Sikora at the hearing and as I have personally observed in examining RPX-006, when the Hibiscus upper-leg-support parts are in the narrow-seat configuration, they are not snapped to anything and can flap around somewhat freely. This fact is not clearly shown in the photograph above, but nevertheless I find it to be so. Because the upper-leg-support parts are untethered beyond a fold, they do not support the thighs of a carried child. Tr. at 1027:8-1029:8. The Hibiscus carrier thus meets limitations 18d2 and 18d3 under the correct construction of those limitations outlined above. The Hibiscus carrier in this narrow-seat configuration also allows the child's legs to hang downward, which meets limitations 18d2 and 18d3 under LILLEbaby's incorrect interpretation of "[does] not support."

b) Silly Goose Carrier (RPX-0004)

RPX-0004 is a physical exhibit of a carrier called the "Silly Goose." I first address why I find that the Silly Goose carrier constitutes prior art, and then I outline its pertinent features.

(1) Priority

Respondents contend the Silly Goose carrier is prior art because it was "made, offered for sale, sold, and in public use by" people other than the inventors of the '116 patent by at least September 2007, before the priority date of the claimed invention, July 28, 2008. *See* RIB at 40-41 (citing 35 U.S.C. §§ 102(a) and (g)(2) (pre-AIA)). They rely on the physical exhibit of the carrier, testimony of Silly Goose user Beth Leistensnider, and certain webpages. *Id.*

LILLEbaby argues that the Silly Goose carrier is not prior art under section 102(a) or (g)(2) (pre-AIA). CRB at 47. LILLEbaby contends, primarily, that (1) Ms. Leistensnider is not a credible witness because she was compensated for her time, and (2) the corroborating evidence is defective. *Id.* at 43, 47.

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As explained below, I find that the Silly Goose carrier is prior art under 35 U.S.C § 102(a) and (g)(2) (pre-AIA).

Ms. Leistensnider, creator of another prior art carrier, the Pikkolo (discussed below), testified that the Silly Goose carrier was created by Heidi Donnelly. Tr. at 974:6-18. Ms. Leistensnider became aware of the Silly Goose carrier by spring 2007 through babywearer.com, a public web forum for “discussion and chatting about baby carriers.” Tr. at 974:6-18. Ms. Leistensnider’s testimony is corroborated by printouts of various posts from babywearer.com time stamped from the autumn of 2007 that show images of Silly Goose carriers being used. See RX-551 (babywearer.com post dated September 14, 2007), RX-552 (babywearer.com post dated October 13, 2007); RX-280 (babywearer.com post dated October 22, 2007, and referencing both Silly Goose and Pikkolo). Ms. Leistensnider testified that she saw the Silly Goose carrier at baby wearing groups and had used one herself. Tr. at 986:15-987:10. I find that this testimony and evidence establishes the Silly Goose carrier as prior art.

LILLEbaby’s counterarguments are unavailing. First, LILLEbaby’s attacks on the credibility of Ms. Leistensneider fail. As noted above with respect to the Hibiscus witnesses, the fact a witness is compensated for her time does not necessarily discredit her testimony. Additionally, based on my observations of Ms. Leistensneider’s demeanor in the hearing and my examination of the corroborating physical evidence, I find Ms. Leistensneider’s testimony credible. Indeed, as LILLEbaby notes, Ms. Leistensnider was very forthright with the limitations of her own knowledge, acknowledging she was “not as familiar with” the Silly Goose carrier. Tr. at 992:16-20. Nevertheless, Ms. Leistensnider credibly testified that RPX-0004 had the same design as the Silly Goose carrier she personally observed in 2007. Tr. at 977:1-978:1.

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Second, LILLEbaby argues that the “physical Silly Goose has no year listed on it, or even a date of manufacture on it.” CRB at 47. But LILLEbaby fails to address the various timestamped web postings showing structurally identical Silly Goose carriers in public use as early as September 14, 2007. *See* RX-551 (babywearer.com post dated September 14, 2007), RX-552 (babywearer.com post dated October 13, 2007); RX-280 (babywearer.com post dated October 22, 2007 referencing both Silly Goose and Pikkolo). These postings originated from persons independent of Ms. Leistensnider. Additionally, there is nothing in the record to cast doubt on the authenticity of the documents. *See* Ground Rule 12.3.1 (“All documents that appear regular on their face shall be deemed authentic.”). I find the record testimony and corroborating evidence convincingly show public use of the Silly Goose carrier no later than September 14, 2007. Because September 14, 2007, is before the earliest priority date claimed by LILLEbaby, the Silly Goose carrier qualifies as prior art under 35 U.S.C § 102(a) and (g)(2) (pre-AIA).

(2) Features

The Silly Goose carrier is a Mei Tai-style child carrier with an adjustable seat by means of “a cam lock with webbing” that runs inside a “channel,” whereby “if you pull on the webbing strap, you can cinch it up with the cam lock.” Tr. at 975:10-976:21. The Silly Goose is depicted below, showing all of the pertinent features:

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RX-289; *see also* RPX-004.

The Silly Goose is a carrier for transporting a child. It has a torso support part coupled to a seat support part. Tr. at 1096:5-1098:7, 1099:7-23. It has two shoulder straps that are sewn to the top of the torso support part and tie around the baby. Tr. at 1098:8-22. The hip belt is sewn to the seat support part. As Respondents admit, the Silly Goose carrier on its own lacks shoulder straps configured for coupling to a lower point on the torso support part. RIB at 71.

The Silly Goose carrier has upper-leg-support parts that are configurable for variable support of the child's thighs. Tr. at 1099:24-1101:4. In its widest configuration, the Silly Goose provides support to part of each thigh of the child. Tr. at 991:13-24, 1101:18-1102:1. But nothing in the record shows a Silly Goose configuration wherein the upper-leg-support parts do *not* provide support for *at least part* of the thighs of the child. Respondents' own invalidity expert, Mr. Kemnitzer, testified that Silly Goose upper-leg-support part always supports the thighs under the construction I have adopted. Tr. at 1102:2-15.

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c) Petal Pouch Carrier (RPX-0003)

RPX-0003 is a physical exhibit of an alleged prior art carrier called the “Petal Pouch.” I first address why I find that the Petal Pouch constitutes prior art, and then I outline its pertinent features.

(1) Priority

Respondents contend the Petal Pouch carrier is prior art because it was created and in public use by people other than the inventors of the ’116 patent by at least September 2007, before the priority date of the claimed invention, July 28, 2008. *See* RIB at 37-40 (citing 35 U.S.C. § 102(a) and (g)(2) (pre-AIA)). They rely on testimony of Petal Pouch creator Mischelle Wick, as corroborated by her friend Jennifer McKibbon and by certain photographs. *Id.*

LILLEbaby and Staff argue that the Petal Pouch carrier is not prior art under section 102(a) or (g)(2) (pre-AIA). CRB at 49-50. They contend, primarily, that the testimony of Ms. Wick and Ms. McKibbon was contradictory and indefinite as to the date the Petal Pouch was sold or used. *Id.* at 50; SIB at 89-90. LILLEbaby and Staff appear to premise that argument on an assumption that LILLEbaby has shown entitlement to an earlier priority date than the filing of the ’116 patent on July 28, 2008. *See* CRB at 50 (“Ms. Wick stated she created the alleged [Petal Pouch] carriers from anywhere between six to nine months or even one year after her daughter was born on July 3, 2007, that is, after the critical date of the ’116 [p]atent.”). As discussed above, I have determined that LILLEbaby is not entitled to a priority date before July 28, 2008. *See supra* part VI.A.1. Thus, any argument depending on an earlier priority date fails.

Ms. Wick testified that she first created a Petal Pouch carrier no earlier than the birth of her daughter on July 3, 2007. JX-0320 at 40:24-41:13 (“Q: ... [W]hen was the first time you ever made a carrier, one of these Mei Tai carriers, any one of them? A: After she was born July 3,

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2008”). She repeatedly testified she had no clear recollection beyond that it was some months after the birth of her daughter. *Id.* at 13:8-16:3, 39:49-40:1, 40:24-41:13, 56:18-57:4. Although LILLEbaby focuses on her statement that it may have been up to a year after the birth of her daughter, *id.* at 56:18-57:9, even that date, July 3, 2008, predates the July 28, 2008, priority date of the ’116 patent.

Ms. McKibbon corroborates much of Ms. Wick’s testimony but disagrees on the timeline. Ms. McKibbon testified that she met Ms. Wick at a “moms group” and Ms. Wick was wearing a Petal Pouch carrier. JX-0324 (McKibbon dep. tr.) at 15:23-17:8, 36:8-37:5, 48:24-50:8. Ms. McKibbon was expecting a child and asked Ms. Wick to make her a Petal Pouch carrier. *Id.* Ms. Wick invited Ms. McKibbon to her house to choose one of the Petal Pouch carriers Ms. Wick had already made. *Id.* at 25:14-26:16. Ms. McKibbon testified she visited Ms. Wick’s house while expecting, before Christmas 2007, and chose one of several pre-made carriers there. She used that premade carrier while awaiting her custom carrier. *Id.* at 24:14-16, 24:24-25, 26:15-27:5, 28:16-19, 29:21-24.

Ms. McKibbon testified her daughter was born December 31, 2007, and Ms. Wick began using the Petal Pouch carrier when her daughter was old enough to be carried. JX-0324 at 23-24, 30:6-16. She estimated that time to be around January or February 2008. *Id.* Ms. McKibbon provided photographs that corroborate her testimony concerning public use, showing her using the carriers she received from Ms. Wick in public. RX-0116. Ms. McKibbon testified that she believed the photographs were from approximately February or March of 2008 and April 2008, based on the age of her daughter as depicted in the photographs. *See* JX-0324:31:1-6, 31:23-32:12, 33:15-34:2.

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Contrary to Staff and LILLEbaby's contention, Ms. McKibbon's testimony does not contradict, but tends to corroborate, Ms. Wick's testimony. To review, Ms. Wick testified that she had no clear recollection of when she first made Petal Pouch, but that it was within approximately the first year of her daughter's life (July 3, 2007, to July 3, 2008). *See, e.g.*, JX-0320 at 41:1-13. By comparison, Ms. McKibbon testified that she went to Ms. Wick's house in December 2007 to choose a premade carrier and had her own custom carrier by January or February 2008. JX-0324 at 23-24, 30:6-16. Thus, Ms. McKibbon's recollection overlaps with Ms. Wick's estimate from December 2007 to February 2008. That tends to support, not contradict, a conclusion that the Petal Pouch was in public use in early 2008.

LILLEbaby and Staff do not address the photos of Ms. McKibbon carrying her daughter in a Petal Pouch that Ms. McKibbon offered to corroborate her testimony timeline. *See* RX-0116. Admittedly, the corroborative value of the photos is tied to an ability to estimate the age of the child depicted, but in one photograph I note that Ms. McKibbon appears to be supporting the neck of her baby, indicating the child is an infant. The photo tends to corroborate, rather than undermine, Ms. McKibbon's testimony that she was using her custom carrier within a couple of months after her daughter's birth on December 31, 2007.

More significantly, LILLEbaby fails to address RX-0133, which shows a purchaser review of the Petal Pouch and a photograph of the product on Ms. Wick's shop at etsy.com. *See* RX-0133. The review is timestamped April 17, 2008. This evidence, which arises from a source independent of Ms. Wick and Ms. McKibbon, is strong corroboration of the testimony of those two witnesses.

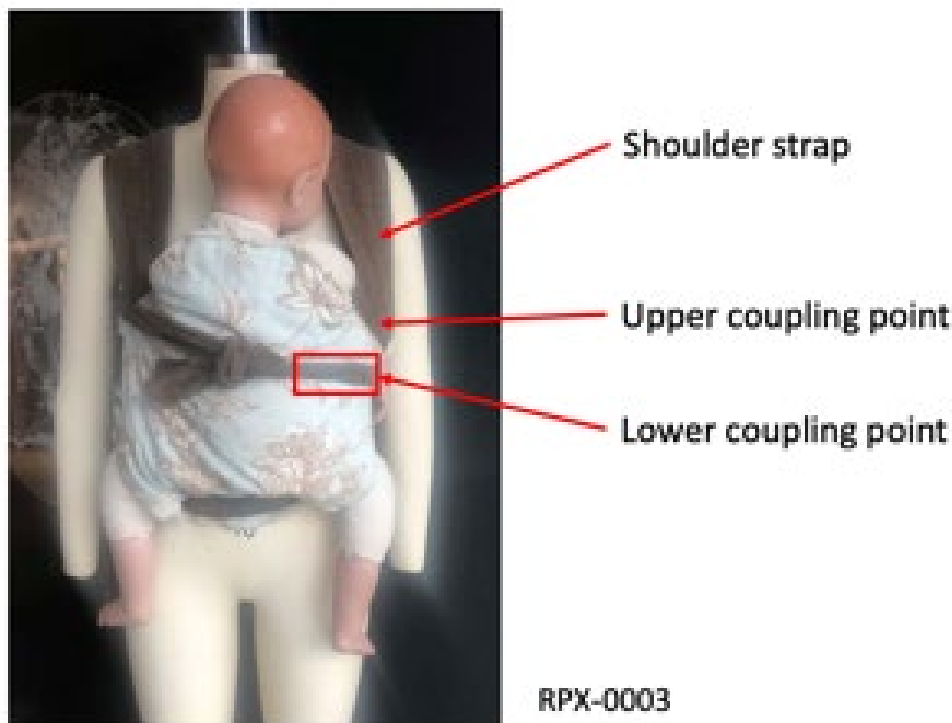
Viewed as a whole, I find that the record shows by clear and convincing evidence that the Petal Pouch was in public use in the United States at least as early as the etsy.com review and

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photo dated April 17, 2008. Because that date is prior to the July 28, 2008, application date for the '116 patent, *see supra* part VI.A.1, I find that the Petal Pouch carrier constitutes prior art.

(2) Features

The Petal Pouch carrier (RPX-0003) is a Mei Tai-style child carrier with an adjustable seat. The Petal Pouch has a torso support part and seat support part. Tr. at 1161:21-1162:9. The shoulder straps have upper and lower strap ends. The upper strap ends are sewn to the upper portion of the torso support part, and the lower strap ends can be tied together. Tr. at 1111:2-1112:3.

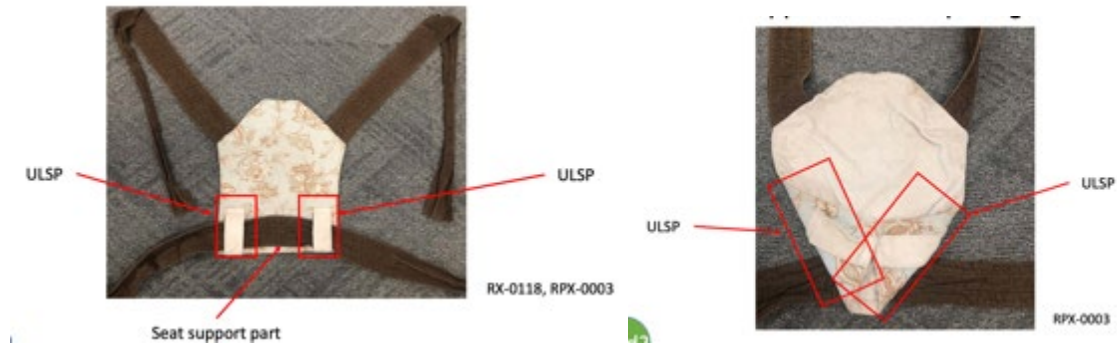


See RIB at 71.

The seat support of the Petal Pouch has upper-leg-support parts on the left and right that have a “loop sleeve” through which the hip belt can pass. Tr. at 1112:4-14. This allows the Petal Pouch to be worn in a wide or a narrow configuration, with the upper-leg-support parts coupled to

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the hip belt or decoupled/folded in. *Id.* at 1112:18-1113:4, 1234:17-1235:3 (Myers testifying “the user will either feed the belt through the loops for the wide configuration or take the straps out of the loops for the thin configuration”).



See RIB at 72.

Respondents contend that in the narrow configuration, the Petal Pouch’s upper-leg-support parts do not support the thighs of the child. But I find that when the leg support parts are folded inward, the child’s legs still bear on those parts, unlike in the Hibiscus carrier. RPX-0003. The upper leg support parts of the Petal Pouch therefore still support least a part of the upper thigh of the child when folded inward. Respondents’ expert did not testify otherwise. He merely stated that “by removing the belt and folding the upper leg support in, it creates a narrow seat support part.” Tr. at 1112:19-21. The expert said nothing about whether leg support is or is not present in the folded-in configuration. I find, based on my review of the record, that Respondents have not shown that Petal Pouch is configurable to “not support” the thighs of the child.

d) Pikkolo Carrier (“RPX-0005)

RPX-0005 is a physical exhibit of an alleged prior art carrier called the “Pikkolo.” I first address why I find that the Pikkolo constitutes prior art, and then I outline its pertinent features.

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(1) Priority

Respondents contend the Pikkolo carrier is prior art because it was “made, and publicly shown and documented prior to the” critical date for the ’116 patent, “and subsequently in public use by at least September 2007.” *See* RIB at 40-41 (citing 35 U.S.C. § 102(a), (b) and (g)(2) (pre-AIA)). They rely on testimony of Beth Leistensnider to establish the date of public use and on certain webpages to corroborate Ms. Leistensnider. *Id.*

LILLEbaby argues the Pikkolo is not prior art. CRB at 43. LILLEbaby contends, primarily, that (1) Ms. Leistensnider is not credible because she was compensated for her time, and (2) the evidence purporting to corroborate her testimony is defective. *Id.* at 43.

Ms. Leistensnider, the founder and owner of Catbird Baby, developed the Pikkolo carrier with her friend, Marian Scott. Ms. Leistensnider previously developed another Mei Tai style carrier with an adjustable seat, which she sold commercially in the 2004-2005 timeframe. Tr. at 964:17-965:20. She received positive feedback on her earlier Mei Tai carrier, but she also heard “the suggestion that people would like it better if it had the convenience and perceived safety and ease of buckles instead of tie straps.” *Id.* at 965:21-966:10. She additionally learned that “people liked to hear the click and feel the click of the buckle going in together.” *Id.* When Ms. Leistensnider met Marian Scott in the summer of 2006, they began brainstorming and collaborated on a design for the Pikkolo, a carrier that had the “basic feel and structure” of a Mei Tai carrier but with “buckles instead of ties for the straps at the shoulder and the waist.” *Id.* 966:11-968:6; RX-0413 (depicting April 7, 2007 prototype of Pikkolo).

By April 2007, Ms. Leistensnider published photos of the Pikkolo carrier on her Catbird Baby website. RX-0413. Ms. Leistensnider testified she prepared a drawing in July 2007 showing the way the Pikkolo carrier components “should be cut and assembled by the sewing house” for mass production. RX-0415 (hand dated “July 2007”); Tr. at 970:3-18. Ms. Leistensnider also

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testified she was photographed carrying her six-month-old son in a Pikkolo carrier in June or July 2007. Tr. at 970:19-971:11; RX-0289:2 (center photo in the row at the bottom of the page).

Ms. Leistensnider and Ms. Scott exhibited the Pikkolo carrier at the ABC Kids Expo trade show in Las Vegas, Nevada, in September 2007. RX-0411; Tr. at 971:24-972:16. Catbird Baby began taking and fulfilling orders for Pikkolo carriers immediately after the ABC Kids Expo, as shown in invoices from September 2007. RX-0417, RX-0419; Tr. at 972:17-974:5. Ms. Leistensnider testified that “there’s no doubt” that sales reflected in RX-0417 and RX-0419 were “of the same design” as the physical Pikkolo carrier in the record here, RPX-0005. Tr. at 993:25-994:15. She also said there was no doubt that Catbird Baby actually fulfilled the orders in RX-0417 and RX-0419. *Id.* She further testified she had no doubt that Catbird Baby was commercially selling Pikkolo carriers like the one labeled RPX-0005 by September 2007, which was the time of the ABC Kids Expo. *Id.* Ms. Leistensnider demonstrated the operation of the Pikkolo using RPX-0005 at the evidentiary hearing. Tr. at 968:7-969:23.

LILLEbaby attacks the credibility of Ms. Leistensneider because she was compensated for her time in connection with this investigation. But as has already been noted, the fact that a witness is compensated for her time does not necessarily discredit the witness’s testimony. Additionally, based on my observations of Ms. Leistensneider’s demeanor in the hearing and my examination of the corroborating physical evidence, I find Ms. Leistensneider’s testimony credible. Indeed, Ms. Leistensneider was very forthright about the limitations of her own knowledge. *See* Tr. at 992:16-20 (acknowledging she was “not as familiar with” another prior art carrier).

Next, LILLEbaby argues that the “packaging for the physical Pikkolo is generally dated ‘2008’” and “could have been manufactured in December 2008, just as easily as January 2008.” CRB at 43. It also contends “there is no evidence that Pikkolo was actually shipped” or that the

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orders of record were fulfilled. But testimony *is* evidence, and LILLEbaby does not address Ms. Leistensnider's un rebutted testimony that the Pikkolo sales reflected in RX-0417 and RX-0419 were "of the same design as" RPX-0005, that Catbird Baby actually fulfilled those orders, and that Catbird Baby was commercially selling Pikkolos like RPX-0005 by September 2007. Tr. at 993:25-994:15.

Even if I accepted, for the sake of argument, a contention that the sales records in RX-0417 and RX-0419, the hand-dated sketch in RX-0415, and the photo in RX- RX-0289.2 do not corroborate Ms. Leistensnider's testimony because she generated those records, other evidence would still corroborate Ms. Leistensnider's testimony. RX-0413 shows a date-stamped blog entry for April 7, 2007. The entry includes photo of the Pikkolo, and the entry states that Catbird Baby hopes to have the product "out in May" of 2007. RX-0411 is another blog entry, date-stamped September 17, 2007. It shows a photo of Catbird Baby's booth at the ABC Kids Expo trade show in Las Vegas, Nevada, held the same month. LILLEbaby does not address these corroborating documents at all.

Viewing the record as a whole, including the evidence I have detailed above, I find the Pikkolo carrier was in public use in the United States at least by September 17, 2007, which is before the July 28, 2008, application date of the '116 patent. I therefore find the Pikkolo carrier is prior art under 35 U.S.C § 102(a), (b) and (g)(2) (pre-AIA).

(2) Features

The Pikkolo carrier has a main panel with a torso support area and a seat support area. Tr. at 1267:8-12. The Pikkolo has two shoulder straps that are permanently sewn to the top of the torso support area, and the straps can be buckled "backpack style" to the torso support area such that "the right strap connects with the right side and the left strap connects with the left side."

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Tr. at 988:22-989:10, 993:9-24, 1268:21-1269:6. The Pikkolo carrier has a “cinching mechanism” that provides variable support for a child’s thighs. “[W]hen it is in its widest setting [the Pikkolo carrier]... provide[s] support to the thigh of the child.” Tr. at 990:6-991:4. The Pikkolo has a waist belt that was designed to be worn on the waist or on the hips or the wearer. *Id.* at 971:12-23; *see* RX-0289:9. The Pikkolo carrier is shown in the annotated photographs below:



See RX-289:2, 4.

Respondents contend for the first time in their post-hearing brief that the Pikkolo carrier anticipates claim 18. *See* RIB at 42-43. However, that argument was not preserved in their prehearing brief and is thus abandoned. *See Ground Rule* 11.2.

With respect to the “not support” limitations 18d2 and 18d3, Respondents rely on the testimony of Ms. Leistensnider to show the Pikkolo has those features. RIB at 42-43. However, Respondents did not address those limitations with Ms. Leistensnider during her direct examination. After examination of Ms. Leistensnider by the parties, I (somewhat unartfully) asked Ms. Leistensnider whether the Pikkolo, in its narrowest seat configuration, would provide support

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to part of the child's thighs. Tr. at 992:21-25. Ms. Leistensnider said "it would not support the upper thigh of the child." *Id.* Respondents did not follow up on this conclusory testimony in redirect. Thus, the record contains no explanation of the basis for Ms. Leistensnider's opinion. As a result, it is impossible to tell whether she based her opinion on the appropriate understanding of "not support," that is, "no support." Additionally, as the record stands, Ms. Leistensnider did not identify an upper leg support part of the Pikkolo having a configuration that does not support at least a part of the child's thigh; she merely stated the whole device in the narrow seat configuration would not support the upper thigh of the child.

Ms. Leistensnider's answer to my question is also contrary to other testimony in which she confirmed the Pikkolo "keeps legs spread." *Id.* at 981:2-8, 15-23. The phrase "keeps legs spread" also appears on the packaging of Pikkolo itself. *See* RX-0289 at 2. This evidence further undercuts proof the Pikkolo satisfies the "not support" limitations 18d2 and 18d3.

Finally, Ms. Leistensnider did not perform a demonstration in the evidentiary hearing that showed the allegedly practicing configuration for "not support." Thus, I did not observe any such alleged configuration during the hearing.

Viewing the evidence as a whole, I find that Respondents did not demonstrate that the Pikkolo carrier has a configuration wherein the upper-leg-support parts do not support the thigh of the child.

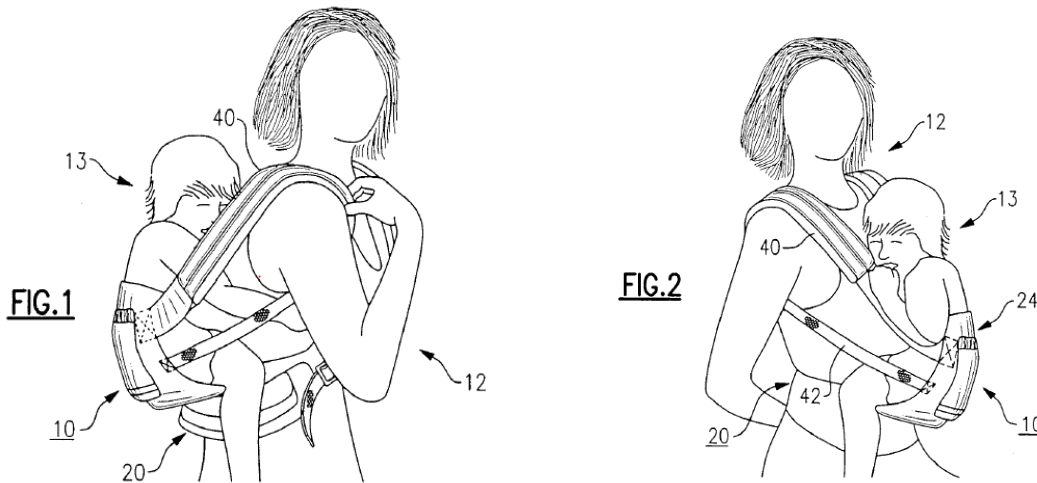
e) U.S. Patent Publ. No. 2005/0051582 (RX-0368) ("Frost")

U.S. Patent Publ. No. 2005/0051582 is a United States patent application by Karin Frost, dated March 10, 2005, and titled "Baby Carrier." RX-0368 ("Frost").

Frost discloses a child carrier having shoulder straps with lower ends configured for coupling to lower coupling points on a torso support part. Tr. at 1087:5-19 (Frost); RX-0368 at

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Figs. 1-2 (below), ¶ [0026] (describing shoulder straps coupled to top and bottom of torso part at upper and lower ends).



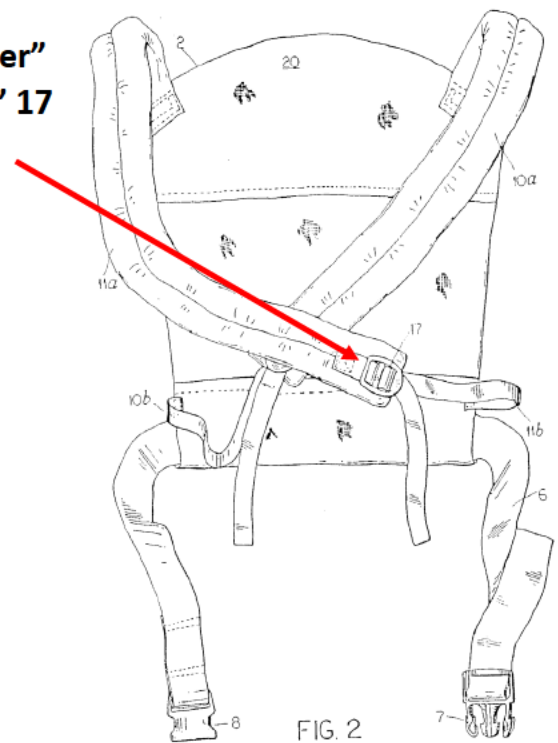
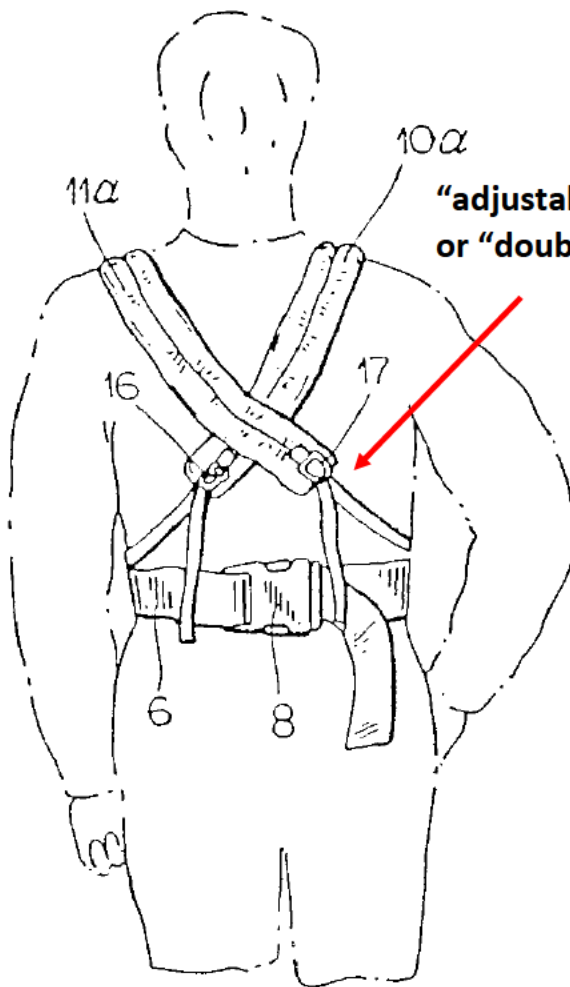
f) U.S. Patent No. 4,986,458 (RX-0355) (“Linday”)

U.S. Patent No. 4,986,458 was filed on August 16, 1988, and issued to Linday on January 22, 1991. RX-0355 (“Linday”). Linday is prior art under at least 35 U.S.C. § 102(a), (b), and (e). Linday was relied on by the examiner to reject proposed claims during prosecution of the application that issued as the ’116 patent. JX-0002 at 0086-104.

Linday discloses a child carrier in which the child is supported in an upright, “usually sitting” position within a pouch connected to shoulder straps. Linday at 1:5-10. The carrier includes a hip belt 6 that passes through a sleeve 9 formed from the lower margin of the pouch. *Id.* at 2:55-63. Linday teaches the carrier distributes a majority of the weight of the child to the lower torso of the transporting individual, “especially the hips,” rather than to the shoulders. *Id.* at 1:10-15. The seat of the carrier has an adjustable width controlled by cinching the seat fabric using a draw string. *Id.* at 4:65-5:1.

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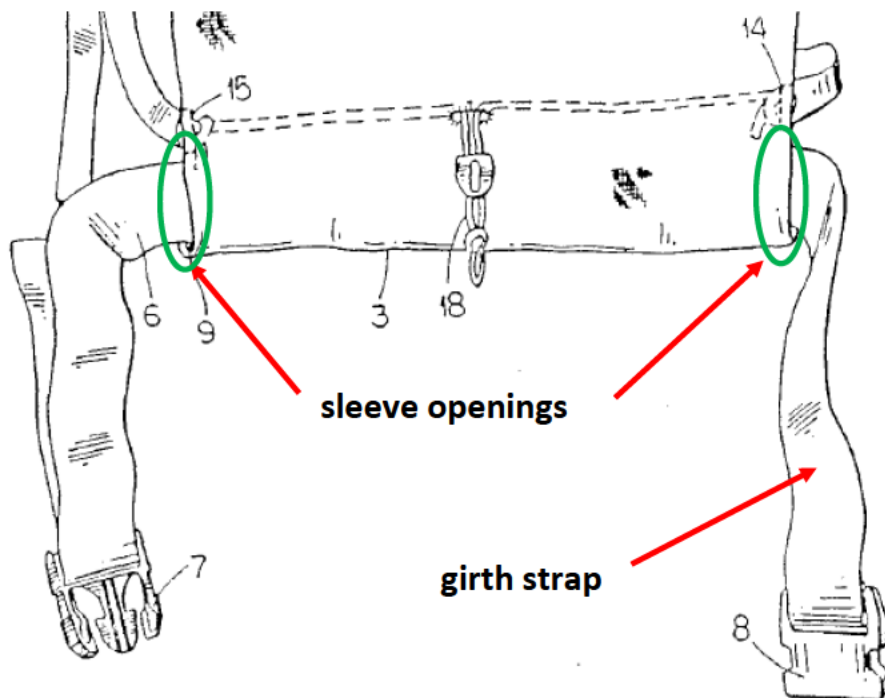
Linday discloses straps formed from two parts joined by “adjustable fasteners.” Linday at 3:16-30, claim 5, Fig. 2 (annotated version below). Linday discloses that in the preferred embodiment adjustable fastener 17 “comprises a double loop plastics [sic] buckle anchored to the upper part of the shoulder strap and an adjustable strap length comprising the lower part of the shoulder strap which is threaded through the double buckle” *Id.* at 3:21-26; *see* Tr. at 1106:22-25.



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Linday Figs. 2, 4 (annotated).

A “girth strap” 6 in Linday passes through a sleeve 9, in a manner similar to the hip belt arrangement shown in Figure 3A in the '116 patent. An annotated excerpt of Fig. 1 of Linday is reproduced below:



Linday Fig. 1 (annotated).

3. Comparing Claim 18 to the Prior Art

Claim 18 of the '116 patent follows, with disputed limitations emphasized and annotations in square brackets:

[18p] A carrier for transporting a child by a transporting individual, comprising:

[18a] a **torso support part** configured to support the torso of the child placed in the carrier;

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- [18b] a left shoulder strap having **an upper and a lower left-strap ends** configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;
- [18c] a right shoulder strap having **an upper and lower right-strap ends** configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;
- [18d1] **a seat support part coupled to the torso support part** and configured to support the posterior of the child,
- [18d2] wherein the seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and **configurable to optionally support at least part of the left thigh of the child and otherwise not support the left thigh of the child** and
- [18d3] a right upper-leg-support part disposed on the right side of the seat support part and **configurable to optionally support at least part of the right thigh of the child and otherwise not support the right thigh of the child**; and
- [18e] a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual,
- [18f] wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.

Respondents contend the invention of claim 18 is anticipated by Linday. RIB at 45-58. Staff does not join in that contention. But Staff and Respondents both argue that the invention of claim 18 is obvious in view of Linday alone and in view of several prior art combinations. RIB at 58-72; SIB at 70. LILLEbaby disputes all arguments that the prior art anticipates claim 18 or renders claim 18 obvious. I address the parties' arguments below.

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a) *Linday*

(1) Anticipation

I determine that Linday anticipates claim 18 of the '116 patent.

As discussed in the introduction of this determination, Linday figured prominently in the prosecution history of the '116 patent. In that history, proposed claim 8 recited limitations 18p, 18a, 18b, 18c, 18d, and 18e but not limitation 18f, which concerns leg support parts configured for coupling to the hip belt. The examiner rejected proposed claim 8 as being anticipated by Linday. JX-0002 at 93-98. The examiner found that Linday disclosed “the left shoulder strap (10) having the upper and the lower left-strap ends configured for coupling to the torso support part (1) at respectively the upper left coupling point and the lower left coupling point on the torso support part (1).” *Id.* at 94-95. Figures 1 and 2 of Linday are reproduced below, with parts identified by the examiner:

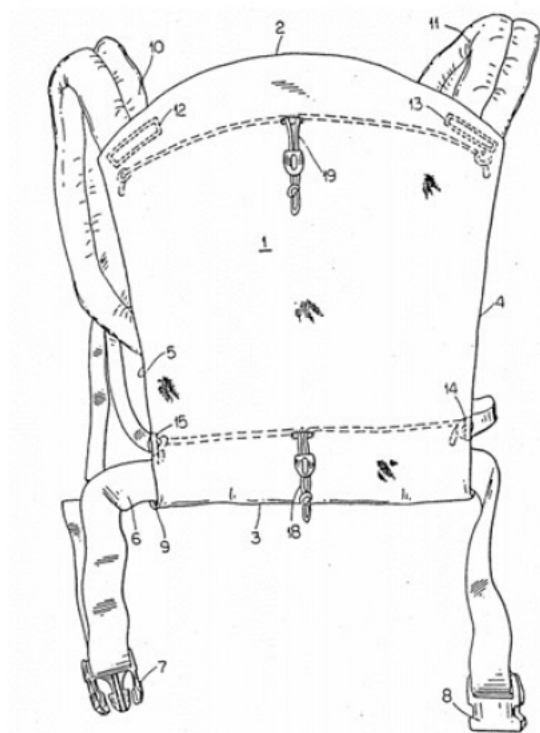


FIG. 1

Linday Figs. 1, 2 (annotated).

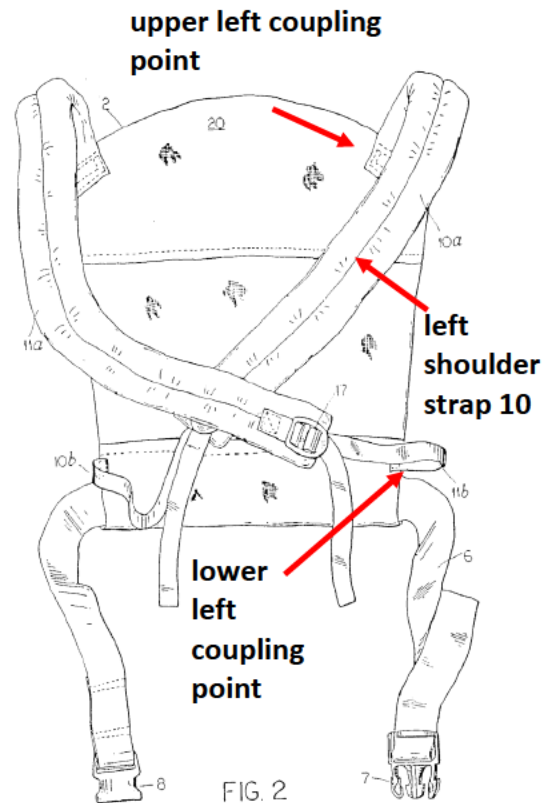
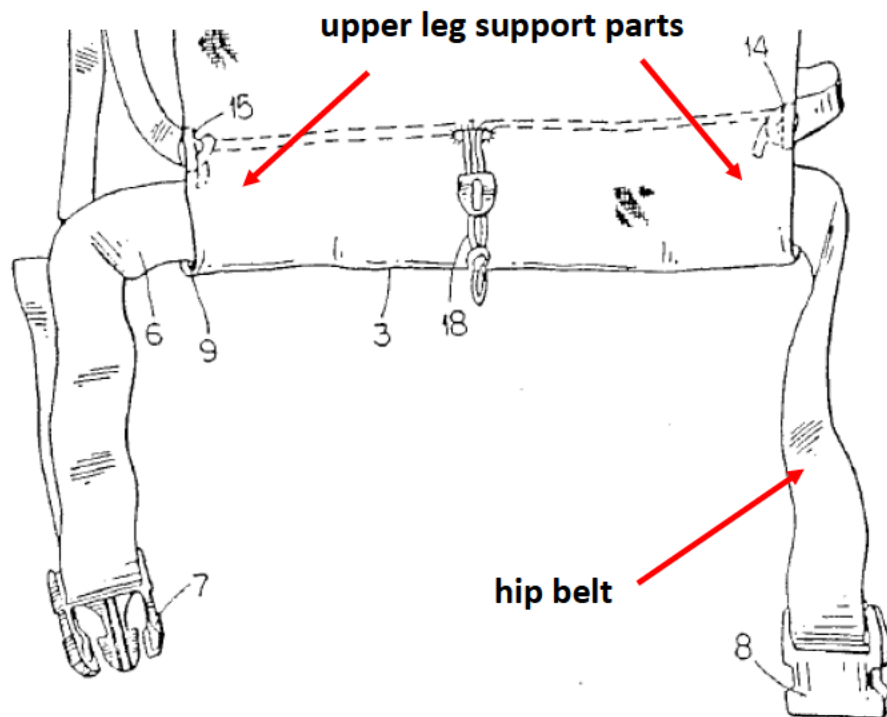


FIG. 2

The examiner additionally found that Linday's girth belt 6 is a hip belt "coupled to the seat support part (3) and configured for securing about the hips of the transporting individual." JX-0002 at 96. The examiner identified the lower-left and lower-right portions of Linday's seat as upper-leg-support-parts. JX-0002 at 96. The parts identified by the examiner are shown in the

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following annotation of Linday Figure 1:



Linday Fig. 1 (annotated).

Linday's hip belt 6 passes through a sleeve 9 that forms Linday's seat support part. Linday at 2:55-59. Linday further describes sleeve 9 as causing hip belt 6 to be "slidably mounted." *Id.* at 3:11-15. The examiner explained that Linday's upper-leg-support-parts are "configurable to optionally support at least part of the left [or right] thigh of the child and otherwise not support the left [or right] thigh of the child (i.e. when (18) is pulled & tighten[ed])." JX-0002 at 95-96. In sum, the examiner identified elements 18p, 18a, 18b, 18c, 18d1-3, and 18e in Linday.

LILLEbaby argues that Linday fails to disclose limitations 18b and 18c because Linday's straps are crossed, i.e., the upper part of left shoulder strap 10 is coupled to a strap portion on the lower right of the main body and the upper part of right strap 11 is coupled to a strap portion on

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the lower left of the main body. CRB at 23-24. As explained below, I reject that argument because it is contrary to the agreed construction of “configured for coupling” adopted in my claim construction order. *See* Order No. 34 at 13.

LILLEbaby is correct that Linday expressly discloses and claims straps which are crossed. *See, e.g.*, Linday at 2:19-22; claims 1, 2, 12; and Fig. 2. But under the agreed construction of “configured for coupling,” it is not necessary for the prior art to illustrate a use of the plainly disclosed straps and connectors in an uncrossed configuration. To meet limitations 18b and 18c, it is enough the Linday disclose a carrier having physical structure for coupling straps in the manner recited by the claim. *See* Order No. 34 at 15.

Linday discloses straps formed from two parts joined by “adjustable fasteners.” Linday at 3:16-30, claim 5, Fig. 2 (annotated version below). Linday discloses that in the preferred embodiment adjustable fastener 17 “comprises a double loop plastics [sic] buckle anchored to the upper part of the shoulder strap and an adjustable strap length comprising the lower part of the shoulder strap which is threaded through the double buckle” *Id.* at 3:21-26. Linday teaches that “[a]djustment of the straps is readily accomplished” using “the ends of the straps” that pass through “easily accessible” “adjustment buckles.” Linday at 5:11-15. Respondents expert Mr. Kemnitzer credibly testified that a person of ordinary skill would see the “length adjustment strap” disclosed in Linday and understand that it “can be unthreaded and the straps reversed.” Tr. at 1106:22-25.

Linday thus describes a carrier with physical structure for coupling the upper left strap part to the lower left strap part, and the upper right strap part and the lower right strap part. Such a configuration would result in a left strap with ends configured for coupling to the torso support part at upper left and lower left coupling points, and a right strap with ends configured for coupling

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to the torso support part at upper right and lower right coupling points. This is presumably the basis on which the examiner found Linday anticipated limitations 18b and 18c. *See* JX-0002 at 94-95.

My claim construction of limitations 18b and 18c, and my application of it here, comports with well-established precedent for analyzing apparatus claims. “[A] new intended use for an old product does not make a claim to that old product patentable.” *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). If a claimed structure is already known, “regardless of whether it has ever been used” in some specific way, the claimed structure is anticipated. *Id.* The *Schreiber* case illustrates the point well. The claim at issue in *Schreiber* described a funnel for dispensing popcorn. The Patent Office rejected the claim based on a prior art funnel described as useful for dispensing oil from a can. The Federal Circuit affirmed the anticipation rejection, noting the structure recited in the popcorn funnel already existed in the art and it was immaterial “whether it has ever been used in any way in connection with popcorn.” *Id.* at 1477-79. The same result follows here. Linday discloses an apparatus with the same physical structure as claim 18. The fact that Linday’s disclosure may not describe the use for that structure that claim 18 describes is of no moment. *Id.*; *see also In re Heck*, 699 F.2d at 1332-33 (“[T]he use of patents as references is not limited to what the patentees describe as their own inventions . . . They are part of the literature of the art, relevant for all they contain.”).

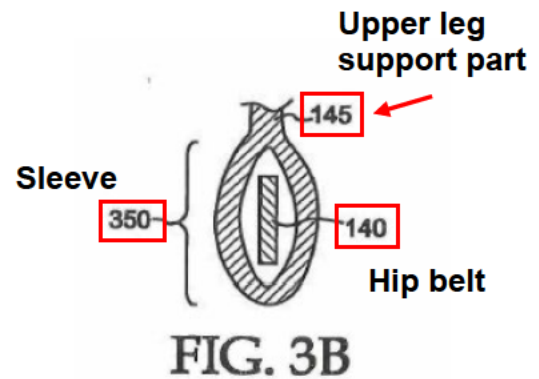
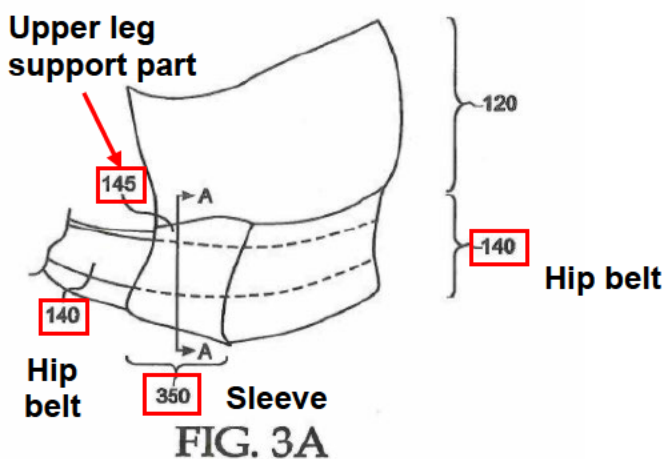
LILLEbaby argued for, and obtained, a broad construction of “configured for coupling.” As always, a broad construction risks sweeping in the prior art, and that has occurred here. Under agreed upon construction of “configured for coupling,” a structure that has physical structure for coupling two parts together satisfies the limitation, regardless of other uses for the structure shown in the prior art.

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LILLEbaby also argues in its post-hearing brief that Linday does not disclose limitation 18f, which requires the left and right upper-leg-support parts to be configured for coupling to the left and right sides of the hip belt, respectively. LILLEbaby abandoned this argument by failing to include it in its prehearing brief. *See Ground Rule 11.2*. LILLEbaby argues it did not waive this argument because the claim construction order in this investigation issued after the filing of prehearing briefs. *See CRB at 28*. This argument is without merit. LILLEbaby agreed to the construction of “configured for” at the claim construction hearing. *See Order No. 34 at 13* (citing Markman Tr. at 164:20-166:21). The date that the claim construction order issued did not prejudice LILLEbaby. LILLEbaby also suggests that the fact that its own expert Mr. Myers gave testimony contrary to the express disclosure of coupling in the ’116 patent somehow prevents waiver. CRB at 28 (citing Tr. at 1291:22-1292:2 (“[ALJ] [I]f I pass the belt through the sleeve, are the two items coupled? [Myers] No, I don’t believe they are”)). LILLEbaby does not explain how this would prevent waiver, rather than simply undermine Mr. Myers’ credibility.

Notwithstanding LILLEbaby’s waiver, because anticipation requires clear and convincing evidence that every limitation of a claim is found in the prior art, I detail below the evidence showing limitation 18f is disclosed in Linday.

For context, I begin by reviewing the disclosures in the ’116 patent relating to limitation 18f. The ’116 patent discloses passing a portion of the hip belt through a sleeve “which provides coupling of the upper-leg-support part 145 to the hip belt 140.” ’116 patent at 5:57-61.



'116 patent, Figs. 3A-3B.

Thus, the '116 patent expressly illustrates and describes passing a belt through a sleeve as a form of coupling. Other forms of coupling, such as mating snaps or hook-and-loop fasteners, are presented as alternatives. *See* '116 patent at 1:35-41, 6:4-15, Figs. 3C, 3D. These disclosures reinforce that the agreed-upon construction of “configured for coupling” is correct. *See* Order No. 34 at 13.

Applying that construction, I find Linday discloses limitation 18f. The left and right upper-leg-support parts of Linday are configured for coupling to the left and right sides of the hip belt 6 by virtue of the hip belt passing through sleeve 9 formed along the bottom of the seat support part. *See* Linday at 2:55-59 (“The girth strap 6 is advantageously encased in and extends through a sheath or sleeve 9 formed by folding over the lower margin and attaching the folded over portion to the main body portion of the blank by stitching.”). Because the left and right sides of Linday’s

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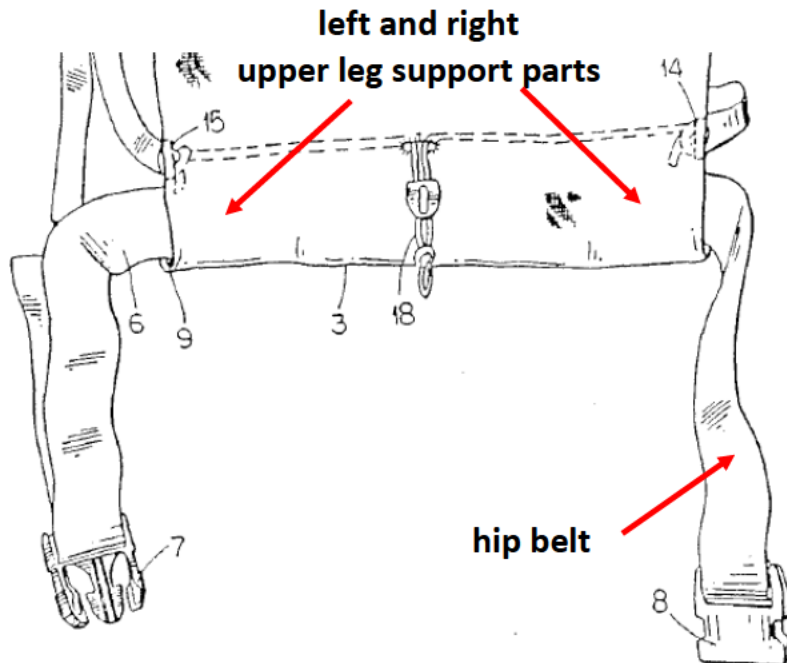


FIG. 1

belt have physical structure for coupling with the left and right upper-leg-support parts by virtue of the sleeve, limitation 18f is met. *See* Tr. at 1109:16-1110:4.

Linday Fig. 1 (annotated).

In sum, I find that Linday expressly discloses all of the elements of claim 18 and predates claim 18. I therefore determine that claim 18 is invalid as anticipated in light of Linday. *See Schering Corp. v. Geneva Pharm., Inc.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003).

(2) Obviousness

As discussed above, Linday discloses all of the limitations of claim 18. To the extent Linday did not expressly disclose limitations 18b and 18c because Linday shows the shoulder straps of the apparatus in a crossed configuration, I explain below why it would have been obvious to one of ordinary skill in the art to configure the same apparatus Linday disclosed—without any addition or substitution of parts—in the manner recited by claim 18.

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First, although Linday illustrates a configuration of the disclosed carrier with straps crossed, Linday expressly motivates an ordinary artisan to change that configuration. For example, Linday teaches “the slung carrier can readily be switched between the alternative positions shown in FIGS. 3 and 5 of the drawings.” Linday at 4:21-23. To change to the Figure 5 configuration, the left shoulder strap of Linday’s carrier must be adjusted quite dramatically so that it no longer rests on the left shoulder at all. *Id.* at 4:19-38. Nevertheless, Linday teaches that an ordinary user can readily accomplish the alternate configuration. *Id.* Linday also states that a user will understand how to easily arrange the apparatus into configurations that are not illustrated. *Id.* at 4:14-18 (“While FIG. 5 of the drawings shows the infant supported to the left side of the wearer, it will be appreciated that a mirror image [which is not illustrated] can equally readily be adopted whereby the infant is slung on the right side of the adult carrier.”).

Linday additionally teaches that “[a]djustment of the straps is readily accomplished” using “the ends of the straps” that pass through “easily accessible” “adjustment buckles.” Linday at 5:11-15. Respondents expert Mr. Kemnitzer credibly testified that a person of ordinary skill would see the adjustable straps disclosed in Linday and understand that they “can be unthreaded and the straps reversed.” Tr. at 1106:22-25.

The record also indicates that a person of ordinary skill would have had knowledge that it was common to use child carriers and backpacks with shoulder straps in an uncrossed configuration. *See* Tr. at 1083:23-1084:19; RX-0368 (Frost); RX-0403 (Kim); RX-0404 (Lindblom); RPX-0005 (Pikkolo).⁹ The record shows that an ordinary artisan would understand a backpack-style configuration with uncrossed straps would make Linday’s carrier easier to take

⁹ I cite record evidence of other prior art carriers here to illustrate the background knowledge that a person of ordinary skill in the art would possess. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013).

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on and off. Tr. at 1083:23-1084:19. Whether to use crossed or uncrossed straps is an obvious matter of design choice. *See Philips Lighting N. Am. Corp. v. Wangs All. Corp.*, 727 F. App'x 676, 681 (Fed. Cir. 2018) (affirming rejection of patent as “obvious matter of design choice” where two prior art designs “were known in the art, recognized as solutions to the particular problem, and functionally equivalent”); *In re Japiske*, 86 USPQ 70 (CCPA 1950) (rearranging parts of an invention involves only routine skill); *see also KSR*, at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

LILLEbaby argues a person of skill in the art would not choose to “modify” Linday’s child carrier into backpack-style configuration because such a configuration “can have serious safety consequences to a child.” *See* CRB at 25-26 (citing Tr. at 1216:5-1218:19). But LILLEbaby points to nothing to suggest that a person of skill would lack an expectation of success configuring the straps safely. The record contains ample evidence that an ordinary artisan would know how to configure uncrossed backpack-style straps safely. *See* RX-0368 (Frost); RX-0403 (Kim); RX-0404 (Lindblom); RPX-0005 (Pikkolo).

Finally, I reject LILLEbaby’s contention that Respondents waived an argument that Linday alone renders claim 18 obvious because Respondents allegedly failed to raise it in their prehearing brief. As LILLEbaby itself notes, Respondents explicitly preserved the argument. *See* CRB at 25 (citing RPHB at 150). Although Respondents’ argument of obviousness based on Linday is brief, LILLEbaby was on notice of the necessary details from Respondents’ fulsome discussion of Linday as an anticipatory reference.

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In light of the foregoing, and considering the evidence of secondary considerations of obviousness and non-obviousness as addressed below, I determine that claim 18 is rendered obvious by Linday and is therefore invalid.

b) *Hibiscus*

I find that claim 18 is obvious in view of Hibiscus, as combined with Pikkolo or Frost.

(1) Hibiscus Alone

As outlined above and agreed by the parties, Hibiscus includes every limitation of claim 18 except that the lower ends of the shoulder straps are not configured for coupling to lower coupling points on the torso support. *See, e.g.*, Tr. at 1251:11-1252:7. Respondents and Staff contend that modifying Hibiscus to include lower coupling points on the torso support part would have been obvious to a person of skill in the art. RIB 58-66; SIB at 74-79.

The record shows that a person of ordinary skill in the art at the time of the invention would have understood that the shoulder straps of Mei Tai style carriers can be difficult to manipulate and secure, even if the carrier uses buckles instead of traditional Mei Tai knots. Tr. at 1027:23-1028:6 (“It takes a little coordination” to put on the Hibiscus shoulder straps), 1083:23-1084:19 (Hibiscus shoulder straps “can be quite difficult to manipulate the straps behind your back”).

Staff and Respondents contend lower coupling points were a known technique for connecting shoulder straps to a child carrier, adding such coupling points to the Hibiscus carrier would not have required experimentation, and doing so would have yielded predictable results. *See* RIB at 64-66; SIB at 77-78. They note that several Mei Tai style carriers at the time of the invention already had lower coupling points, most notably the Pikkolo carrier. *Id.* (citing, *inter alia*, Tr. at 964:24-966:19).

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For its part, LILLEbaby objects that (1) Staff and Respondents have not articulated sufficient motivation to modify Hibiscus, (2) “Hibiscus teaches away from the addition because the modified combination would eliminate the Mei Tai nature of Hibiscus”, and (3) the proposed modification of Hibiscus would be inoperable. CRB at 31-32.

I will address LILLEbaby’s latter two arguments first. As for teaching away, the Hibiscus carrier is a product, not a document containing teachings. “A reference teaches away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken” in the claim. *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017). Prior art that “does not criticize, discredit, or otherwise discourage investigation into the claimed invention does not teach away.” *Id*; *see also McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001). I find that the Hibiscus carrier does not teach away from making the modification advanced by Respondents and Staff.

LILLEbaby also argues the proposed modification would render the carrier inoperable, presumably for ergonomic and safety reasons. *See* CRB 39-43 (citing Tr. at 1216:5-1218:19; 1228:2-5); *see also* 1254:6-1255:13 (Myers testimony that front carry with backpack straps doesn’t work “because of the curvature of [human] shoulders”). But, as I have already found, the record contains ample evidence that a person of skill in the art would know how to safely attach shoulder straps to the body of the child carrier. *See* RX-0368 (Frost); RX-0403 (Kim); RX-0404 (Lindblom); RPX-0005 (Pikkolo). And LILLEbaby admits the Hibiscus carrier can be worn on the front or back, notwithstanding any shoulder curvature. *See* CRB at 39 (“Hibiscus can be worn in a variety of carrying positions, including on the front, back, and side”).

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Even though some of LILLEbaby's counterarguments fall short, I ultimately find that Respondents and Staff have not met their burden of showing by clear and convincing evidence that the Hibiscus carrier alone renders claim 18 obvious. Neither Respondents nor Staff put forward clear and convincing evidence of a motivation to alter the structure of the Hibiscus carrier. Respondents and Staff argue that because the straps on Hibiscus "can be difficult to manipulate and secure," a person of skill would have been motivated to improve that difficulty. CRB at 63; SIB at 77. But even if an artisan would have been motivated to improve the Hibiscus generally, Respondents and Staff do not point to any record evidence of motivation to pursue the particular solution recited in claim 18. In making this determination, I do not conclude that Respondents and Staff were required to point to verbiage in a document providing motivation to modify the Hibiscus; that would contradict the Supreme Court's holding in *KSR*. I find the arguments advanced by Respondents and Staff are more akin to hindsight than evidence of a motivation that would have driven a skilled artisan at the time of the invention.

Accordingly, because Staff and Respondents have failed to show, by clear and convincing evidence, a motivation to modify Hibiscus to add lower coupling points to the torso support part, I find that the Hibiscus carrier standing alone does not render claim 18 obvious.

(2) Hibiscus in View of Pikkolo

LILLEbaby does not dispute that taken together, Hibiscus and Pikkolo disclose all of the elements of claim 18. *See* CRB at 43-46; Tr. at 1265:24-1264:2 (testimony of Mr. Myers admitting that Hibiscus and Pikkolo combine to disclose all elements of claim 18); *see also supra* parts VI.A.2.a)(2), VI.A.2.d)(2). Staff and Respondents contend modifying Hibiscus with Pikkolo's straps would have been obvious to a person of skill. RIB at 66-69; SIB at 80-83; SRB at 1-11.

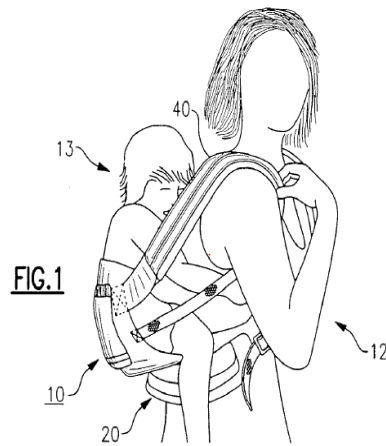
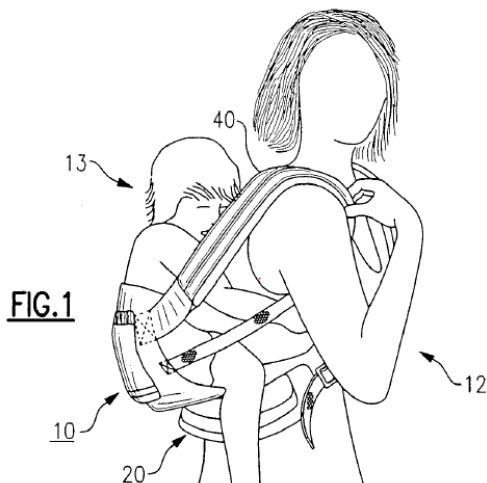
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LILLEbaby contends this combination fails for the same reasons as Hibiscus alone: (1) that Respondents and Staff have not articulated a sufficient motivation to combine, (2) that the proposed modification eliminates “the Mei Tai aspect of Hibiscus”, and (3) the resulting combination would allegedly be inoperable. CRB at 44.

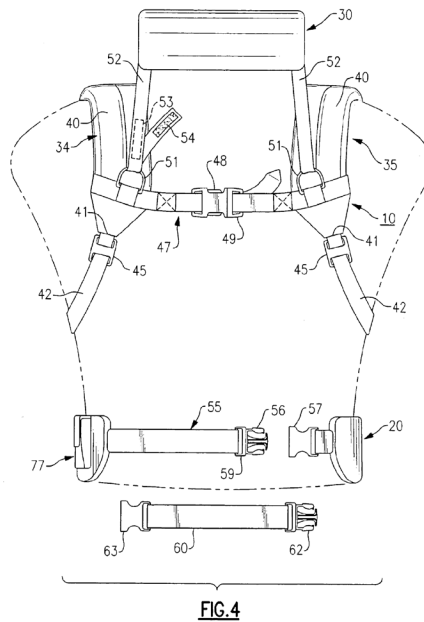
Upon review of the arguments of the parties and the record, I find that Respondents and Staff have not met their burden of showing by clear and convincing evidence that the Hibiscus carrier viewed in combination with the Pikkolo carrier renders claim 18 obvious. Neither Respondents nor Staff put forward clear and convincing evidence that a person of skill in the art at the time of the invention to alter the structure of either carrier in a manner that would arrive at the claimed invention. As with the proposed modifications to the Hibiscus carrier alone, I find the arguments advanced by Respondents and Staff here are more akin to hindsight than evidence of a motivation that would have driven a skilled artisan at the time of the invention.

(3) Hibiscus in View of Frost

Frost discloses and illustrates shoulder straps with lower ends configured for coupling to lower coupling points on the torso support part. Tr. at 1087:5-19 (Frost); RX-0368 at Figs. 1-2, 4 (below).



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The reasons put forward by Respondents and Staff as motivating the combination of Hibiscus and Frost are nearly identical to their briefing on the Hibiscus-Pikkolo combination. As with the Hibiscus-Pikkolo combination, I find that Respondents and Staff have failed to identify a convincing reason to alter the disclosed structures to arrive at the claimed invention. I find that Respondents and Staff have not met their burden of showing by clear and convincing evidence that the Hibiscus carrier viewed in combination with Frost renders claim 18 obvious.

c) *Silly Goose*

As outlined above, the Silly Goose carrier includes every claim 18 limitation except 18b and 18c, concerning lower strap ends configured for coupling to the torso support part, and limitations 18d2 and 18d3, concerning configurations wherein the upper-leg-support part does “not support” the child’s thighs. *See supra* part VI.A.2.b)(2).

Respondents and Staff contend that modifying the Silly Goose carrier to include lower coupling points on the torso support part for coupling to the lower ends of the shoulder straps would be obvious to a person of skill in the art without references beyond the Silly Goose, or

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alternatively by viewing the Silly Goose carrier in light of the Pikkolo carrier, Frost, or Linday. I address each combination in turn.

(1) Silly Goose Alone

As noted above, the Silly Goose carrier lacks both limitations 18b and 18c, concerning lower strap ends configured for coupling to the torso support part, and limitations 18d2 and 18d3, concerning configurations wherein the upper-leg-support part does “not support” the child’s thighs. *See supra* part VI.A.2.b)(2); RIB at 71.

No party has put forward any argument or evidence concerning why a person of skill in the art would modify the Silly Goose carrier to satisfy 18d2 and 18d3. *See* RIB at 70-71; SIB at 88; CRB at 48. Accordingly, I find that Silly Goose alone does not render claim 18 obvious.

(2) Silly Goose in View of Pikkolo

As I have found above, neither the Silly Goose carrier nor the Pikkolo carrier practices limitations 18d2 and 18d3. *See supra* parts VI.A.2.b)(2) (Silly Goose), VI.A.2.d)(2) (Pikkolo). No party has put forward any argument or evidence concerning why or how a person of skill in the art would modify the carriers and arrive at features that neither carrier possesses. *See* RIB at 70-71; SIB at 88; CRB at 48. Accordingly, I find that the combination of Silly Goose in view of Pikkolo does not render claim 18 obvious.

(3) Silly Goose in View of Frost

As Respondents contend, the briefing urging a combination of the Silly Goose carrier and Frost is nearly identical to the modification in view of Pikkolo.” RIB at 69. For the same reasons discussed above, I find that Silly Goose in view of Frost does not render claim 18 of the ’116 patent obvious. The Silly Goose carrier lacks elements corresponding to limitations 18d2 and

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18d3 and Frost does not disclose those features . *See supra* parts VI.A.2.b)(2) (Silly Goose), VI.A.2.e) (Frost).

(4) Silly Goose in View of Linday

As explained above, Linday discloses all limitations of claim 18 of the '116 patent and at least renders that claim obvious standing alone. *See supra* part VI.A.3.a). It might seem to follow, then, that the Silly Goose carrier in view of Linday would also render the invention of claim 18 obvious. But the burden of proving invalidity still rests squarely on Respondents and Staff. Beyond mere conclusory statements, they have not provided any explanation of how or why an ordinary artisan would combine the Silly Goose carrier with the Linday carrier. *See* RIB at 71. I therefore find Respondents and Staff have failed their burden to prove by clear and convincing evidence that claim 18 is rendered obvious by Silly Goose in light of Linday.

d) *Petal Pouch*

As outlined above, Petal Pouch includes every limitation of claim 18 except 18b and 18c, concerning lower strap ends configured for coupling to the torso support part, and limitations 18d2 and 18d3, concerning configurations wherein the upper-leg-support part does “not support” the child’s thighs. *See supra* part VI.A.2.c)(2).

Respondents and Staff¹⁰ contend that modifying Petal Pouch to include lower coupling points on the torso support part for coupling to the lower ends of the shoulder straps would be obvious to a person of skill in the art without reference beyond Petal Pouch, or in light of Pikkolo, Frost, or Linday. I address each combination in turn.

¹⁰ Staff disagrees that Petal Pouch is prior art, but agrees that it would render claim 18 obvious if it were. *See* SIB at 90-91.

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(1) Petal Pouch Alone

Petal Pouch alone does not include all limitations of claim 18 of the '116 patent. Specifically, as Respondents admit, Petal Pouch lacks “the requirement that the shoulder straps be configured for coupling to a lower point on the torso support part” (e.g. limitations 18b and 18c). As noted above, I also find that Petal Pouch lacks limitation 18d2 and 18d3 because there is insufficient evidence that Petal Pouch can be configured to “not support” the child’s thigh in a manner that maintains the other claim requirement. *See supra* part VI.A.2.c)(2). Because Respondents have not put forward any reason a person of ordinary skill in the art would be motivated to modify petal pouch to have a “not support” configuration, I find Respondents have not proved obviousness based on the Petal Pouch carrier alone.

(2) Petal Pouch in View of Pikkolo

As explained above, neither the Petal Pouch nor the Pikkolo carrier practice limitations 18d2 and 18d3 because neither one can be configured to “not support” the child’s thigh and maintain the other claim requirements. *See supra* part VI.A.2.c)(2) (Petal Pouch), VI.A.2.d)(2) (Pikkolo). Therefore, regardless of any evidence of a motivation to combine the two, claim 18 of the '116 patent would not be rendered obvious by Petal Pouch in view of Pikkolo because such a combination would still lack limitations 18d2 and 18d3.

(3) Petal Pouch in View of Frost

As explained above, the Petal Pouch carrier does not practice limitations 18d2 and 18d3. *See supra* part VI.A.2.c)(2) (Petal Pouch). No party contends that Frost discloses those limitations. Therefore, regardless of any evidence of a motivation to combine the two, claim 18 of the '116 patent would not be rendered obvious by Petal Pouch in view of Frost because such a combination would lack limitations 18d2 and 18d3.

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(4) Petal Pouch in View of Linday

As explained above, Linday discloses all limitations of claim 18 of the '116 patent and at least renders that claim obvious standing alone. *See supra* part VI.A.2.f). It might seem to follow, then, that the Petal Pouch carrier in view of Linday would also render the invention of claim 18 obvious. But the burden of proving invalidity still rests squarely on Respondents and Staff. and they have not provided any motivation to combine the two carriers Respondents and Staff. Beyond mere conclusory statements, Respondents and Staff have not provided any explanation of how or why an ordinary artisan would combine the Silly Goose carrier with the Linday carrier. *See* RIB at 72; SIB at 91. I therefore find Respondents and Staff have failed their burden to prove by clear and convincing evidence that claim 18 is rendered obvious by Petal Pouch in light of Linday.

4. Secondary Considerations

LILLEbaby provides several arguments directed to secondary considerations bearing on the obviousness of the asserted claims. Though I have considered the proffered evidence and arguments in considering each claim's obviousness, I address each category proffered by LILLEbaby in turn here in order to simplify the structure and readability of this determination.

a) Nexus

Respondents argue that “[e]ach secondary consideration raised by [LILLEbaby] is legally deficient because [LILLEbaby] has not met its burden to demonstrate a nexus between the secondary considerations and the patented invention.” RIB at 72.

But “there is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product is the invention disclosed and claimed in the patent.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016). That presumption applies to all secondary considerations. *Id.* at 1330 n.4.

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Because I find that LILLEbaby's domestic industry carriers practice claim 18 of the '116 patent, *see infra* part IX.A.1, LILLEbaby is entitled to the presumption of nexus between the secondary considerations tied to their carriers and the novel aspects of claim 18.

b) Commercial Success

LILLEbaby contends that its domestic industry carriers have achieved commercial success as a result of the patented features of those products, and that that success constitutes objective evidence of the nonobviousness of the patents. *See* CRB at 54-55.

"Commercial success is relevant because the law presumes an idea would successfully have been brought to market sooner, in response to market forces, had the idea been obvious to persons skilled in the art." *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1376 (Fed.Cir.2005). "Commercial success [is] usually shown by significant sales in a relevant market." *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006). Other factors courts consider in examining commercial success include "market share," "growth in market share," "replacing earlier units sold by others," and "dollar amounts" of sales. *See Kansas Jack, Inc. v. Kuhn*, 719 F.2d 1144, 1151 (Fed. Cir. 1983).

LILLEbaby has demonstrated moderate commercial success. LILLEbaby claimed a market share of 8% of the US market in 2018 with sales of [REDACTED] domestic industry products. *See* Tr. at 1297:25-1298:8; CDX-0264C. It sold [REDACTED] domestic industry products in 2017, though the record is silent on what market share that represented. Tr. at 1297:4-12; CDX-0262C. LILLEbaby therefore did not provide information concerning growth in market share. *See Kansas Jack*, 719 F.2d at 1151. And while 8% market share is certainly healthy, it hardly shows the sort of dominance courts often point to in finding commercial success, especially for a company that has been on the market with embodying products for more than a decade. *See Hybritech Inc. v.*

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Monoclonal Antibodies, Inc., 802 F.2d 1367, 1382 (Fed. Cir. 1986) (Rich, J) (evidence of commercial success supported a conclusion of nonobviousness of claims where patentee's embodying product became a market leader with 25% of the market within a few years). The average retail price of LILLEbaby's carriers was roughly \$108 per unit in 2017 and 2018. *See* CX-0364C. LILLEbaby cites to its profitability of [REDACTED] on its domestic industry products in 2017, and [REDACTED] in profits on its domestic industry products in 2018. Tr. at 1297:13-24; CDX-0263C.

The above is the total evidence of commercial success on which LILLEbaby relies. On its own, it shows moderate commercial success. Unsurprisingly, LILLEbaby does not highlight the substantial evidence that [REDACTED]. *See* Tr. at 305:7-11, 307:1-22, JX-0414C. That evidence somewhat undermines the rosy picture of success LILLEbaby seeks to paint.

As noted above, LILLEbaby is entitled to a presumption of nexus. But a presumption may be overcome. Respondents point to specific facts in the record that they contend defeat a showing of nexus between LILLEbaby's commercial success and the novel features of the patent. *See WBIP, LLC*, 829 F.3d at 1329 ("The presumption of nexus is rebuttable: a patent challenger may respond by presenting evidence that shows the proffered objective evidence was due to extraneous factors other than the patented invention."). RIB at 73-74. Respondents contend that LILLEbaby's own evidence of commercial success ties that success to features either present in the prior art or not covered by the patent and thus cannot be the basis for objective indicia of nonobviousness. *Id.* (citing *Tokai Corp. v. Easton Enterprises, Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) ("If commercial success is due to an element in the prior art, no nexus exists.")).

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Respondents argued that testimony about “how many ways you can wear” the carrier and “how well it can fit” people of different sizes from LILLEbaby’s witness for commercial success, Ms. Przbylski, undercuts a presumption of nexus. But I find those features are tied at least in part to the configurability enabled by the invention of the ’116 patent. LILLEbaby’s economics expert, Dr. Stec, testified that in his opinion, the patented features drive the financial success enjoyed by LILLEbaby’s domestic industry products. Tr. at 1304:14-1306:4, 1305:14-17; *see also* Tr. at 1248:2-23. He based that opinion on hearing the testimony of how the domestic industry products practice the claimed invention, as well as on a conversation with LILLEbaby’s technical expert Mr. Myers. *See* Tr. at 1306:24-1307:14; *see also* 1247:24-1249:11, 1249:19-1250:7, 1306:24-1307:14 (Mr. Myers testimony that he advised Dr. Stec on how the patented technology is important to the DI Products.), 1248:24-1249:11 (Myers testimony that claimed invention enabled consumers to “user the carrier longer, for more configurations, and basically have a more well-rounded experience with the product.”). Dr. Stec further testified that the invention of the ’116 patent enables a carrier to “last approximately 2½ to maybe 3½ more years than” the 18 months that many infant carriers can be used, and consumers would place high value on the versatility and longer carrier lifespan, relative to non-patented carriers, in any purchase of the COMPELET Original. Tr. at 1305:22-24, 1306:5-23. Respondents’ economic expert Dr. Seth provided no contrary evidence. Given the above, Respondents’ have failed to rebut the presumption of nexus between LILLEbaby’s commercial success and the claimed invention.

Respondents correctly note that Ms. Przbylski cited a number of unpatented features to explain the success of the LILLEbaby’s COMPLETE Original, such as the “adjustability of the height of the carrier” whether an infant “insert” is needed, and fabric choices. JX-0319C at 110:1-111:10; Tr. at 1304:14-1305:11. I find the influence of those features on the success of the

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LILLEbaby's product in the marketplace, if any, does not overcome the evidence recited above supporting a nexus.

After reviewing the record and considering the arguments advanced by the parties, I find that LILLEbaby has shown moderate commercial success tied to the novel features of the invention protected by the '116 patent. But the commercial success is not strong, however, so I afford this factor little weight.

c) Industry Praise

"Evidence that the industry praised . . . a product that embodies the patent claims weighs against an assertion that the same claimed invention would have been obvious." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1053 (Fed. Cir. 2016) (*en banc*). Underlying this doctrine is the idea that "[i]ndustry participants, especially competitors, are not likely to praise an obvious advance over the known art." *Id.*

LILLEbaby offered testimony that its products have won numerous industry awards through the testimony of Dr. Stec and Ms. Lehan. *See* Tr. at 128:1-14, 1298:10-20, 1303:4-1304:8. But LILLEbaby did not enter any documentary evidence supporting this testimony into the record; it only points to demonstrative CDX-0265, which is not evidence.

LILLEbaby also cites two market research reports commissioned by respondents Ergo and Infantino, respectively. *See* JX-0460C (Ergo report), JX-0446C (Infantino report). These reports indicate that LILLEbaby products are viewed as premium products by consumers, with a high consumer satisfaction rate. *See, e.g.*, Tr. at 1298:10-1300:11; JX-0460C:0012. In an obviousness analysis, evidence of satisfaction by *customers* is not as probative as praise from other *industry competitors*. Consumers may be satisfied with any number of obvious products, but "[i]ndustry participants, especially competitors, are not likely to praise an obvious advance over the known

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art.” *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1053 (Fed. Cir. 2016) (*en banc*). The *consumer* views cited by LILLEbaby are at best marginally probative, and I give them little weight.

Respondents attempt to overcome LILLEbaby’s presumption of nexus between the alleged praise in the two market reports and the novel features of claim 18, claiming that both reports discuss unclaimed features and are otherwise insufficiently specifically tied to claimed features. *See* RIB at 75-76. With respect to the Ergo report, I agree that the report makes no clear mention of any of the claimed features of the ’116 patent, which cuts against LILLEbaby’s position. But the Infantino report cites “six-position . . . and adjustab[ility] for child’s growth” as features most often valued by consumers in LILLEbaby’s products, both of which are aspects of the invention in claim 18. *See* Tr. at 1301:22-1302:16

In sum, although LILLEbaby presented some uncorroborated testimony of industry praise, in general its evidence on this point is weak and minimally probative, I afford this factor little weight.

d) Copying

“Copying requires proof of replication of a specific product, not just the making of a product that arguably falls within the scope of the patent’s claims.” *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004).

LILLEbaby relies on the statement that Ergo used LILLEbaby’s product as “inspiration” to create an accused product. *See* Tr. at 814:13-17 (“Did Ergobaby identify the LILLEbaby COMPLETE product as the inspiration fo its Omni 360 carrier in the concept brief labeled as a Swiss Army carrier? A: Yes”) JX-0461C at 0004 (“Inspiration: Newborn-ready carriers with forward-facing option and adjustability for newborn stage” listing “Babybjorn One, LILLEbaby Complete, and Becco Gemini”). Ergo’s Mr. Telford testified that the “inspiration” taken from

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LILLEbaby was the idea of “getting a newborn ready carrier that could front outward face, front-inward face, hip carry and back carry.” Tr. at 811:21-24 (product described in JX-0461C, “Swiss Army”, became Omni 360), 830:1-8. In a vacuum, JX-0461C might be probative of copying. But as context makes clear, several of the Ergo accused products allegedly copied were already on the market by the time of the alleged copying. See JX-0461C at 0001 (“360 launch has been a great success in US”), :0002 (new carrier will “eventually replace all our 360 SKUs”), :0003 (“Swiss Army is meant to eventually replace our current 360 carriers.”). The Ergo 360 indisputably predates the evidence of alleged copying LILLEbaby does not explain this temporal inconsistency, nor why Ergo would need to copy LILLEbaby’s allegedly patented features if Ergo was already selling products having those features.

LILLEbaby also relies on testimony that Infantino purchased and reviewed one of LILLEbaby’s products. JX-0326C at 96:13-97:3. The same testimony states that Infantino regularly purchased “everybody’s baby carriers,” *id.* at 96:18-21, in order to do competitive analysis and benchmarking. *Id.* at 97:20-99:20. Although thin, this evidence is probative of potentially copying of by Infantino.

But “[a] showing of copying is only equivocal evidence of non-obviousness in the absence of more compelling objective indicia of other secondary considerations.” *Geo. M. Martin Co.*, 618 F.3d at 1305 (finding a patent owner’s reliance on an accused infringer’s internal memos suggesting copying to be “hardly compelling” because evidence of other secondary considerations, while present, was minimal) (quoting *Ecolchem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1380 (Fed. Cir. 2000)); see also *Am. Innotek, Inc. v. United States*, 128 Fed. Cl. 135, 167 (2016), *aff’d*, 706 F. App’x 686 (Fed. Cir. 2017). Given the weak evidence on which LILLEbaby relies, and the lack of more compelling evidence with respect to other factors, I accord little weight to this factor.

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e) Long Felt But Unmet Need

LILLEbaby contends the '116 patent solves a long-felt but unmet need in the industry, indicating its nonobviousness. CRB at 57. But LILLEbaby points to no competent evidence that supports that contention. “Long-felt need is analyzed as of the date of an articulated identified problem and evidence of efforts to solve that problem.” *Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993).

LILLEbaby points to a generic claim from the '116 patent that “[e]ach of the [prior art] infant carriers is designed for a limited carrying mode, i.e., on the back, the front, or the hip of the parent. Each is also designed for a limited age, limited weight, and limited size of child to be carried in the carrier.” CRB at 57¹¹ (quoting '116 patent at 1:6-14); *see also* '116 patent at 2:27-30 (“[p]revious carriers have been restricted in the configurations available for carrying the child.”). LILLEbaby’s subjecting statement in its own patent about a long-felt need has little probative value. Nothing in the patent explains when that need arose or how long it was felt. The patent cites no sources corroborating the supposed need. Moreover, “any number of patents contain boilerplate sentences in the background of the invention describing a need for” the problems allegedly being solved by the claimed invention, but such statements are often too vague to be given weight. *See Certain Strontium-Rubidium Infusions Systems, and Components Thereof Including Generators*, 337-TA-1110, Final Initial Determination (August 1, 2019) at 120, *aff’d in pertinent part*, Comm’n Opinion (December 11, 2019) (Public Version) (EDIS Doc. ID 696920) at 38.

¹¹ LILLEbaby also points to testimony from Ms. Lisbeth Lehan, the putative inventor, that LILLEbaby’s carriers were “received extremely well” in the marketplace by consumers and retailers, and that “competitors took notice.” CRB at 57. That testimony, at best, might go to the commercial success of the products, but it is not relevant to whether the industry in fact recognized a need prior to the invention, when that need arose, and how the invention resolved that need. *See Texas Instruments*, 988 F.2 at 1178.

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Nor does the prior art corroborate LILLEbaby's supposed long-felt or unmet need. As noted above, LILLEbaby says the art longed for carriers that were not restricted to a particular carrying mode. But Linday, a patent dated more than a decade before the '116 patent, said "[s]oft carriers are known in which an infant is supported on the front, side, or back of a wearer." Linday at 1:22-24; *see also id.* at 1:37-46. "The failure of the prior art to mention a problem may be due to the fact that in practice the problem is not a serious one or that a large number of satisfactory solutions is readily apparent." *See In re Gershon*, 372 F.2d 535, 539 (C.C.P.A. 1967).

The record shows LILLEbaby's so-called need was not a serious need in the art. I find no evidence in the record of when the alleged need arose, how long it was felt, how others failed, or how the invention claim 18 solved it. *See Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1332 (Fed. Cir. 2009). Those deficiencies are fatal to LILLEbaby's argument on this point.

I also find that the invention in claim 18 was, at best, an incremental change over the prior art. *See supra* part VI.A.3.a) (finding Linday anticipated claim 18); *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1374 (Fed. Cir. 2018) ("where there is little difference between the prior art and the patented invention "it cannot be said that any long-felt need was unsolved."). This undercuts a finding of a long-felt need.

Viewing the evidence as a whole, I give this factor no weight in my analysis of obviousness.

f) Licensing

Although LILLEbaby indicated in its prehearing brief it would put forth evidence of licensing as a secondary consideration, it did not present such evidence and argumentation in its post-hearing briefs. The argument is therefore abandoned.

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g) Simultaneous Invention

Respondents allege near-simultaneous invention by Lindblom (RX-404) and Kim (RX-403) as a secondary indication that the invention of claim 18 is indeed obviousness. RIB at 77 (citing *Geo. M. Martin Co.*, 618 F.3d at 1304-05). Lindblom, published March 19, 2009, and Kim, published January 28, 2010, both published too late to qualify as prior art to the '116 patent under the pre-AIA patent statute. But Respondents allege that, based on their application dates and content, they are probative evidence of near-simultaneous invention. RIB at 77.

“The fact of near-simultaneous invention, though not determinative of statutory obviousness, is strong evidence of what constitutes the level of ordinary skill in the art.” *The Int’l Glass Co. v. United States*, 408 F.2d 395, 405 (1969). “[T]he possibility of near simultaneous invention by two or more equally talented inventors working independently, . . . may or may not be an indication of obviousness when considered in light of all the circumstances.” *Lindemann Maschinefabrik GmbH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1460 (Fed. Cir. 2010). In order to show simultaneous invention, the proposed simultaneous inventions must disclose the entire claimed invention at issue. *Endo Pharm. Inc. v. Actavis LLC*, 922 F.3d 1365, 1378 n. 14 (Fed. Cir. 2019).

(1) Lindbloom (RX-404)

Lindblom, RX-404, is an international patent application with an international publication number WO 2009/034233 A1, filed on September 12, 2008, and claiming priority to September 13, 2007. Figure 1 from Lindblom is reproduced below.

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RX-404 at Fig. 1.

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only a year later than the earliest possible reduction-to-practice date of the claimed invention, qualified as a simultaneous invention.”).

There is no dispute that the inventors of Lindblom conceived of their invention independently from Ms. Lehan.

Regarding the content of Lindblom, LILLEbaby, Respondents, and Staff do not dispute that Lindblom discloses most of the limitations of claim 18. *See* CRB at 59; SIB at 90, RIB 78-82. The only dispute is over limitations 18d2 and 18d3, which concern configurations in which the upper-leg-support parts do “not support” the child’s thighs. Based on the arguments and evidence put forward by Respondents, I find Lindblom discloses those element and all other elements of claim 18. *See* RIB 78-82.

LILLEbaby and Staff counter Respondents’ position by pointing to Lindblom’s teaching that a child should be carried “ergonomically” with support for “the child’s thighs down to the knee” as evidence that Lindblom always supports the child’s thighs. RX-0404 at 1:14-15. cursory examination of Lindblom overcomes this argument.

Lindblom explicitly discloses that the upper-leg-support part can be folded away or removed entirely, creating a narrow-seat configuration in which those parts provide zero support for the thighs. RX-0404 at 3:4-23 (“the widening sections can be attached on the outside of the carrying section when not in use, or, if removable, they can be placed in a different pocket or the carrier or temporarily in a handbag”). LILLEbaby does not address this teaching of Lindblom. CRB at 59.

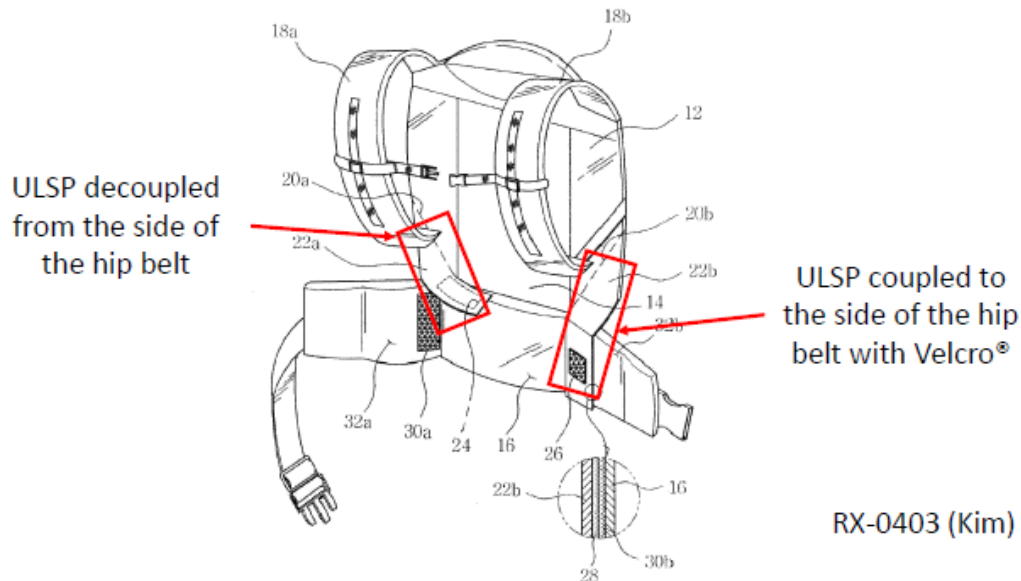
I find Lindblom discloses all of the elements of claim 18 and was invented independently but nearly simultaneously with the invention of ’116 patent.

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(2) Kim (RX-403)

Kim (RX-0403) was filed as a patent application on February 22, 2008, in South Korea.

RX-0403 at 1. LILLEbaby is the current rights holder for the patent. *Id.*



RX-0403 (Kim) at Fig. 1

RX-0403 at Fig. 1 (annotated).

LILLEbaby makes the same argument concerning Kim's date as it did with Lindblom, arguing that Kim is dated "almost two months after LILLEbaby's priority date." CRB at 58. As noted above, this is legally erroneous: simultaneous invention requires only that the inventions occur "within a comparatively short span of time." *See Geo. M. Martin Co.*, 618 F.3d at 1305-1306. The argument is further flawed with respect to Kim because LILLEbaby's priority date, as I find it, is after Kim's. *See supra* part VI.A.1.

As with Lindblom, LILLEbaby and Staff do not dispute that Kim discloses every element of claim 18 other than limitations 18d2 and 18d3's requirement of a "not support" configuration. CRB at 59; SIB at 94. I find that Kim does not disclose, by clear and convincing evidence, a "not support" configuration. Although Kim's disclosure is remarkably similar to that of claim 18 of the '116 patent, there is no teaching in Kim that the upper-leg-support parts, when folded in, do

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not support the thighs of the child. Mr. Kenmitzer's testimony to that end is necessarily speculative and not adequately supported in the record. Tr. at 1121:6-1122:4.

I find that Kim was invented nearly simultaneously and independently of the '116 patent. However, Respondents have not shown by clear and convincing evidence that Kim discloses all of the elements of claim 18.

(3) Conclusion

Respondents have shown near-simultaneous invention of the full scope of claim 18 with respect to Lindblom. Near-simultaneous invention is weak evidence of obviousness, however, and I afford this factor little weight. *See Lindemann Maschinenfabrik GMBH v. Am. Hoist & Derrick Co.*, 730 F.2d 1452, 1460 (Fed.Cir.1984) ("Because the statute, 35 U.S.C. § 135, . . . recognizes the possibility of near simultaneous invention by two or more equally talented inventors working independently, that occurrence may or may not be an indication of obviousness when considered in light of all the circumstances.").

Taken as a whole, the secondary evidence of obvious and non-obviousness is so weak that it does not tip the scale one way or another in my analysis.

5. Conclusion

Considering together the prior art, the knowledge of skilled artisans, and the secondary evidence of obviousness and nonobvious, I find that claim 18 is obvious in light of Linday but no other proposed prior art. *See Eli Lilly & Co. v. Perrigo Co.*, 718 F. App'x 953, 956 (Fed. Cir. 2017) (affirming finding of obviousness where panel was "satisfied that the district court thoroughly considered all the arguments and evidence presented before reaching its decision"); *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d at 1079 (same).

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I also find that claim 18 is invalid as anticipated by Lindsay.

B. Indefiniteness

Respondents and Staff argue that, under LILLEbaby's construction of "not support," claim 18 is rendered indefinite. RIB at 85-88; SIB at 94-97. Because I find that LILLEbaby's construction is erroneous, *see supra* part V.A, Respondents and Staff have not met their burden of showing by clear and convincing evidence that claim 18 is indefinite.

VII. UNENFORCEABILITY

I have determined the '116 patent is unenforceable because of inequitable conduct during prosecution of the patent application.

When the application that matured into the '116 patent was filed, the inventor Lisbeth Lehan and her husband Stephen Lehan each signed and filed with the Patent Office a declaration stating that each was an original inventor of the invention disclosed in the application. JX-0002 ('116 file history) at COMPL000045-48; RX-0077 (file history excerpt); *see also* JX-0002:46-51. Lisbeth Lehan signed her name in a section labeled "Sole or First Inventor," just below the words "Inventor's Signature." *Id.* at COMPL000047. Stephen Lehan signed his name in a section labeled "Additional Joint Inventor," right next to the words "Inventor's Signature." *Id.* at COMPL000048. In the declaration, both Lisbeth Lehan and Stephen Lehan "acknowledge[d] the duty to disclose information which is material to patentability," and stated that their statements "are true" and are "made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment . . . and that such willful false statements may jeopardize the validity of the application or any patent issued thereon." *Id.*; Tr. at 142:6-9, 142:23-144:9, 191:25-192:15. The declaration also states that the collection of inventorship information "is required by 35 U.S.C.

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§ 115 and 37 CFR § 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application.” RX-0077.

It is undisputed that Stephen Lehan was not an inventor, and that, consequently, the declaration signed and submitted by both Lisbeth Lehan and Stephen Lehan was false. Tr. at 131:19-21, 140:19-25, 141:25-142:2, 144:3-9. Indeed, Lisbeth Lehan admitted on the stand that her husband made no contribution to the invention. Tr. at 131:19-21. And Stephen Lehan testified unambiguously that he *knew* he was not an inventor of the invention underlying the ’116 patent when he signed the declaration. Tr. at 191:20-193:1 (“Q:... [A]t the time you signed this declaration . . . you knew that you had not invented any child carriers? . . . A: Correct. Q: And you knew at the time you signed this declaration that you had not contributed to the design of the child carrier claimed in the ’116 patent? A: Correct.”). In recognition of the falsehood in this affidavit, before filing the complaint in this investigation, the Lehans corrected inventorship to remove Stephen Lehan as an inventor pursuant to 35 U.S.C. § 256. JX-0002 (’116 file history) at COMPL000154-57.

This un rebutted evidence demonstrates that both Lisbeth Lehan and Stephen Lehan submitted an unmistakably false declaration to the USPTO. Such conduct is *per se* material, particularly where it pertains to inventorship. *See Outside the Box Innovations, LLC v. Travel Caddy, Inc.*, 695 F.3d 1285, 1290 (Fed. Cir. 2012) (“a false affidavit or declaration is *per se* material.”); *Therasense*, 649 F.3d at 1293 (materiality satisfied with “affirmative act[s] of egregious misconduct” such as “the filing of an unmistakably false affidavit”); *see also Advanced Magnetic Closures, Inc. v. Rome Fastener Corp.*, 607 F.3d 817, 830 (Fed. Cir. 2010) (affirming finding of inequitable conduct when named inventor “withheld highly material information when he concealed the most critical information: he was not the inventor he claimed to be”); *Caron v.*

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QuicKutz, Inc., 2012 WL 5497869, at *5 (D. Ariz. 2012) (finding inequitable conduct on summary judgment where plaintiffs falsely and knowingly included noninventors among inventors to secure financial support of noninventors), *aff'd sub nom. Caron v. Lifestyle Crafts, LLC*, 528 F. App'x 993 (Fed. Cir. 2013); *GS Cleantech Corp. v. Adkins Energy LLC*, No. 2016-2231, 2020 WL 989523, at *13 (Fed. Cir. Mar. 2, 2020).

There is also clear and convincing evidence that the Lehans intended to deceive the Patent Office by filing their false declaration. *See Outside the Box Innovations*, 695 F.3d at 1294. First, the record shows both of the Lehans had a clear motive for submitting the false declaration to the Patent Office. The Lehans both believed (albeit mistakenly) that having a U.S. citizen on the application would bolster the protection, strength, and permanence of the patents. Tr. at 195:17-196:1, 200:8-13.

At the hearing, the Lehans attempted to justify their false declaration by claiming they misunderstood the law and had conflated the relevance of citizenship to inventorship with the relevance of citizenship to the corporate ownership of LILLEbaby. *See* Tr. at 131:22-133:4, 197:11-15, 205:1-7. Based on my observation of the testimony, I did not find the hearing testimony of either of the Lehans to be credible on this topic. Their testimony at the hearing was contrary to Stephen Lehan's prior deposition testimony. In deposition, Mr. Lehan testified that "the only reason" he was listed as an inventor was "Lisbeth's non-U.S. citizenship" and that he was "not aware of any other reason," but at the hearing he testified the decision to name him as an inventor was "related to the ownership of the company" *See* Tr. at 195:5-196:6; *see also* Respondents' Motion for Leave to Amend Responses to the Complaint and Notice of Investigation, Exhibit 25 (Excerpts of Deposition of Stephen Boyer Lehan), at 102:21-103:23, (EDIS Doc. ID 684615, Attachment ID 1465444).

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The Lehans testified they didn't specifically recall discussing the requirements of inventorship with their experienced patent counsel, Dr. Morley Tobey. But neither did they affirmatively testify that they never had such a conversation. Dr. Tobey testified that it was his practice to inform his clients that a person must contribute to at least one element of one claim of the patent to be named as an inventor, and he had no reason to believe he did not follow his standard practice when advising the Lehans. JX-0317C at 48:20-49:4, 108:12-109:9. Indeed, Dr. Tobey later corresponded with the Lehans about correcting the details in another inventorship declaration, demonstrating a conscientiousness that supports his testimony about his normal practice. RX-0269. The most reasonable inference from the record is that Dr. Toby did explain the requirements for inventorship to the Lehans and they executed the false declaration anyway.

But even if the Lehans did not have actual knowledge of the law, that excuse is legally deficient. They were represented by counsel, and “[i]nventors represented by counsel are presumed to know the law.” *Brasseler USA I, v. Stryker Sales Corp.*, 267 F.3d 1370, 1385 (Fed. Cir. 2001); *Novo Nordisk Pharm., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1361 (Fed. Cir. 2005) (“‘knowledge of the law is chargeable to the inventor,’ and ‘inventors represented by counsel are presumed to know the law’”). The Lehans, then, are presumed to know the law of inventorship. The Lehans’ declaration averred facts that contradict that law, and the Lehans submitted that declaration intentionally.

Finally, I note that, for the reasons addressed in Order No. 26, the Lehans’ subsequent correction of inventorship pursuant to 35 U.S.C. § 256 affects only the *validity* of the patent; it cannot save the patent from *unenforceability* due to their inequitable conduct. *See* Order No. 26 at 8-12.

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The Lehans submitted a sworn declaration to the Patent Office, falsely attesting that Stephen Lehan was an inventor of the '116 patent. They did so despite knowing that Stephen Lehan had contributing nothing to the invention. They did it because they thought they would gain a benefit from including him as an inventor. Though their reason for engaging in the misconduct was a mistaken belief, the record is clear that the Lehans intentionally deceived the Patent Office by submitting a false declaration of inventorship. This is exactly the type of “egregious misconduct” contemplated by *Therasense*, and the '116 patent is unenforceable as a result. *See Therasense* at 1293; *Caron v. QuicKutz, Inc.*, 2012 WL 5497869, at *5.

VIII. INFRINGEMENT

LILLEbaby asserts only claim 18 of '116 patent. Although LILLEbaby previously asserted infringement under the doctrine of equivalents, because LILLEbaby's post-hearing brief does not address infringement under the doctrine of equivalents, that issue is deemed abandoned or withdrawn. Ground Rule 14.1.

Claim 18 of the '116 patent follows, with disputed limitations emphasized and annotations in square brackets:

[18p] A carrier for transporting a child by a transporting individual, comprising:

[18a] a **torso support part** configured to support the torso of the child placed in the carrier;

[18b] a left shoulder strap having **an upper and a lower left-strap ends** configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;

[18c] a right shoulder strap having **an upper and lower right-strap ends** configured for coupling to the torso support part at respectively an upper left coupling point and a lower left coupling point on the torso support part;

[18d1] a **seat support part coupled to the torso support part** and

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configured to support the posterior of the child,

[18d2] wherein the seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and **configurable to optionally support at least part of the left thigh of the child and otherwise not support the left thigh of the child** and

[18d3] a right upper-leg-support part disposed on the right side of the seat support part and **configurable to optionally support at least part of the right thigh of the child and otherwise not support the right thigh of the child**; and

[18e] a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual,

[18f] wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.

'116 patent at cl. 18 (emphasis added).

During the evidentiary hearing in this investigation, the parties agreed to use JPX-0001, a so-called "David Doll," to demonstrate infringement or non-infringement of various carriers. The parties agree that a David Doll is the standard device used in the industry for testing child carriers. During the hearing I observed many demonstrations of witnesses using carriers with the JPX-0001 David Doll. Based on my observations at the hearing, and for the following reasons, I find that none of the accused products infringe claim 18 of the '116 patent.

A. Ergo and Tula Accused Carriers

LILLEbaby provides a limitation-by-limitation analysis of each of the accused Ergo and Tula carriers. CIPB at 26-86. Ergo and Tula's non-infringement positions relate to every Ergo and Tula carrier. *See* chart above, CIPB at 25-26. The disputed limitations are discussed below.

LILLEbaby has failed to show by a preponderance of the evidence that the Ergo and Tula accused carriers infringe claim 18, because as noted above LILLEbaby has failed to show the

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accused products not practice the limitation related to carrier configurations in which the upper-leg-support parts do not support the child's legs.

1. [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Ergo and Tula products are carriers for transporting a child, in accordance with the preamble 18p.

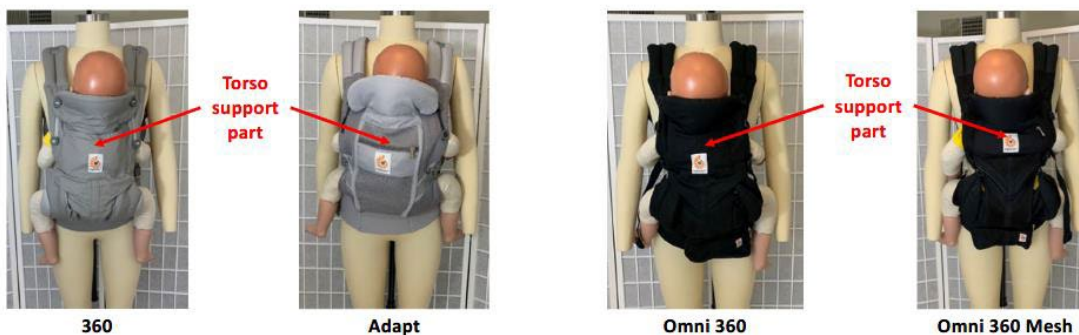
2. [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Each of the Tula and Ergo accused products has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following images:

'116 Patent, Claim 18: Torso Support Part

CDX-0054

a torso support part configured to support the torso of the child placed in the carrier;



Ergo's Infringement of Claim 18 of the '116 Patent

JPX-0002 to JPX-0005

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'116 Patent, Claim 18: Torso Support Part

CDX-0108

a torso support part configured to support the torso of the child placed in the carrier;



Omni Alternate



Explore Alternate

Infringement by Ergo's Omni Alternate and Tula's Explore Alternate

JPX-0027, JPX-0028

'116 Patent, Claim 18: Torso Support Part

CDX-0069

a torso support part configured to support the torso of the child placed in the carrier;



Free to Grow



Explore

Tula's Infringement of Claim 18 of the '116 Patent

JPX-0010, JPX-0011

a torso support part configured to support the torso of the child placed in the carrier;



Omni Alternate



Explore Alternate

Infringement by Ergo's Omni Alternate and Tula's Explore Alternate

JPX-0027, JPX-0028

See Tr. at 473:17-24, JPX-0005, JPX-0046 at 03:18-03:39 (360); Tr. at 479:4-11, JPX-0002, JPX-0047 at 02:19-02:40 (Adapt); Tr. at 484:15-22, JPX-0003, JPX-0048 at 03:04-03:23 (Omni 360); Tr. at 489:21-490:3, JPX-0004, JPX-0049 at 03:17-03:38 (Omni 360 Mesh); Tr. at 539:17-23, JPX-0027, JPX-0050-0053 at 1:02:16-1:02:37 (Omni Alternate); CDX-0054; CDX-0108; Tr. at 499:1-8, JPX-0010, JPX-0050-0053 at 09:16-09:39 (Free to Grow); Tr. at 505:13-20, JPX-0011, JPX-0050-0053 at 19:54-20:15 (Explore); Tr. at 540:23-541:4, JPX-0028, JPX-0050-0053 at 1:10:20-1:10:36 (Explore Alternate); CDX-0069; CDX-0107.

Ergo and Tula argue that their accused products do not meet this limitation. See RRB at 14-15. “Part,” according to Ergo and Tula, must be a “defined, physical, structural element” and cannot be “an area, portion, or region.” RPHB at 197-200. But this proposed definition is contrary to how the word is used elsewhere in claim 18, as in “optionally support at least part of the left thigh of the child.” See ’116 patent at claim 18; *id.* at 10:5-6 (“the seat support part 120 configured to encircle at least part of the torso of the transporting individual.”); Tr. at 872:12-875:2. This definition would also be contrary to my previous construction of “coupled to” as allowing for a

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unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11. Ergo and Tula’s arguments concerning their proposed alternative construction of “coupled to” are likewise rejected for the reasons laid out in Order No. 34.

I find that the Ergo and Tula products meet limitation 18a.

3. [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

LILLEbaby has failed to meet its burden of showing that the Tula and Ergo practice limitations 18b and 18c. Though it is indisputable that each of the Tula and Ergo accused carriers have left and right straps, LILLEbaby has not provided substantial evidence that the Tula and Ergo accused carriers have “upper strap ends” or that those ends are “configured for coupling” to the torso support part at “an upper [left/right] coupling point.”

Rodney Telford, the designer of the Ergo and Tula carriers, gave un rebutted testimony that the accused Ergo and Tula carriers were constructed such that the torso support part is constructed of a “single piece of fabric” running from (and including) the shoulder straps down through the main panel. Tr. at 773:2-11, 774:6-19. In that vein, Respondent’s expert Dr. Brookstein explained that, as a result, there is no “upper strap end” because the straps “went right to the main panel as part of the strap.” *Id.* at 838:3-839:3. Because the straps have no upper “terminating portion,” the strap ends could not be configured for coupling to an upper coupling point. *Id.* at 838:21-839:3.

LILLEbaby’s expert, Mr. Myers, was not credible on the topic of strap ends, and I give his testimony little weight. In addition to his flawed testimony concerning the structure and function of the shoulder straps of the Infantino harness-style carriers, addressed below, Mr. Myers opinions concerning the Ergo and Tula carriers was inconsistent. Prior to the hearing, Mr. Myers had identified the coupling point on the Ergo carriers as a point on the upper left portion of the torso

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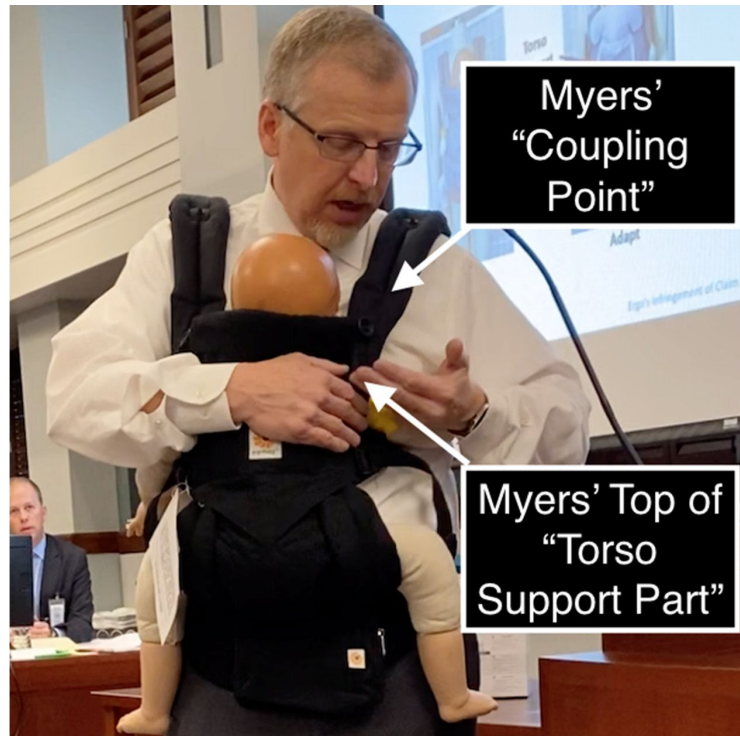
support part, but by the time of the hearing, he had changed his opinion to identify a line sewn on the strap material as both the upper strap end and the coupling point.



RRB at 18; *see* Tr. at 597:3-24.

Mr. Myers testimony was also internally inconsistent at the hearing. Limitations 18b and 18c require a “coupling point *on* the torso support part.” ’116 patent, claim 18. At the hearing, Mr. Myers identified the “torso support part” of each accused Ergo and Tula carrier as the region “from the top of the child’s legs up to just above the child’s shoulder.” Tr. at 484:15-22; *see also id.* at 473:17-24, 479:4-11, 489:21-490:3, 499:1-8, 505:13-20, 536:17-23, 540:23-541:4. But the coupling point Mr. Myers identified was not “on” the torso support part he identified; it was in a different region.

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See JPX-0048, 3:17 (annotated image above from RRB at 19 depicting Myers testimony regarding Omni 360); *see also* JPX-0046, 3:33, JPX-0047, 2:33, JPX-0049, 3:34, JPX-0050, JPX-0050, 9:31, JPX-0050-53, 1:02:31, JPX-0053, 1:10-31.

LILLEbaby's theories of infringement, as embodied by Mr. Myers' testimony, are also legally deficient. On multiple occasions, when asked to identify the upper coupling point on accused products, Mr. Myers pointed to what he described as "essentially the unitary sewn construction that couples the strap to the torso." Tr. at 480:4-8; *see, e.g., id.* at 490:24-491:13, 537:18-23. A sewn line on an otherwise continuous piece of fabric is not an "end" or "terminating portion" of a strap, as the parties agreed was the plain and ordinary meaning of the term. *See* Order No. 34 at 17-18. Even under Mr. Myers' definition of a strap, discussed *infra* parts V.B, VIII.B.1.c), LILLEbaby provided no evidence that the identified sewn lines would constitute the "terminating portion" of such a strap. *See* CRB at 17 (shoulder strap is identified by "what part of the carrier helps share the load of the child"). A single line of stitching on an otherwise continuous

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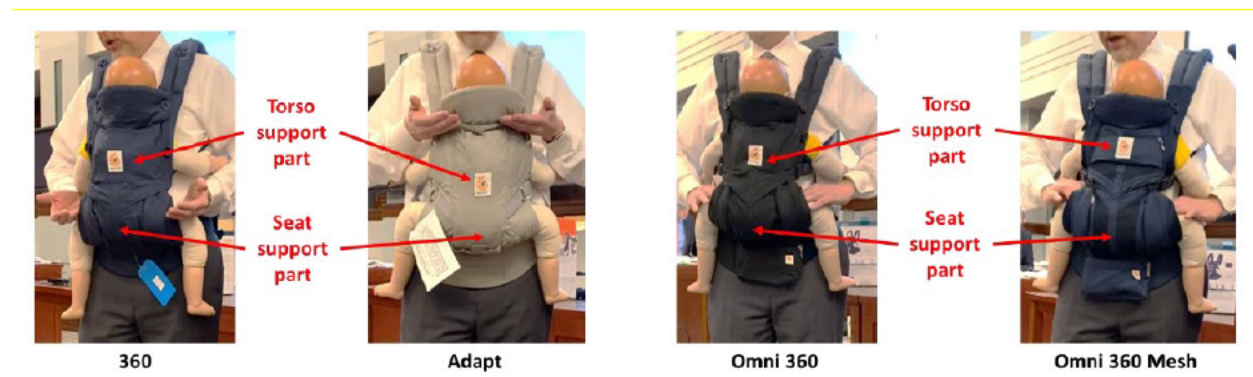
piece of material does not prevent any transference of force or cut off the “sharing of the load,” as would be required to demonstrate the “terminating portion” of a strap under Mr. Myers’ definition.

Upon review of the record as a whole, I find that the Ergo and Tula accused carriers do not have left and right upper strap ends, as that term is used in claim 18 of the patent, because the straps have no terminating portion. *See* Tr. at 838:3-839:3. Because the straps have no upper ends, the ends cannot be “configured for coupling” to an upper coupling point. *See id.* at 838:21-839:3. I additionally find that the accused Ergo and Tula carriers do not have “upper coupling points” on their torso support parts.

LILLEbaby has failed to meet its burden of showing that the accused Ergo and Tula carriers have either upper “strap ends” or “upper coupling points,” and thus has failed to show those carriers practice limitations 18b and 18c.

4. [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

Each of the Tula and Ergo accused products has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following images:



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Omni Alternate



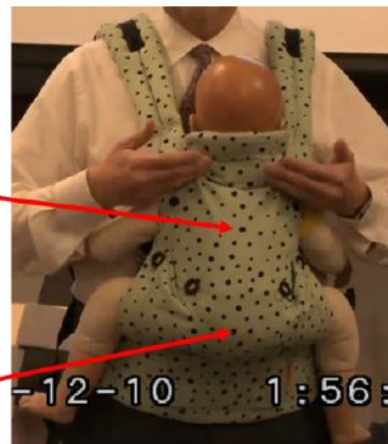
Explore Alternate



Tula Free to Grow

Torso support part

Seat support part



Tula Explore



Omni Alternate



Explore Alternate

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See CIB at 51-52; *see* Tr. at 475:11-19, JPX-0005, JPX-0046 at 05:49-06:19 (360); Tr. at 480:21-481:6, JPX-0002, JPX-0047 at 04:13-04:48 (Adapt); Tr. at 486:5-13, JPX-0003, JPX-0048 at 04:56-05:22 (Omni 360); Tr. at 491:14-23, JPX-0004, JPX-0049 at 05:24-05:53 (Omni 360 Mesh); Tr. at 538:9-16, JPX-0027, JPX-0050-0053 at 1:04:22-1:04:48 (Omni Alternate); Tr. at 500:24-501:21, JPX-0010, JPX-0050-0053 at 11:32-12:32 (Free to Grow); Tr. at 507:12-19, JPX-0011, JPX-0050-0053 at 22:13-22:33 (Explore); Tr. at 542:12-20, JPX-0028, JPX-0050-0053 at 1:12:07-1:12:31 (Explore Alternate); CDX-0113.

Ergo and Tula argue that their accused products do not meet this limitation. *See* RRB at 20-21. “Part,” according to Ergo and Tula, must be a “defined, physical, structural element” and cannot be “an area, portion, or region.” RRB at 21 (incorporating discussion of limitation 18a). But as noted above, this proposed definition is contrary to how the word is used elsewhere in claim 18. *See* ’116 patent at claim 18; *id.* at 10:5-6 (“the seat support part 120 configured to encircle at least part of the torso of the transporting individual.”); Tr. at 872:12-875:2. This definition would also be contrary to my previous construction of “coupled to” as encompassing a unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11. Ergo and Tula’s arguments concerning their proposed alternative construction of “coupled to” are likewise rejected for the reasons laid out in Order No. 34.

- I find that the Ergo and Tula products meet limitation 18d1.

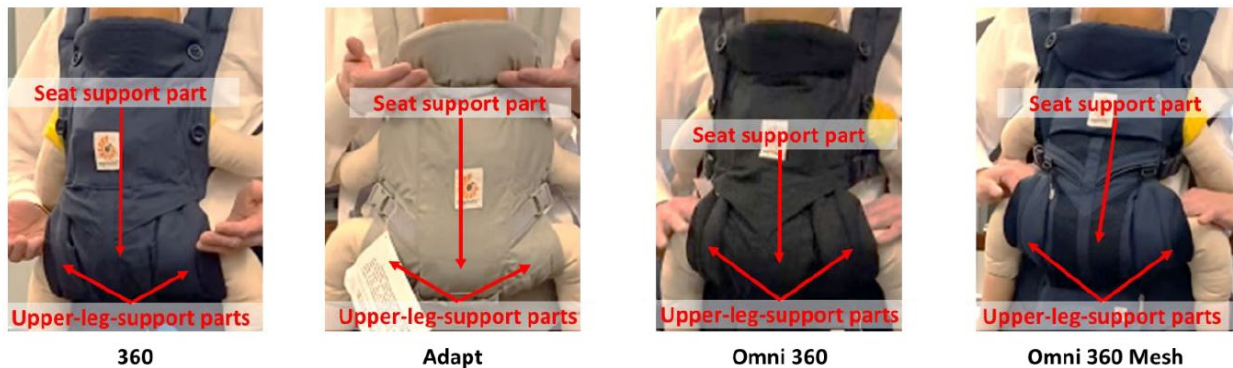
5. [18d2]/[18d3] “wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and”

As discussed above, the Ergo and Tula accused products have seat support parts. *Supra* part VII.A.4. Although Ergo and Tula argue in passing that LILLEbaby “made no effort to try to define the boundaries of the required ‘upper-leg support part,’” they provide no argumentation to

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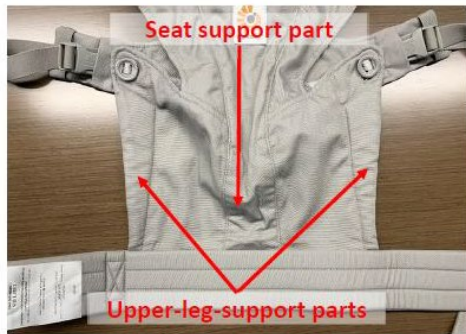
support this contention. *See* RRB at 22-23. Ergo and Tula do not dispute that their accused carriers are configurable to support at least part of the left and right thighs of the child (though they dispute such support is “optional”, as discussed below).

The accused Ergo and Tula products have left and right upper leg support parts disposed on the left and ride sides of the seat support part. *See* Tr. at 475:20-476:4, JPX-0005, JPX-0046 at 06:19-06:44 (360); Tr. at 481:7-14, JPX-0002, JPX-0047 at 04:48-05:08 (Adapt); Tr. at 486:14-23, JPX-0003, JPX-0048 at 05:22-05:48 (Omni 360); Tr. at 491:24-492:7, JPX-0004, JPX-0049 at 05:53-06:19 (Omni 360 Mesh); Tr. at 538:17-539:1, JPX-0027, JPX-0050-0053 at 1:04:48-1:05:17 (Omni Alternate); Tr. at 501:22-502:4, JPX-0010, JPX-0050-0053 at 12:32-12:59 (Free to Grow); Tr. at 507:20-508:7, JPX-0011, JPX-0050-0053 at 22:33-23:05 (Explore); Tr. at 542:21-543:2, JPX-0028, JPX-0050-0053 at 1:12:31-1:12:51 (Explore Alternate); CDX-0076; CDX-0115.



JPX-0046 at 6:11; JPX-0047 at 4:40; JPX-0048 at 5:14; JPX-0049 at 5:39 (annotated).

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Omni Alternate



Explore Alternate

CDX-0115 (showing JPX-0027 and JPX-0028).

The Ergo and Tula accused products' upper-leg-support parts likewise can be configured to optionally support the left and right thighs of the child. *See* Tr. at 476:5-15; JPX-0005, JPX-0046 at 06:44-07:15 (360); Tr. at 481:15-482:1, JPX-0002, JPX-0047 at 05:08-05:41 (Adapt); Tr. at 486:24-487:11, JPX-0003, JPX-0048 at 05:49-06-20 (Omni 360); Tr. at 492:8-20, JPX-0004, JPX-0049 at 06:19-06:53 (Omni 360 Mesh); Tr. at 539:2-8, JPX-0027, JPX-0050-0053 at 1:05:17-1:05:35 (Omni Alternate); CDX-0062; Tr. at 502:5-19, JPX-0010, JPX-0050-0053 at 12:59-13:33 (Free to Grow); Tr. at 508:8-20, JPX-0011, JPX-0050-0053 at 23:23-23:38 (Explore); Tr. at 543:3-14, JPX-0028, JPX-0050-0053 at 1:12:51-1:13:17 (Explore Alternate); CDX-0077; CDX-0116.



360



Adapt



Omni 360



Omni 360 Mesh

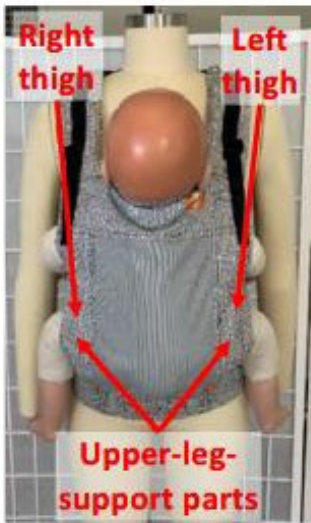
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Explore Alternate



Omni Alternate



Free to Grow



Explore

See CIB at 63-64.

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a) “Not support”

In addition to the limitations laid out above, limitations 18d2 and 18d3 require that “the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right] side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the [left/right] thigh of the child.” ’116 patent at claim 18.

Respondents and Staff (and, as a result, LILLEbaby in reply), heavily briefed arguments about whether LILLEbaby’s infringement contentions are predicated on significant uncharacteristic uses of the accused products that do not amount to infringement. *See* RRB at 22-31; CIB at 71-76; SIB at 33-47; *compare High Tech Medical Instrumentation, Inc. v. New Image Industries, Inc.*, 49 F.3d 1551, 1556 (1995), *with Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1370 (Fed. Cir. 2009). I need not settle this issue. Even assuming that the configurations LILLEbaby relies upon are contrary to the Respondents’ user manuals, LILLEbaby has failed to adduce evidence that those configurations have every element of claim 18.

(1) LILLEbaby’s Evidence Relies on an Improper Construction of “Not Support”

Throughout its presentation of evidence, LILLEbaby used an erroneous construction of “not support.” As noted above, LILLEbaby argues that “not support” is satisfied when the carried child’s legs “hang down.” Based on this erroneous construction, LILLEbaby presented evidence only that in certain configurations of the accused products, the carried child’s legs are “not support[ed]” because the legs hang down. *See, e.g.*, Tr. at 349:3-9 (testimony of LILLEbaby CEO Jeff Colton that “the legs are pretty well supported” in the wide seat configuration of the domestic industry products, but “the legs are hanging” in the narrow seat configuration of the domestic industry products).

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Pursuant to this understanding, LILLEbaby performed no empirical or objective testing to analyze the interaction of the accused carrier's upper leg support parts and the carried child's thighs. Tr. at 72:9-24, 582:14-583:12. But as addressed above, *supra* part V.a, "hanging down" is not the plain and ordinary meaning of "not support." LILLEbaby's evidence, which relies on the allowance of *some* support and/or the position of the carried child's legs, rather than *any* testimony or empirical evidence concerning the physical interaction of the carried child's thighs and the upper-leg-support parts, is thus deficient.

Ultimately, neither LILLEbaby nor its experts staked out a clear position on what "support" means. LILLEbaby argues that "support occurs when the uplifting force (or pressure) exerted on a child's thighs *exceeds* the force of gravity." CIPB at 70 (emphasis added). Aside from being at odds with its proposed definition of support based on leg position, LILLEbaby's argument is contrary to basic physics, namely Newton's first law of motion. I take judicial notice that Newton's well-established first law indicates that an object at rest will stay at rest unless acted upon by an unbalanced force. If the "uplifting" force on a child's thigh "exceeds" the force of gravity, the child's leg would experience an unbalanced force and would not remain at rest; it would be moving away from the earth. That is not what "support" means in the context of claim 18.

Upon review of the record, including the physical carriers and David Doll and my observation of the live demonstrations of the child carriers at the hearing, I find that LILLEbaby has failed to demonstrate by a preponderance of the evidence that any of the accused carriers practices limitations 18d2 and 18d3 because it has failed to show the carriers are configurable to "not support" the thigh of the child.

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I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child's thighs by the upper-leg-support parts. *See* JPX-0046 at 9:09 (Ergo 360), JPX-0047 at 8:10 (Ergo Adapt), JPX-0050-0053 at 3:56 (Omni 360 Mesh), JPX-0048 at 8:28 (Omni 360), JPX-0050-0053 at 15:42 (Free-to-Grow), JPX-0050-0053 at 25:49 (Explore), JPX-0050-0053 at 1:07:19 (Omni Alternate), JPX-0050-0053 at 1:14:48 (Explore Alternate); *see also Markman* Tr. at 195:20-196:3 (all parties agree that “the thigh run(s) from the patella to the hipbone”).

(2) LILLEbaby Switches Left and Right

Finally, as Respondents correctly note, claim 18 requires the “left upper-leg-support part” to support/not support the “left thigh of the child,” and the “right upper-leg-support part” to support/not support the “right thigh of the child.” RRB at 36-37. Regardless of any disputed conventions in the industry concerning how left and right are defined, *compare* Tr. at 23:7-27:4, 388:18-389:14, 447:7-448:16, *with id.* at 592:3-8, claim 18 is very clear that the “left upper-leg-support part” is the portion that must support or not support the left thigh *of the child*. Likewise for the “right upper-leg-support part.” No one argues that the left thigh *of a child* is determined from the perspective of an observer other than the child.

All of LILLEbaby's evidence of “support” configurations presented at the hearing involved carrying the child facing inwards, and all of its evidence of “not support” configurations involve carrying the child facing outward. If such a combination of configurations could prove infringement, every carrier that allowed both front facing-in and front facing-out configurations would meet the claim limitation, because simply turning the child about face ensures that the left leg is not supported by the right leg-support-part and vice versa. The disclosures of the patent, and the claim itself, require that the same physical upper-leg-support part—left or right as defined by

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the child's thigh in question—be configurable to both support and not support the same left or right thigh of the child. Because all of LILLEbaby's evidence of "configurable to optionally support ... and otherwise not support" involved turning the David Doll about face, I find that LILLEbaby presented no evidence of the required "configurable" capability in any accused carrier.

I further find, based on my review of the record and my observations during the hearing, that the accused Ergo and Tula products in fact have no such combination of configurations. *See* JPX-0046 at 9:09 (Ergo 360), JPX-0047 at 8:10 (Ergo Adapt), JPX-0050-0053 at 3:56 (Omni 360 Mesh), JPX-0048 at 8:28 (Omni 360), JPX-0050-0053 at 15:42 (Free-to-Grow), JPX-0050-0053 at 25:49 (Explore), JPX-0050-0053 at 1:07:19 (Omni Alternate), JPX-0050-0053 at 1:14:48 (Explore Alternate).

6. [18e] "a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual"

The Ergo and Tula accused products each has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual and therefore practices limitation 18e. *See* Tr. at 477:9-16, JPX-0005, JPX-0046 at 09:07-09:32 (360); Tr. at 482:20-483:1, JPX-0002, JPX-0047 at 07:28-07:49 (Adapt); Tr. at 488:5-16, JPX-0003, JPX-0048 at 08:37-09:10 (Omni 360); Tr. at 497:3-10, JPX-0004, JPX-0050-79 0053 at 03:58-04:21 (Omni 360 Mesh); Tr. at 539:22-540:2, JPX-0027, JPX-0050-0053 at 1:07:15-1:07:31 (Omni Alternate); CDX-0065; Tr. at 503:17-24, JPX-0010, JPX-0050-0053 at 15:46-16:04 (Free to Grow); Tr. at 509:19-24, JPX-0011, JPX-0050-0053 at 25:49-26:04 (Explore); Tr. at 544:6-10, JPX-0028, JPX-0050-0053 at 1:14:50-1:15:05 (Explore Alternate); CDX-0080; CDX-0119.

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Ergo and Tula argue that their accused products do not meet this limitation based on their view of the word “part.” See RRB at 37-38. This argument fails for the reasons set forth in discussing limitation 18a. *Supra* part VII.A.2.

Tula further argues that the Free-to-Grow and Explore carriers (JPX-0010 and JPX-0011) cannot meet limitation 18e, because they do not “have a seat support part ‘coupled to’ the hip belt in any way more than ‘mere touching.’” RRB at 38. Tula explains that the main panel of the Tula

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carriers “slides along a webbing rail, and ‘merely touch’ the hip belt.” *Id.* This argument might have merit if it were an accurate description of those two carriers. But both the Free-to-Grow and Explore carriers have mating snaps on the hip belt and sleeve portion of the upper-leg-support parts (which are part of the seat support part). *See* JPX-0011 (Explore), JPX-0010 (Free-to-Grow); Tr. at 502:5-503:16, 508:8-509:18. Both carriers’ seat support parts are also stitched to the hip belt in the center of the hip belt. JPX-0010, JPX-0011; *see* CDX-0080. Either of those features alone would satisfy limitation 18e.

I find that the Ergo and Tula products meet limitation 18e.

7. [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

The Ergo and Tula accused products each has left and right upper-leg-support parts configured for coupling to the left and right sides of the hip belt, respectively, and therefore practice limitation 18f. *See* Tr. at 477:17-478:7, JPX-0005, JPX-0046 at 09:33-10:31 (360); Tr. at 483:2-9, JPX-0002, JPX-0047 at 07:49-08:06 (Adapt); Tr. at 488:17-489:1, JPX-0003, JPX-0048 at 09:10-09:47 (Omni 360); Tr. at 497:11-22, JPX-0004, JPX-0050-0053 at 04:21-05:06 (Omni 360 Mesh); Tr. at 540:3-10, JPX-0027, JPX-0050-0053 at 1:07:31-1:07:50 (Omni Alternate); CDX-0066; Tr. at 503:25-504:15, JPX-0010, JPX-0050-0053 at 16:04-16:58 (Free to Grow); Tr. at 509:25-510:14, JPX-0011, JPX-0050-0053 at 26:05-26:51 (Explore); Tr. at 544:11-19, JPX-0028, JPX-0050-0053 at 1:15:06-1:15:31 (Explore Alternate); CDX-0081; CDX-0120.

PUBLIC VERSION



360



Adapt



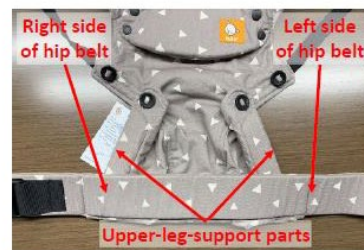
Omni 360



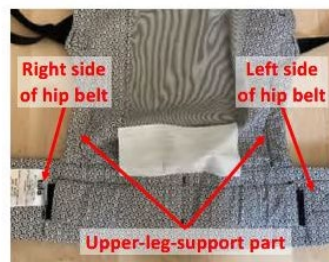
Omni 360 Mesh



Omni Alternate



Explore Alternate



Free to Grow



Explore

CIB at 84-86.

Ergo does not contest that their accused products meet this limitation under my construction of “configured for coupling.” Ergo and Tula’s arguments concerning their proposed alternative construction of “coupled to” are rejected for the reasons laid out in Order No. 34.

Tula further argues that the Free-to-Grow and Explore carriers (JPX-0010 and JPX-0011) cannot meet limitation 18f, because LILLEbaby has not established the alleged upper-leg-support parts of those carriers “are ‘configured for coupling’ to the hip belt under any construction of the term.” RRB at 38. Tula explains that the main panel of the Tula carriers “slides along a webbing rail, and the areas that LILLEbaby points to as the purported ‘[upper-leg-support parts]’ at best

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‘merely touch’ the hip belt.” *Id.* As with limitation 18e above, Tula’s argument would have merit if it were an accurate description of the Free-to-Grow and Explore. But both have mating snaps on the hip belt and sleeve portion of the upper-leg-support parts (which are part of the seat support part). *See* JPX-0011 (Explore), JPX-0010 (Free-to-Grow); Tr. at 502:5-503:16, 508:8-509:18. Those snaps satisfy limitation 18e.

8. Conclusion

Because I find the Ergo (360, Omni 360, Omni 360 Mesh, and Adapt) and Tula (Free-to-Grow, Explore, and Explore Alternate) accused carriers do not meet limitations 18b, 18c, 18d2, or 18d3, I find that those accused carriers do not infringe claim 18 of the ’116 patent.

B. Infantino

The evidence shows that the accused Infantino carriers do not infringe claim 18 of the ’116 patent.

LILLEbaby accuses Flip 4-in-1, Carry On, Go Forward, and In Season (the “Harness Carriers”), Upscale, and the proposed redesigned Infantino carriers of infringing claim 18. *See* CIB at 25.

LILLEbaby provides a limitation-by-limitation infringement analysis for each of the accused Infantino carriers. CIB at 26-42. Infantino does not raise defenses for certain claim limitations, and the evidence shows that the accused Infantino carriers practice the limitations for which Infantino has not raised a defense.

1. Flip 4-in-1 (JPX-0007)

The evidence does not show that Flip 4-in-1 infringes claim 18 of the ’116 patent. In particular, Flip 4-in-1 does not meet the limitation “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively

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an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part.”

a) [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Infantino products are carriers for transporting a child, in accordance with the preamble 18p. I find that Flip 4-in-1 meets 18p.

b) [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Infantino does not dispute Flip 4-in-1 has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following image:



See CDX-0039; Tr. at 435:5-17, JPX-0007 (Flip 4-in-1). I find that Flip 4-in-1 meets limitation 18a.

c) [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

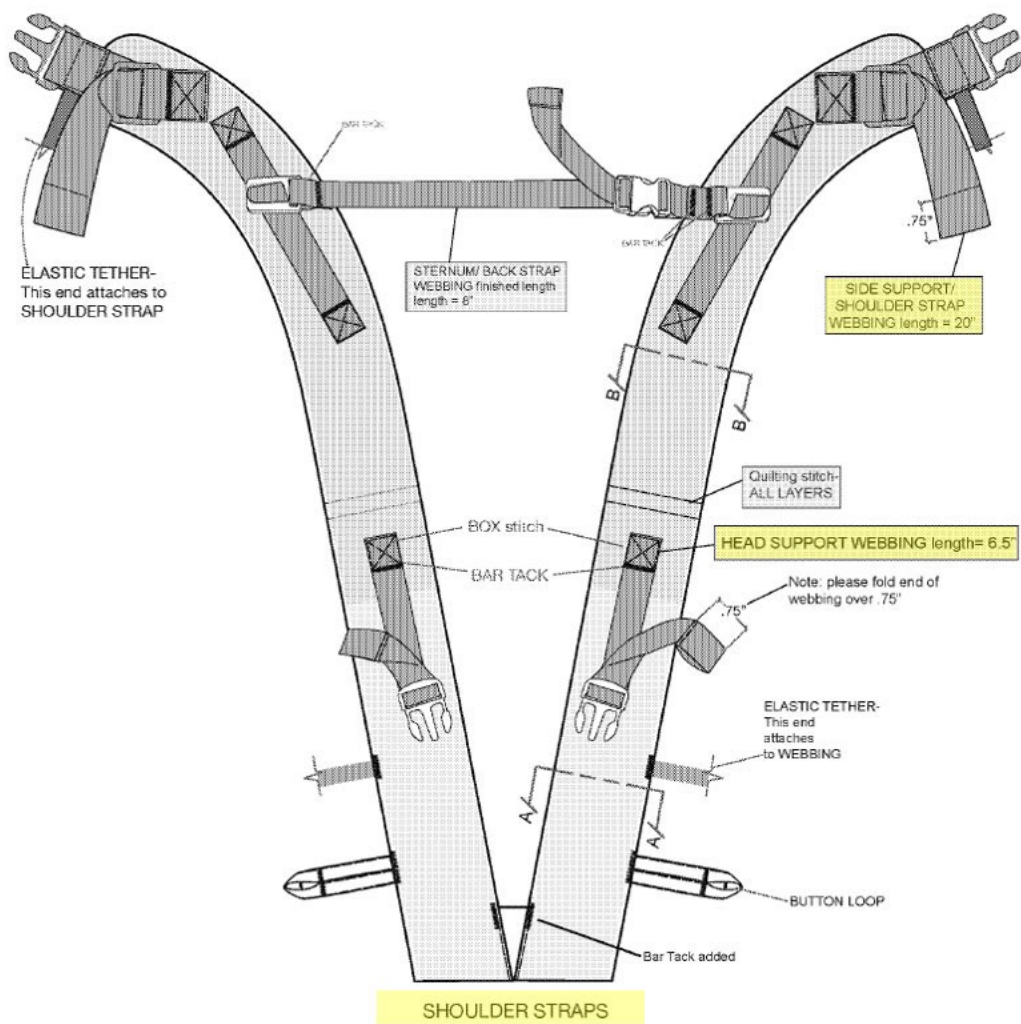
Flip 4-in-1 does not practice limitations 18b and 18c.

I find that Flip 4-in-1 has two shoulder straps that go over the shoulders of the transporting individual and down to the carrier’s belt. JPX-0007. When worn by a carrying individual, the

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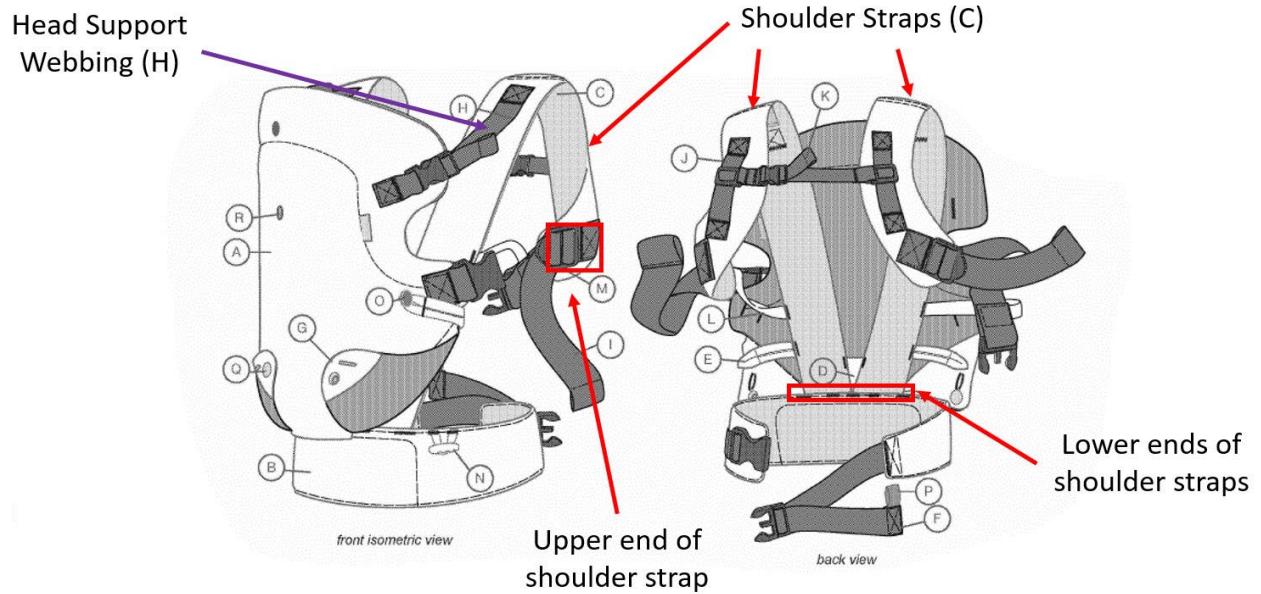
upper ends of the shoulder straps wrap over the shoulders of the transporting individual and connect to the torso support part beneath the carrying individual's armpit via a trident-style buckle.

Id.; see Tr. at 905:18-23.



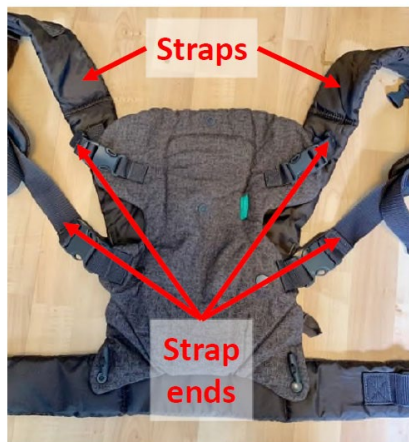
RX-0341:0007 (Flip 4-in-1 design drawing). As shown in the above design drawing, separate “webbing” straps are attached to the shoulder straps at various midpoints along their length, including “Head Support Webbing” at roughly the middle of each shoulder strap. *Id.*; see Tr. at 908:12-909:25.

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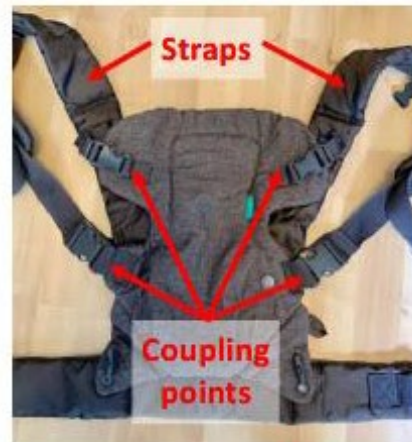


RDX-0057 (annotating RX-0341:0001); see Tr. at 905:18-906:6, 1126:2-25, 1127:14-1128:10.

LILLEbaby points to the head support webbing (shown in the diagram above) as the upper strap end configured for coupling to the torso support part. I reject that interpretation of the evidence. I find that the head support webbing identified by LILLEbaby is not at the “end” of the shoulder strap and therefore is not a shoulder strap end. The lower ends of the shoulder straps are unambiguously coupled to the hip belt, as shown in the following annotated photographs:



Flip 4-in-1



Flip 4-in-1

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CDX-0041,-0042; *see* CIB 34-35, 39-40, 43-47. LILLEbaby contends that the head support webbing constitutes part of the shoulder strap. It adopts its expert Mr. Meyer's definition of "shoulder strap" as something that "is assembled over the shoulder of the transporting individual and helps to share the load of the child that's being carried in the carrier." *See* CIB at 44 (citing Tr. at 635:4-8).¹² LILLEbaby refers to the entire lower half of Flip 4-in-1's shoulder straps as "extra material extending beyond the identified upper strap ends and terminating at the hip belt" which it contends serves the function only of "help[ing] position the carrier and make it easier for putting the child in and out of the carrier." *Id.* (citing Tr. at 443:1-5, 433:14-17, JPX-0036, and JPX-0037). During his direct examination, Mr. Myers went on to hypothesize that "if you were able to snip these straps" (the harness) below the head support webbing, it would show that the lower portions "serve no function" and are therefore not part of the shoulder straps. Tr. at 443:6-11.

LILLEbaby's arguments are flawed in at least three ways.

First, as addressed above, the ends of the head support webbing may be ends of *a* strap, but they are not ends, either upper or lower, of *the shoulder strap*. *See supra* V.B. Nor is it clear how they can constitute either upper or lower ends when they are disposed in the middle of the length of the shoulder straps. *See* JPX-0007; RDX-0057.

Second, the record amply refutes the analysis of LILLEbaby's expert Mr. Myers. Mr. Meyer's analysis hinges on an assertion that the portion of the harness below the head support webbing is not a shoulder strap because it does not "help[] to share the load of the child that's being carried." Tr. at 653:4-8. But ample record evidence contradicts this premise. Respondents

¹² LILLEbaby's attempt to recharacterize their argument in reply, CRB at 17-18, is not credible, and, in any event, Mr. Myers' testimony speaks for itself.

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experts found tension along the entire length of the harness while a child was being carried in Flip 4-in-1, indicating it was bearing the load of the child. *See* Tr. at 1134:5-9.

More dramatically, one of Respondents' witnesses, Mr. Hagert, carried out Mr. Myers' hypothetical test of load bearing during his direct examination. Mr. Hagert put on a Flip 4-in-1 (RPX-0036), and loaded the David Doll into the carrier. *See* Tr. at 938:15-940:9. Mr. Hagert then used a pair of scissors to sever the right shoulder strap of the carrier at a location just below the head support webbing. *Id.* at 941:21-24. Mr. Hagert reported he felt a change in the weight distribution of the doll, with more weight bearing on the non-severed side of the carrier, with the doll feeling lopsided. *Id.* at 941:25-942:4. Severing the strap caused a gap to open between the portion of the shoulder strap above and below the cut, and I observed as much during the hearing. *See id.* 942:5-13.

Mr. Hagert then used the scissors to sever the left shoulder strap at a location just below the head support webbing. *Id.* at 942:14-17. He again reported a change in the weight distribution of the David Doll, as the carrier's belt shift down a little. He also reported more tension in the head support webbing. *Id.* at 942:14-23. Mr. Hagert observed a gap in the severed left shoulder strap. *Id.* at 942:24-943:2. Using a ruler, Mr. Hagert measured that the gaps in both the left and right shoulder straps at 2-1/4 inches. *Id.* at 942:24-943:19. Mr. Hagert pulled up on the lower portions of the severed shoulder straps and he estimated it took approximately 4 or 5 pounds of force on each strap to close each gap. *Id.* at 943:20-944:1. The David Doll weighs around 19 pounds. Tr. at 601:18-20. Accordingly, before the harness shoulder straps were severed, they collectively bore approximately half of the doll's weight, with the other half borne by other structure such as the carrier's belt.

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Before severing the straps, Mr. Hagert had disconnected the head support webbing. Tr. at 941:6-12. When he did so, the David Doll pulled laterally away from his body, but remained securely supported by the carrier. *Id.* After severing the harness, however, the same disconnection of the support webbing sent the David Doll tumbling towards the floor face-first. The doll did not hit the floor only because its legs were trapped by the carrier's buckles, instead hanging suspended above the floor by its ankles. Tr. at 944:2-13.

In light of this direct contradiction of a fundamental premise of Mr. Myers' analysis, I do not find his testimony on this topic credible. He admitted he performed no pressure measurements or other tests to determine whether the harness helped share the load of a child and thus met his functional definition. *Id.* at 641:9-14. When his own proposed hypothetical was tested, the result directly contradicted his opinion. I thus find his opinions concerning shoulder straps to be based on unreliable methods, and give them little weight. I further find that, even under LILLEbaby's proposed definition of strap, the lower portion of Flip 4-in-1's harness constitutes part of the shoulder straps.

Third and finally, LILLEbaby argues that a strap may have multiple upper and lower ends, and thus even if the lower end of the shoulder straps couple to the hip belt, the head support webbing coupling to the torso support part can also qualify as upper strap ends configured for coupling to the torso support part. CIB at 47. As noted above, however, LILLEbaby misunderstands what it means for a strap to have more than one upper and lower end; such a configuration requires that all of the "upper" or "lower" ends be at the same distal or proximate "end" of a singular strap. *See supra* V.B; *see also* SIB at 52 ("the head support webbing would not be a 'lower strap end' as the claim requires, because the harness is undeniably below the

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webbing strap. The head support webbing strap would be, at best, a **middle** strap end.”) (emphasis in original); RRB at 53 (same).

Infantino also argues that its carriers do not meet limitations 18b and 18c under their proposed construction of “configured for coupling” as excluding past permanent coupling. RRB at 80. This argument is rejected as contrary to my claim construction order. *See* Order No. 34 at 13-16.

For the foregoing reasons, I find that Flip 4-in-1 does not meet limitations 18b and 18c.

d) [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

Flip 4-in-1 has a seat support part coupled to the torso support part and configured to support the posterior of the child, as shown in the following image:



Flip 4-in-1

CDX-0044; *see* Tr. at 445:21-446:7, JPX-0007, JPX-0042 at 04:30-05:06.

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Infantino argues Flip 4-in-1 does not satisfy limitation 18d1 under Respondents' proposed construction of "coupled to." RRB at 81-82. This argument is rejected as contrary to my construction of "coupled to" as allowing a unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11.

I find that Flip 4-in-1 meets limitation 18d1.

e) [18d2]/[18d3] "wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and"

Flip 4-in-1's seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and a right upper-leg-support part disposed on the right side of the seat support part, as shown in the below image.



Flip 4-in-1

CDX-0046; *see* Tr. at 446:8-19, JPX-0007, JPX-0042 at 05:08-05:41, CX-0285, CX-0309 at 15.

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Although all of LILLEbaby's presentations at trial were premised on an erroneous construction of "not support", *see supra* parts V.A, VIII.A.5.a)(1); *cf.* CIB at 65-67; Tr. at 448:21-450:14, 451:3-22, JPX-0007, JX-0042 at 08:09-10:37, 11:18-12:53, and switched left and right upper-leg-support parts, *see supra* part VIII.A.5.a)(2); RIB at 69-75, I find, based on my observation of the physical carrier JPX-0007, that Flip 4-in-1 meets limitations 18d2 and 18d3. When in the "narrow" seat configuration, the upper-leg-support parts are folded above, not below, the child's thighs and thus do not support any part thereof. As a result, I find that the upper-leg-support parts are configurable to "otherwise not support" the thighs of the child.

I find that Flip 4-in-1 satisfies limitations 18d2 and 18d3.

f) [18e] "a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual"

Flip 4-in-1 has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual, as shown in the image below:



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CDX-0050; *see* Tr. at 450:15-20, JPX-0007, JPX-0042 at 10:37-10:56. Infantino does not contest that its carriers meet this limitation. I find that Flip 4-in-1 meets limitation 18e.

g) [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

Flip 4-in-1 has a left upper-leg-support part further configured for coupling to the left side of the hip belt, and a right upper-leg-support part further configured for coupling to the right side of the hip belt, as shown in the image below:



Flip 4-in-1

CDX-0051; *see* Tr. at 452:1-16, JPX-0007, JPX-0042 at 13:01-13:56. Infantino does not contest that Flip 4-in-1 meets this limitation. I find that Flip 4-in-1 meets limitation 18f.

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2. Carry On (JPX-0008)

a) [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Infantino products are carriers for transporting a child, in accordance with the preamble 18p. I find that Carry On meets limitation 18p.

b) [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Infantino does not dispute Carry On has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following image:



Carry On

See CDX-0039; Tr. at 453:13-20, JPX-0008, JPX-0043 at 02:19-02:40. I find that Carry On meets limitation 18a.

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c) [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

For substantially the reasons discussed above concerning Flip 4-in-1, *supra* part VIII.B.1.c), I find that Carry On does not meet limitations 18b and 18c. *See* JPX-0008; Tr. at 924:2-927:4, 1131:5-21; *see also* 454:12-24 (testimony of Mr. Myers applying harness analysis of Flip 4-in-1 to Carry On).

The lower ends of Carry On’s shoulder straps connect to a bib, rather than to the hip belt. *See* JPX-0008. This difference from Flip 4-in-1 is immaterial because the shoulder straps of Carry On still do not connect to the torso support part, as required by limitations 18b and 18c.

d) [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

Carry On has a seat support part coupled to the torso support part and configured to support the posterior of the child, as shown in the following image:

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CDX-0044; *see* Tr. at 456:5-14, JPX-0008, JPX-0043 at 05:27-06:00.

Infantino argues Carry On does not satisfy limitation 18d1 under Respondents' proposed construction of "coupled to." RRB at 81-82. This argument is rejected as contrary to my construction of "coupled to" as allowing a unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11.

I find that Carry On meets limitation 18d1.

e) [18d2]/[18d3] "wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and"

Carry On's seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and a right upper-leg-support part disposed on the right side of the seat support part, as shown in the below image.

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Carry On

CDX-0046; *see* Tr. at 456:15-25, JPX-0008, JPX-0043 at 06:00-06:30, CX-0285, CX-0309 at 15.

For the same reasons as discussed relating to Flip 4-in-1, despite LILLEbaby's failings, I find that Carry On's left upper-leg-support part is configurable to optionally support, and otherwise not support the left thigh of the child, and the right upper-leg-support part is configurable to otherwise not support the right thigh of the child.

Accordingly, I find that Carry On satisfies limitations 18d2 and 18d3.

f) [18e] "a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual"

Carry On has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual, as shown in the image below:

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CDX-0050; *see* Tr. at 459:19-23, JPX-0008, JPX-0043 at 10:48-11:04. Infantino does not contest that its carriers meet this limitation. I find that Carry On meets limitation 18e.

g) [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

Carry On has a left upper-leg-support part further configured for coupling to the left side of the hip belt, and a right upper-leg-support part further configured for coupling to the right side of the hip belt, as shown in the image below:

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CDX-0051; *see* Tr. at 459:24-460:9, JPX-0008, JPX-0043 at 11:04-11:50. Infantino does not contest that Carry On meets this limitation. I find that Carry On meets limitation 18f.

3. Go Forward (JPX-0009)

a) [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Infantino products are carriers for transporting a child, in accordance with the preamble 18p. I find that Go Forward meets limitation 18p.

b) [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Infantino does not dispute Go Forward has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following image:

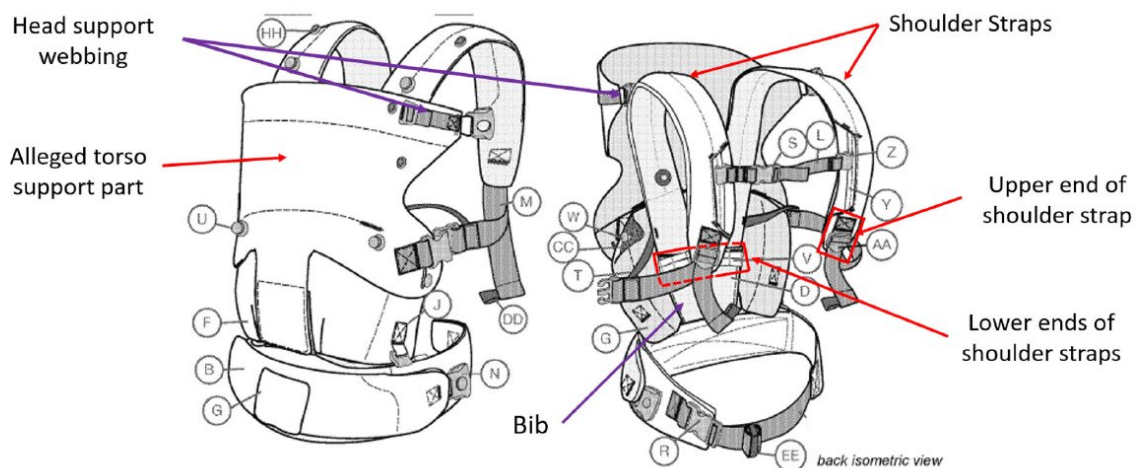
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See CDX-0039; Tr. at 466:7-14, JPX-0009, JPX-0045 at 02:20-02:43. I find that Go Forward meets limitation 18a.

c) [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

For substantially the reasons discussed above concerning Flip 4-in-1, supra part VIII.B.1.c), I find that Go Forward does not meet limitations 18b and 18c.



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RDX-0059 (annotating JX-0445:0001); JPX-0009, JX-445:0001, :0008; *see* Tr. at 914:16-915:8, 915:5-8, 920:10-921:5, 1129:2-1130:6; *see also id.* at 467:7-18 (testimony of Mr. Myers applying harness analysis of Flip 4-in-1 to Go Forward).

The lower ends of Go Forward's shoulder straps connect to a bib, rather than to the hip belt. *See* JPX-0009, RDX-0059. This difference from Flip 4-in-1 is immaterial because the shoulder straps of Carry On still do not connect to the torso support part, as required by limitations 18b and 18c.

d) [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

Go Forward has a seat support part coupled to the torso support part and configured to support the posterior of the child, as shown in the following image:



CDX-0044; *see* Tr. at 469:1-10, JPX-0009, JPX-0045 at 05:30-05:56.

I find that Go Forward meets limitation 18d1.

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e) [18d2]/[18d3] “wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and”

Go Forward’s seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and a right upper-leg-support part disposed on the right side of the seat support part, as shown in the below image.



CDX-0046; *see* Tr. at 469:11-19, JPX-0009, JPX-0045 at 05:57-06:20, CX-0285, CX-0309 at 15.

LILLEbaby has not shown, however, that Go Forward’s left upper-leg-support part is configurable to optionally support, and otherwise not support the left thigh of the child, and the right upper-leg-support part is configurable to otherwise not support the right thigh of the child, in the forward-facing, front-carry narrow position.

As noted above, all of LILLEbaby’s infringement analysis relies on an erroneous construction of “not support.” *See supra* parts V.A, VIII.A.5.a)(1); *cf.* CIB at 65-67; Tr. at 448:21-450:14, 451:3-22, JPX-0007, JX-0042 at 08:09-10:37, 11:18-12:53. For that reason, LILLEbaby has failed to adduce evidence that Go Forward ever does “not support” the thigh of the child. Because LILLEbaby has not shown a “not support” configuration of Go Forward, it also cannot

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have shown that any support configuration is “optional” as required by claim 18. *See* ’116 patent, claim 18 (“configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the thigh of the child.”). LILLEbaby has therefore failed to show Go Forward satisfies limitations 18d2 and 18d3.

In a similar vein, every piece of evidence put forward by LILLEbaby switched the left and right upper-leg-support parts. *See supra* part VIII.A.5.a)(2); RIB at 69-75. As a result, LILLEbaby has failed to adduce evidence that the same physical upper-leg-support part of Go Forward—left or right as defined by the child’s thigh in question—is configurable to both support and not support the same left or right thigh of the child. I find that LILLEbaby presented no evidence of such capability in any accused carrier. *See supra* part VIII.A.5.a)(2); RIB at 69-75.

I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child’s thighs by the upper-leg-support parts. When in the “narrow” seat position, the material of Go Forward’s construction “scrunches” toward the center. Tr. at 915:9-19, 917:25-918:11, JPX-0009. As a result, the upper-leg-support parts continue to provide support to at least some part of the child’s thighs even in the narrowest setting. *See* Tr. at 918:12-919:12, 1135:7-1136:7, 1153:18-1154:8, JPX-0009, *supra* part V.A; *see also* Markman Tr. at 195:20-196:3 (all parties agree that “the thigh run(s) from the patella to the hipbone”).

As with the Ergo and Tula products, LILLEbaby has failed to show Infantino’s products practice each element of claim 18, even under LILLEbaby’s infringement theories. I therefore need not address Infantino’s contentions concerning non-infringing aberrant use. *See* RRB at 76-80 (addressing non-infringement for Go Forward due to aberrant use); *see supra* part VIII.A.5.a) (Ergo and Tula aberrant use arguments are moot in light of LILLEbaby’s failure of proof).

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Accordingly, I find that LILLEbaby has failed to show by a preponderance of the evidence that Go Forward satisfies limitations 18d2 and 18d3.

(1) “Otherwise not support”

Infantino contends that limitations 18d2 and 18d3 permit one and only one “support” configuration, and an unlimited number of “not support” configurations. *See* RRB at 63-67. Go Forward’s upper-leg-support parts can be adjusted by moving a slider along a rail on the hip belt. *See* Tr. at 915:9-19; JPX-0009. This mechanism is depicted in the excerpt from Go Forward’s user manual below:



RX-0347:0009.

Under Infantino’s proposed construction of “optionally support ... and otherwise not support,” Go Forward would not infringe because it has at least two “support” configurations. *See* RRB at 67. Infantino argues the word “otherwise” in claim 18 restricts the claim to a carrier with on configuration that provides support; all other configurations of the carrier must not support the child’s thighs. RRB at 66-67.

I reject Infantino’s argument because it rests on a flawed construction of the claim term. There is no doubt that claim 18 requires at least two states: a configuration wherein the upper-leg-support parts support at least part of the child’s thigh, and a configuration wherein the upper-leg-support parts do not support any part of the child’s thigh. Contrary to Infantino’s construction, nothing in the claims limits the number of “support” configurations to one.

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The use of the term “otherwise” dictates only that all configurations must be either “support” or “not support” configurations. Claim 18 is open-ended, and Infantino’s attempt to limit the claim language based on embodiments in the specification is improper. *See Phillips* at 1323. This understanding is confirmed by the prosecution history, where the examiner expressly found Linday, which used a “scrunch” style seat adjustment, practiced this limitation. *See JX-0002* at 95-96 (examiner’s statement that Linday’s upper-leg-support-parts are “configurable to optionally support at least part of the left [or right] thigh of the child and otherwise not support the left [or right] thigh of the child (i.e. when (18) is pulled & tighten[ed])).

f) [18e] “a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual”

Go Forward has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual, as shown in the image below:



Go Forward

CDX-0050; *see* Tr. at 471:7-12, JPX-0009, JPX-0045 at 08:37-08:54. Infantino does not contest that its carriers meet this limitation. I find that Go Forward meets limitation 18e.

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g) [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

Go Forward has a left upper-leg-support part further configured for coupling to the left side of the hip belt, and a right upper-leg-support part further configured for coupling to the right side of the hip belt, as shown in the image below:



CDX-0051; *see* Tr. at 471:13-24, JPX-0009, JPX-0045 at 08:54-09:38.

Infantino argues Go Forward does not satisfy limitation 18d1 under Respondents’ proposed construction of “configured for coupling,” which excludes past permanent coupling. RRB at 81. This argument is rejected as contrary to my previous construction of “configured for coupling.” *See* Order No. 34 at 13-16.

I find that Go Forward meets limitation 18f.

4. In Season (JPX-0034)

a) [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Infantino products are carriers for transporting a child, in accordance with the preamble 18p. I find that In Season meets limitation 18p.

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b) [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Infantino does not dispute In Season has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following image:



See CDX-0039; Tr. at 515:5-12, JPX-0034, JPX-0050-0053 at 30:00-30:19. I find that In Season meets limitation 18a.

c) [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

For substantially the reasons discussed above concerning Flip 4-in-1, *supra* part VIII.B.1.c), I find that In Season does not meet limitations 18b and 18c. *See* JPX-0034; Tr. at 921:1-923:24; 1130:13-1131:4; *see also id.* at 516:6-12 (testimony of Mr. Myers applying harness analysis of Flip 4-in-1 to In Season).

The lower ends of In Season’s shoulder straps connect to a bib, rather than to the hip belt. *See* JPX-0034. This difference from Flip 4-in-1 is immaterial because the shoulder straps of Carry On still do not connect to the torso support part, as required by limitations 18b and 18c.

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d) [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

In Season has a seat support part coupled to the torso support part and configured to support the posterior of the child, as shown in the following image:



JPX-0050-0053 at 32:59 (annotations from CIB at 50); *see* Tr. at 517:15-24, JPX-0034, JPX-0050-0053 at 32:43-33:10.

Infantino argues In Season does not satisfy limitation 18d1 under Respondents’ proposed construction of “coupled to.” RRB at 81-82. This argument is rejected as contrary to my construction of “coupled to” as allowing a unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11.

I find that In Season meets limitation 18d1.

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e) [18d2]/[18d3] “wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and”

In Season’s seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and a right upper-leg-support part disposed on the right side of the seat support part, as shown in the below image.



JPX-0050-0053 at 33:25 (annotated); *see* Tr. at 517:25-518:8, JPX-0034, JPX-0050-0053 at 33:10-33:38.

For the same reasons as discussed relating to Go Forward, *supra* partVIII.B.3.e), LILLEbaby has not shown that In Season’s left upper-leg-support part is configurable to optionally support, and otherwise not support the left thigh of the child, and the right upper-leg-support part is configurable to otherwise not support the right thigh of the child, in the forward-facing, front-carry narrow position.

I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child’s thighs by the upper-leg-support parts. When in the “narrow” seat position, the material of In

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Season's construction "scrunches" toward the center. Tr. at 921:18-9:22:24, JPX-0034. As a result, the upper-leg-support parts continue to provide support to at least some part of the child's thighs even in the narrowest setting. See Tr. at 922:25-9:23:24, 1135:7-1136:7, 1153:18-1154:8, JPX-0034, *supra* part V.A; *see also* Markman Tr. at 195:20-196:3 (all parties agree that "the thigh run(s) from the patella to the hipbone").

For the same reasons discussed above concerning Go Forward, I reject Infantino's non-infringement arguments premised on In Season having more than one "support" configuration. See *supra* part VIII.B.3.e)(1).

Accordingly, I find that LILLEbaby has failed to show by a preponderance of the evidence that In Season satisfies limitations 18d2 and 18d3.

f) [18e] "a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual"

In Season has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual, as shown in the image below:



CDX-0095; *see* Tr. at 519:17-21, JPX-0034, JPX-0050-0053 at 36:33-36:49. Infantino does not contest that its carriers meet this limitation. I find that In Season meets limitation 18e.

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g) [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

In Season has a left upper-leg-support part further configured for coupling to the left side of the hip belt, and a right upper-leg-support part further configured for coupling to the right side of the hip belt, as shown in the image below:



In Season

CDX-0096; *see* Tr. at 519:22-520:9, JPX-0034, JPX-0050-0053 at 36:49-37:4.

Infantino argues In Season does not satisfy limitation 18d1 under Respondents’ proposed construction of “configured for coupling,” which excludes past permanent coupling. RRB at 81. This argument is rejected as contrary to my previous construction of “configured for coupling.” *See* Order No. 34 at 13-16.

I find that Go Forward meets limitation 18f.

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5. Upscale (JPX-0006)

a) [18p] “A carrier for transporting a child by a transporting individual”

No party disputes that the accused Infantino products are carriers for transporting a child, in accordance with the preamble 18p. I find that Upscale meets limitation 18p.

b) [18a] “a torso support part configured to support the torso of the child placed in the carrier”

Infantino does not dispute Upscale has a torso support part configured to support the torso of a child placed in a carrier, as shown in the following image:



See CDX-0039; Tr. at 461:5-10, JPX-0006, JPX-0044 at 01:59-02:18. I find that Upscale meets limitation 18a.

c) [18b]/[18c] “a [left/right] shoulder strap having an upper and a lower [left/right]-strap ends configured for coupling to the torso support part at respectively an upper [left/right] coupling point and a lower [left/right] coupling point on the torso support part”

Infantino largely does not dispute that Upscale meets limitations 18b and 18c, as shown in the following images

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CDX-0041, CDX-0042, Tr. at 461:11-462:21, JPX-0006, JPX-0044 at 02:18-04:07.

Infantino argues that its carriers do not meet limitations 18b and 18c under their proposed construction of “configured for coupling” as excluding past permanent coupling. RRB at 80. This argument is rejected as contrary to my claim construction order. *See* Order No. 34 at 13-16.

I find that Upscale meets limitations 18b and 18c.

d) [18d1] “a seat support part coupled to the torso support part and configured to support the posterior of the child,”

In Season has a seat support part coupled to the torso support part and configured to support the posterior of the child, as shown in the following image:



CDX-0044; *see* Tr. at 462:22-463:4, JPX-0006, JPX-0044 at 04:07-04:31.

Infantino argues Upscale does not satisfy limitation 18d1 under Respondents’ proposed construction of “coupled to.” RRB at 81-82. This argument is rejected as contrary to my

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construction of “coupled to” as allowing a unitary construction, based in large part on the prosecution history of the claims. *See* Order No. 34 at 5-11.

I find that Upscale meets limitation 18d1.

e) [18d2]/[18d3] “wherein the seat support part comprises a [left/right] upper-leg-support part disposed on the [left/right]side of the seat support part and configurable to optionally support at least part of the [left/right] thigh of the child and otherwise not support the left thigh of the child and”

Upscale’s seat support part comprises a left upper-leg-support part disposed on the left side of the seat support part and a right upper-leg-support part disposed on the right side of the seat support part, as shown in the below image.



CDX-0046; *see* Tr. at 463:5-12, JPX-0006, JPX-0044 at 04:31-04:53.

For the same reasons as discussed relating to Go Forward, *supra* part VIII.B.3.e), LILLEbaby has not shown that Upscale’s left upper-leg-support part is configurable to optionally support, and otherwise not support the left thigh of the child, and the right upper-leg-support part is configurable to otherwise not support the right thigh of the child, in the forward-facing, front-carry narrow position.

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I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child's thighs by the upper-leg-support parts. When in the "narrow" seat position, the material of Upscale's construction "scrunches" toward the center. Tr. at 927:20-928:22, JPX-0006. As a result, the upper-leg-support parts continue to provide support to at least some part of the child's thighs even in the narrowest setting. See Tr. at 928:23-929:24, 1135:7-1136:7, 1153:18-1154:8, JPX-0006, *supra* part V.A; see also Markman Tr. at 195:20-196:3 (all parties agree that "the thigh run(s) from the patella to the hipbone").

For the same reasons discussed above concerning Go Forward, I reject Infantino's non-infringement arguments premised on Upscale having more than one "support" configuration. See *supra* part VIII.B.3.e)(1).

Accordingly, I find that LILLEbaby has failed to show by a preponderance of the evidence that Upscale satisfies limitations 18d2 and 18d3.

f) [18e] "a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual"

Upscale has a hip belt coupled to the seat support part and configured for securing about the hips of the transporting individual, as shown in the image below:

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CDX-0050; *see* Tr. at 464:16-20, JPX-0006, JPX-0044 at 06:57-07:15. Infantino does not contest that its carriers meet this limitation. I find that Upscale meets limitation 18e.

g) [18f] “wherein the left upper-leg-support part is further configured for coupling to the left side of the hip belt, wherein the right upper-leg-support part is further configured for coupling to the right side of the hip belt.”

Upscale has a left upper-leg-support part further configured for coupling to the left side of the hip belt, and a right upper-leg-support part further configured for coupling to the right side of the hip belt, as shown in the image below:



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CDX-0051; *see* Tr. at 464:21-465:6, JPX-0006, JPX-0044 at 07:15-07:56.

Infantino argues Go Forward does not satisfy limitation 18d1 under Respondents' proposed construction of "configured for coupling," which excludes past permanent coupling. RRB at 81. This argument is rejected as contrary to my previous construction of "configured for coupling." *See* Order No. 34 at 13-16.

I find that Go Forward meets limitation 18f.

6. Redesigned carriers

During discovery, Infantino disclosed a number of redesigns. These redesigns are grouped by how they provide "adjustable leg support." RPB at 318-324; CPB at 475.

Infantino and LILLEbaby agreed to a stipulation that certain redesigns are representative. RX-0472.¹³ Consistent with this stipulation, LILLEbaby relies on its analysis for Flip 4-in-1 and Carry On carriers for infringement of the elements "from the child's legs up." Tr. at 521:7-16. Its analysis for the redesigns differs only for "the lower half or interactions between the leg supports and the hip belts." *Id.* at 521:17-23.

Each of the redesigns is a harness-style carrier. For the reasons discussed above, the evidence therefore shows that they do not have lower strap ends coupled to the torso support part.

Infantino further argues that the seat support part is not coupled to the torso support part in any of its redesigns. RRB at 81-82. This non-infringement argument is based on its proposed alternative construction of "coupled to" and is rejected for the reasons laid out in Order No. 34.

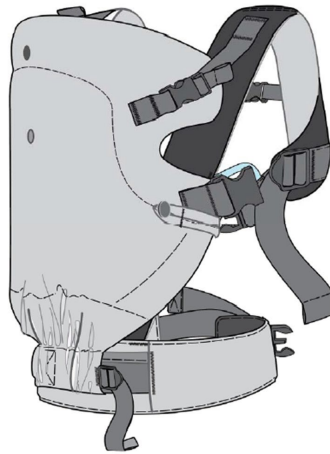
Other disputed features are discussed below.

¹³ Infantino withdrew the "tuck down redesign" from the investigation. RX-0472. at ¶ 6. LILLEbaby also stipulated that it did not contend the scrunch-string redesigns infringe the '116 patent. *Id.* at ¶ 5.

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a) Scrunch Redesign (JPX-0030)

Infantino's Scrunch redesigns are represented, by stipulation, by JPX-0030 (the "Scrunch Redesign"). *See* JX-0472 at ¶ 1. JPX-0030 is a modified Flip 4-in-1 carrier, redesigned with an adjustable seat using a scrunch-harness strap adjuster, as shown below. This mechanism allows the seat to be scrunched to form a narrow position, similar to Infantino's Upscale carrier. *See* Tr. at 932:18-933:3.



JX-0472:0019; *see* JPX-0030.

Infantino alleges that the Scrunch Redesign does not practice claim 18 because (1) limitations 18d2 and 18d3's requirement of a "not support" configuration, RRB at 59-62, and (2) because the carrier has more than one "support" configuration, it fails Infantino's proposed construction of "otherwise not support." *See* RRB at 63-67.

For the reasons discussed above, in connection with the Go Forward, Upscale, and In Season accused products, the evidence does not show that the slider-lever redesign practices the "not support" limitation. LILLEbaby's infringement evidence was, as with the other carriers, premised on an incorrect claim construction. *See* Tr. at 533:8-16; *supra* part VIII.B.3.e).

I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child's thighs

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by the upper-leg-support parts. When in the “narrow” seat position, the material of the Scrunch Redesign’s construction “scrunches” toward the center. Tr. at 932:18-933:3, JPX-0030. As a result, the upper-leg-support parts continue to provide support to at least some part of the child’s thighs even in the narrowest setting. *See* Tr. at 932:18-933:3, 1135:7-1136:7, 1153:18-1154:8, JPX-0030, *supra* part V.A; *see also* Markman Tr. at 195:20-196:3 (all parties agree that “the thigh run(s) from the patella to the hipbone”).

For the reasons discussed above concerning Go Forward, Upscale, and In Season accused products, I find that the Scrunch Redesign meets the “*otherwise* not support” limitation. Infantino’s argument is premised on an improper construction of the claim term as requiring one, and only one, configuration wherein the upper-leg-support parts provide support to at least part of the child’s thigh. *See supra* part VIII.B.3.e)(1). I have rejected that reading of claim 18.

b) Harness Attachment (JPX-0031)

Infantino’s Harness Attachment redesigns are represented, by stipulation, by JPX-0031 (the “Harness Attachment Redesign”). *See* JX-0472 at ¶ 2. The representative Harness Attachment Redesign is a Flip 4-in-1 with redesigned upper-leg-support attachment points on the harness rather than the carrier’s belt. RRB at 8; *see* JX-0472:0028; Tr. at 933:4-934:10; JPX-0031.

In JPX-0031, the upper-leg-support parts can be connected to the harness by passing toggles (cylindrical buttons) through button holes. JPX-0031. Infantino contends that, because the upper-leg-support parts connect to the harness, rather than the hip-belt, they cannot satisfy limitation 18f. *See* RRB at 68; JX-0472:0028.

Although LILLEbaby concedes that the toggles are not on the hip belt, it argues that the hip belt connects to a piece of fabric, which then connects to a toggle, and that this multi-component configuration constitutes “indirect” coupling. Tr. at 528:16-529:4; CIB at 86.

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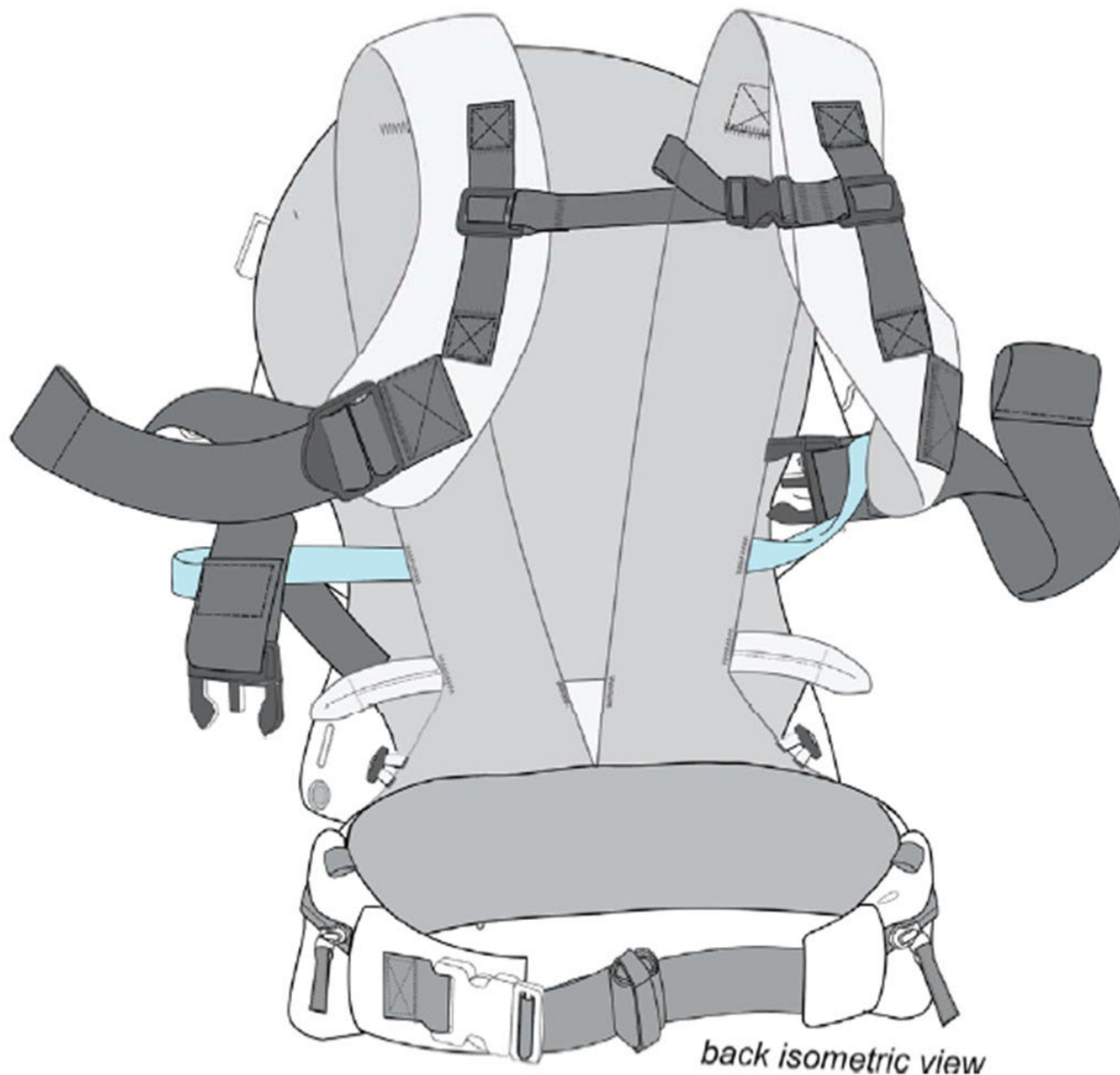
In addition to the reasons the unmodified Harness designs do not infringe, see, *e.g.*, *supra* part VIII.B.1, I find that the Harness Attachment Redesign does not infringe because it does not practice limitation 18f. Limitation 18f requires a carrier “wherein the [left/right] upper-leg-support part is further **configured for coupling to the [left/right] side of the hip belt.**” LILLEbaby argues that the Harness Attachment Redesign practices this limitation by “indirect” coupling through intermediary structures. CIB at 86-87; Tr. at 642:19-20 (LILLEbaby’s expert Myers testifying that limitation 18f is satisfied because the upper-leg-support parts “ultimately couple through that piece of material.”). But LILLEbaby’s theory of indirect coupling would vitiate the limitations of 18f requiring the upper-leg-support parts to be “configured for coupling *to the [left/right] side of the hip belt.*” This is another reason Mr. Myers’ testimony is not credible: under Mr. Myers understanding of the claims, every part of the carrier is coupled to the harness. *Id.* at 642:13-643:6. The position of LILLEbaby and Mr. Myers would vitiate not only important structural limitations in limitation 18f, but all of the limitations in claim 18, as, for instance, every carrier that satisfied limitations 18d2, 18d3, and 18e would necessarily satisfy limitation 18f because everything would be coupled to everything. *See* ’116 patent, claim 18 (limitations 18d2 and 18d3 require upper-leg-support parts that couple to the seat support part, and limitation 18e requires a seat support part that couples to the hip belt.). Indeed, the “[left/right] side of the hip belt” limitation in limitation 18e would itself be entirely superfluous, since any upper-leg-support part that was configured for coupling to any part of the hip belt would be configured, under LILLEbaby’s theory, for indirect coupling to every other part of the hip belt.

In sum, LILLEbaby has not shown that the Harness Attachment redesigns meet limitation 18f.

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c) Split-harness Attachment (JPX-0032)

Infantino's Split-harness Attachment redesign, JPX-0032 (the "Split-Harness Attachment Redesign"), is a modified Carry On with both a split harness (that is, the bib connecting the lower ends of the straps is severed) and also upper-leg-support-parts that attach to the harness rather than the hip belt. RRB at 10-11.



JX-0472:0035; *see* JPX-0032; Tr. at 934:11-935:10 (toggles relocated to carrier's harness rather than on belt; further modified to have harness of Flip 4-in-1).

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Infantino's non-infringement arguments for the Split-Harness Attachment Redesign are that (1) it does not practice the shoulder strap limitation, as with the "Harness" style carriers such as Flip 4-in-1, and (2) that the upper-leg-support part are not configured for coupling to the hip belt, but instead are configured for coupling to the harness. CIPB at 25.

For the reasons discussed above in the context of Infantino's harness-style carriers, the evidence shows that the Harness Carriers, such as the Flip 4-in-1, do not have lower strap ends configured for coupling to the torso support part and therefore do not practice limitations 18b and 18c. *See, e.g., supra* part VIII.B.1.c). And for the reasons discussed in the immediately preceding section, the Split-Harness Attachment Redesign does not practice limitation 18f. *See supra* part VIII.B.6.b).

d) Slider-lever (JPX-0033)

Infantino's Slider-lever redesigns are represented, by stipulation, by JPX-0033 (the "Slider-lever Redesign"). *See* JX-0472 at ¶ 4. The Slider-lever Redesign is a Flip 4-in-1 carrier modified with the type of seat width adjustment used in Go Forward and In Season accused products. RRB at 6-7; Tr. at 532:22-523:16 (describing slider mechanism).

For the reasons discussed above concerning Go Forward and In Season accused products, the evidence does not show that the Slider-lever Redesign practices the "not support" limitation. *See supra* parts VIII.B.3 and 4. LILLEbaby's infringement evidence was, as with the other carriers, premised on an incorrect claim construction and lacked substantial evidence to support it in the record. *See* Tr. at 533:8-16; JPX-0033; *supra* parts V.A, VIII.B.1.c).

I further find, based on my review of the record and my observations during the hearing, that the configurations LILLEbaby relies on in fact show at least some support for the child's thighs by the upper-leg-support parts. When in the "narrow" seat position, the material of the Slider-

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lever Redesign’s construction “scrunches” toward the center. Tr. at 935:11-22, JPX-0033. As a result, the upper-leg-support parts continue to provide support to at least some part of the child’s thighs even in the narrowest setting. See Tr. at 935:11-22, 1135:7-1136:7, 1153:18-1154:8, JPX-0033, *supra* part V.A; see also Markman Tr. at 195:20-196:3 (all parties agree that “the thigh run(s) from the patella to the hipbone”).

For the reasons discussed above concerning Go Forward, Upscale, and In Season accused products, I find that the Slider-lever Redesign meets the “*otherwise* not support” limitation. Infantino’s argument is premised on an improper construction of the claim term as requiring one, and only one, configuration wherein the upper-leg-support parts provide support to at least part of the child’s thigh. See *supra* part VIII.B.3.e)(1).

7. Conclusion

Because I find that the Infantino accused and redesign carriers (Flip 4-in-1, Carry On, Go Forward, In Season, Upscale, and redesigned carriers) each do not meet at least one limitation of claim 18, I find that those Infantino accused carriers do not infringe claim 18 of the ’116 patent.

IX. DOMESTIC INDUSTRY

A violation of section 337 can be found “only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2). Because I find the patents are invalid and unenforceable, the patents protect no articles and LILLEbaby necessarily cannot satisfy the domestic industry requirement. *Certain Vision-Based Driver Assistance System Cameras and Components Thereof*, Inv. No. 337-TA-907, USITC Pub. 4866, (February 2019), Comm’n Op. at 36. Nevertheless, in the interest of thoroughness, below I make findings about whether claim 18 of the ’116 patent reads on

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LILLEbaby's alleged domestic industry products. I also consider LILLEbaby's investments related to those products.

A. Technical Prong

I find that LILLEbaby's COMPLETE Original carrier is representative of its other proposed domestic industry products. I further find that if claim 18 of the '116 patent were valid and enforceable, LILLEbaby's COMPLETE Original carrier would practice that claim. My reasoning follows.

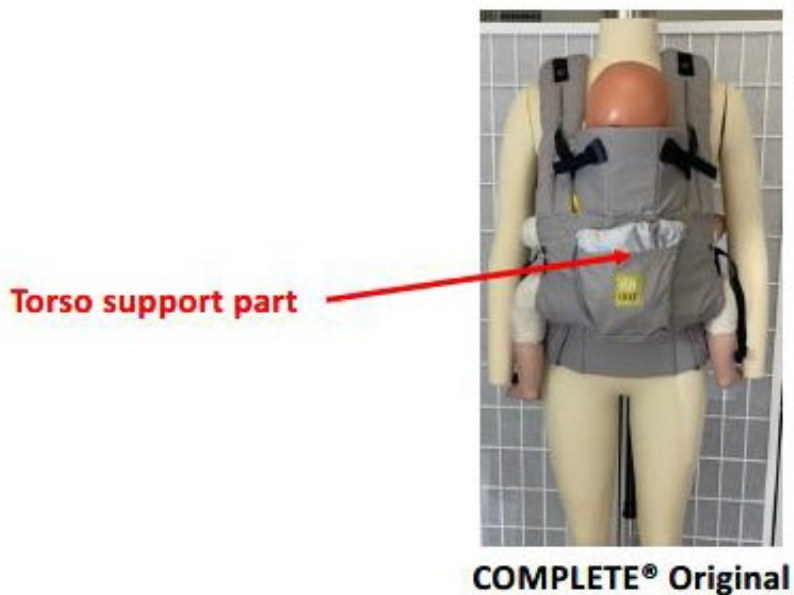
1. The COMPLETE Original Carrier Practices Claim 18

The COMPLETE Original is a carrier for transporting a child, in accordance with the preamble 18p. Tr. at 415:20-25, JPX-0012 (Original carrier); CDX-0022 (below).



The COMPLETE Original has a torso support part configured to support the torso of the child placed in the carrier, satisfying limitation 18a:

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CIB at 89; JPX-0012. Only Ergo and Tula dispute this limitation is satisfied, arguing that “part” requires a distinct, and physically separate, component. For the reasons discussed above in connection with infringement, that argument is incorrect. As is shown in the above image, the COMPLETE Original has a torso support part configured for supporting the torso of the child.

The COMPLETE Original also meets limitations 18b and 18c, as it has left and right shoulder straps with upper and lower ends configured for coupling to the torso support part at upper and lower coupling points. Again, only Ergo and Tula dispute this limitation is satisfied, arguing that “configured for coupling” requires “physical structure for attaching and detaching the strap ends from the torso support part.” But this argument is contrary to the construction of “configured for coupling” I previously adopted, and is therefore rejected. *See* Order No. 34 at 13. As is shown in the images below, the COMPLETE Original has left and right straps with upper and lower ends configured for coupling to the torso support part:

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COMPLETE® Original



COMPLETE® Original

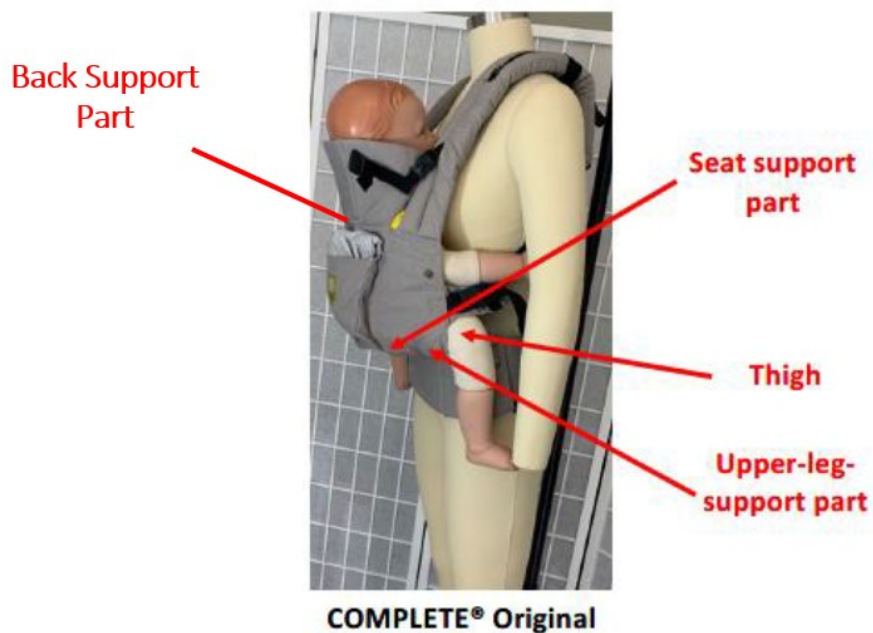
CIB at 90-91; JPX-0012.

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The COMPLETE Original also satisfies limitation 18d1. It has a seat support part coupled to the torso support part. Under the construction I adopted of “coupled to,” which allows for unitary construction, this limitation is satisfied:



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CIB at 92; JPX-0012.

No party challenges that the Original practices limitations 18d2 and 18d3, requiring [left/right] upper-leg-support parts configurable to optionally support at least part of the thigh of the child, and otherwise not support the thigh of the child. *See* CIB at 87; SIB at 100-101; RRB at 94-95. But, as noted above concerning LILLEbaby’s infringement analysis, *see supra* part VIII.A.5.a)(2), LILLEbaby’s presentation of evidence switched left and right between the “support” and “not support” configurations. *See* CIB at 92-94.

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CDX-0032 (left); CDX-0034 (right).

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I find, based on my examination of the LILLEbaby carriers in the record and my observations during the hearing, that the COMPLETE Original satisfies limitations 18d2 and 18d3. The seat support part in the COMPLETE Original comprises left and right upper-leg-support parts disposed on the left and right side of the seat support part, respectively. JPX-0012. These support parts are configurable to optionally support, and otherwise not support, the thighs of the child when in the carrier. I find that the COMPLETE Original can be placed on the front of the adult with the child facing inward in both “narrow” and “wide” seat configurations. When the child is worn facing in with the seat in the wide configuration, the child’s thighs are supported by the upper-leg-support parts. *See* CDX-0032. And when worn facing in with the seat in the narrow configuration, I find that the left and right upper-leg-support parts of the LILLEbaby carrier do not support the left and right thighs of the child, respectively. *See* JPX-0012. When in the “not support”



configuration, the upper-leg-support parts are folded inside the seat support part of the carrier and snapped to one another. *Id.*

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CIB at 93-95; JPX-0012.

The COMPLETE Original meets limitation 18e and 18f, as it has a hip belt for securing about the hips of the transporting individual, and the left and right upper-leg-support parts are further configured for coupling to the left and right sides of the hip belt, respectively. JPX-0012; CIB at 95-96.



COMPLETE® Original



COMPLETE® Original

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Ergo and Tula contend that the COMPLETE Original does not meet limitation 18f because LILLEbaby's expert Mr. Myers opined that passing a hip belt through a sleeve does not constitute coupling. RRB at 95-96. I find that the COMPLETE Original has physical structure for coupling the upper leg support parts to the hip belt via mating snaps on the sleeves and the sides of the hip belt. *See* JPX-0012. Mr. Myers's testimony is contrary to the proper interpretation of the term "coupling," as demonstrated by the express disclosures of the '116 patent. *See* '116 patent at 5:59-63, Figs. 3A, 3B.

2. The COMPLETE Original Carrier is Representative of All Domestic Industry Products

Before the hearing, Respondents argued that the COMPLETE Original was not structurally representative of all of LILLEbaby's alleged domestic industry products. *See* RPHB at 344. But in their post-hearing brief Respondents apparently concede that the COMPLETE Original is representative of all of LILLEbaby's proposed domestic industry products except the Serenity. *See* RRB at 94-96.

Based on my examination of the physical exhibits, as well as the demonstrations of each domestic industry product during the hearing, I find that the COMPLETE Original is representative of all of LILLEbaby's domestic industry products, including the Serenity. All of the proposed domestic industry products have the same fundamental structure, function, and mode of operation.

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CIB at 98; CPX-0001-0003, 0006-0011, CPX-0006C; Tr. at 211:15-217:24, 223:2-224:6, 367:13-368:22; CX-0380C, CX-0382C, CX-0388C.

Respondents contend the COMPLETE Original is not representative of the Serenity model (CPX-0004 and CPX-0005) because the Serenity carriers have tabs with hook-and-loop type fasteners on their upper-leg-support parts to couple to the hip belt rather than fabric sleeves and mating snaps. *See* CPX-0004. This difference allows the Serenity line to have more than one position which provides support for the thighs of the child. *See* Tr. at 347:22-348:6. Respondents contend this difference means the Serenity carriers do not practice limitations 18d2 and 18d3. RRB at 96.

As discussed above in relation to infringement, *supra* part VIII.B.3.e)(1), Respondents are incorrect that limitations 18d2 and 18d3 permit only one “support” configuration. Because it is otherwise undisputed the Serenity satisfies limitations 18d2 and 18d3, I find that the Serenity carriers practice limitations 18d2 and 18d3.

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In sum, if claim 18 of the '116 patent were valid and enforceable, all of LILLEbaby's alleged domestic industry carriers would practice that claim.

B. Economic Prong

As discussed above, I have found that all models of LILLEbaby's domestic industry products satisfy the technical prong of the domestic industry requirement. I turn now to the question of whether LILLEbaby has established it satisfies the economic prong of the domestic industry requirement. As set forth in more detail below, the record evidence supports a finding that the economic prong of the domestic industry requirement is satisfied.

1. The Domestic Industry Products

For purposes of this investigation, LILLEbaby claims the following domestic industry products are protected by the '116 patent: COMPLETE, Pursuit (formerly Active), Serenity, and EasyGo (aka "Value") carriers. *See, e.g.*, CIB at 104. LILLEbaby has also adduced evidence to demonstrate domestic investments relating to the domestic industry products for the period January 1, 2017, through March 6, 2019.¹⁴

The COMPLETE Original was developed years before the start of the relevant period; extensions to the COMPLETE line were developed after January 2017, and the COMPLETE carriers have been sold throughout the relevant period. Tr. at 231:21-232:8. The other domestic industry products were also developed over the relevant period. For instance, LILLEbaby began development of the Active carrier in the fourth quarter of 2017; sales of the Active carrier began in October 2018 and were subsequently discontinued after a recall. Tr. at 235:1-12. Following the recall, LILLEbaby began redesigning the Active carrier in October 2018. The redesigned

¹⁴ LILLEbaby refers to this period in its briefs as the "relevant period." *See, e.g.*, CIB at 104. LILLEbaby filed the complaint in this investigation on March 6, 2019. 84 Fed. Reg. 8893.

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carrier became known as the Pursuit carrier, and sales of the Pursuit began in January 2019. *Id.* LILLEbaby began development of the Serenity carrier in the second quarter of 2018, and sales of the Serenity began in September 2019. *Id.* LILLEbaby began development of the EasyGo carrier began in February 2019, and sales of the EasyGo have not yet begun. *Id.*

The record evidence shows that LILLEbaby's domestic industry products are sold in the United States at stores such as Target, Buy Baby, and Nordstrom and through online retailers like Amazon.com. Tr. at 245:9-12, 259:14-25; JX-0433C (listing LILLEbaby domestic sales by channels on worksheet "US Breakdown of Sales – Nov – Dec"). LILLEbaby is one of the leading child carrier producers in the domestic marketplace, in which the domestic industry products represent a market share of 8%. Tr. at 1297:25-1298:9.

LILLEbaby had worldwide net sales of [REDACTED] in 2017, 2018, and January 1, 2019, through March 6, 2019, respectively, across all its products (*i.e.*, child carriers, wraps, slings, and accessories). See Tr. at 245:5-8, 251:5-9, 251:17-252:16; JX-0426C. U.S. sales comprised approximately [REDACTED] of the 2017 sales and approximately [REDACTED] of the 2018 sales. Tr. at 253:21-24, 254:3-20. LILLEbaby had worldwide gross profits (defined by LILLEbaby as net sales less cost of goods sold, or "COGS") of [REDACTED] in 2017, 2018, and January 1, 2019, through March 6, 2019, respectively. Tr. at 251:10-16, 252:17-253:20; JX-0426C. U.S. profits comprised approximately [REDACTED] of the 2017 profits and approximately [REDACTED] of the 2018 profits. Tr. at 254:3-20; JX-0426C.

LILLEbaby contends the domestic industry products are commercially significant to its business, as they constitute the vast majority of LILLEbaby's U.S. sales, whether measured by units or dollars. See CIB at 105. For example, as estimated by former LILLEbaby CFO Keith Howard in the Complaint, in 2018 the ratio of U.S. net sales of domestic industry products to all

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products was about [REDACTED] to [REDACTED], or about [REDACTED]. Tr. at 255:15-256:16; JX-0162C. LILLEbaby sold within the United States approximately [REDACTED] domestic industry products out of [REDACTED] total units worldwide in 2018, a ratio of [REDACTED]. Tr. at 256:18-258:22; CX-0395C; CX-0358C; CX-0364C. In November and December of 2018, LILLEbaby sold within the United States approximately [REDACTED] domestic industry products out of [REDACTED] total units worldwide, or a ratio of [REDACTED]. Tr. at 258:23-260:8; JX-0433C (worksheet “US Breakdown of Sales – Nov – Dec”).

2. LILLEbaby’s Domestic Expenditures on Labor

LILLEbaby argues that its domestic expenditures on research and development (“R&D”) on the domestic industry products within the relevant period, as well as other domestic expenditures to exploit the asserted patent, satisfy the economic prong of the domestic industry requirement as set forth in 19 U.S.C. § 1337(a)(3)(C) (“subsection C”). *See* CIB at 112-19. LILLEbaby also argues that its domestic expenditures on labor and capital during the relevant period satisfy the economic prong as set forth in 19 U.S.C. § 1337(a)(3)(B) (“subsection B”).¹⁵ *See id.* at 119-28. Relevant evidence supporting LILLEbaby’s arguments is summarized below.

LILLEbaby is an American company. It is incorporated in Delaware, with its headquarters and principal place of business located at 700 12th Street, Golden, Colorado, 80401. Tr. at 209:25-210:1, 236:15-16, 283:20-284:19. The record evidence demonstrates that LILLEbaby has a multi-phased R&D program, including product ideation, briefing, design, development, tech

¹⁵ LILLEbaby also argues that it satisfies the economic prong of the domestic industry requirement under 19 U.S.C. § 1337(a)(3)(A). CIB at 119-28. As the evidence supports a finding that the economic prong is satisfied under subsections B and C, I decline to reach LILLEbaby’s alternate arguments.

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pack creation,¹⁶ golden sample creation, quality control, and pre-production proof of concept, which are all accomplished in the United States or under the direction of U.S. employees. Tr. at 246:12-249:23, 384:4-13. R&D activities for the domestic industry products over the relevant time period was conducted by several LILLEbaby workers, including named inventor Lisbeth Lehan, Jeff Colton, Sunny Beermann, Alexa Sahadi, Rizza Abucejo-Ranario, Elisa George, Keely Knight, and Erin Dwyer. Tr. at 265:10-271:8.

Ms. Lehan testified that she conducted R&D in 2017 to extend the COMPLETE line, including tasks relating “safety compliance” and ideating a “Dad-focused” carrier, which later became the Active/Pursuit carrier. Tr. at 128:15-130:11, 154:22-161:21, 216:12-22, 270:13-20. Some of Ms. Lehan’s R&D on the COMPLETE line extensions included selecting fabrics and selecting Disney characters to feature on certain carriers, among other design choices. *See* Tr. at 128:18-129:13, 159:22-160:6. The design choices Ms. Lehan made as part of her work had to meet stringent compliance, qualification, and material safety standards. *See* Tr. at 128:18-129:3, 154:22-160:21, 235:17-236:9, 756:22-757:11.

Mr. Colton, LILLEbaby’s CEO, was one of the innovators of the Serenity carrier. Tr. at 227:14-228:1, 228:25-231:5; *see also* JX-0329C at 28-30 (Colton Declaration). He has also conducted R&D work on the Pursuit, Serenity, and EasyGo carriers. Tr. at 224:9-228:24. Testimony at the evidentiary hearing established that the time Mr. Colton allotted to R&D tasks included working on LILLEbaby processes [REDACTED], hiring [REDACTED], and products [REDACTED]. Tr. at 292:5-294:6.

¹⁶ A “tech pack” includes technical sketches, technical instructions for product assembly, a points-of-measure chart, points-of-measure tolerances, a bill of materials, and trim specifications. Tr. at 364:4-13.

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Ms. Beermann is a soft-goods engineer who designs and develops the domestic industry products. Tr. at 362:25-363:19, 365:6-15. She testified that she, along with Mr. Colton, Ms. Abucejo-Ranario, and Ms. Sahadi, innovated the Serenity carrier. This included working on its “perfect-fit adjustor” and the hip belt adjustment mechanisms, as well as conducting final fittings to review its form, fit, and function. Tr. at 365:16-366:8. Ms. Beermann also created in the United States the tech packs for the domestic industry products. Tr. at 363:20-364:13, 367:13-368:25; *see also* JX-0329C at 23-26 (Beermann Declaration).

Ms. Sahadi, who testified by deposition on August 27, 2019,¹⁷ was another designer and developer of the domestic industry products. Ms. Sahadi spent about [REDACTED] of her time working on the domestic industry products. Tr. at 269:23-270:8, 270:13-271:8; JX-0318C at 13:9-15:8 (regarding her work as an independent contractor and her trips to LILLEbaby’s office); *see also* JX-0318C at 17:5-18:7 (Ms. Sahadi worked as a LILLEbaby designer and developer for 18 months on the COMPLETE and other carriers), 18:24-20:16 (she identified areas for improvement in LILLEbaby’s carriers), 32:3-33:12 (explaining how the manufacturer prototyped carriers from LILLEbaby designs), 38:1-13 (explaining “BOM” or bill of materials), 39:9-42:16 (describing her work on the domestic industry and other LILLEbaby products), 43:11-44:4 (describing her work on the Pursuit and Serenity carriers), 45:8-25 (describing her work on the COMPLETE Disney carriers), 53:5-56:23 (explaining her time allocation to domestic industry products), 56:24-62:5 (identifying LILLEbaby personnel she worked with and what they did); JX-0329C at 48-53 (Sahadi Declaration).

¹⁷ The transcript of Ms. Sahadi’s deposition is marked as exhibit JX-0318C.

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Ms. Abucejo-Ranario, who testified by deposition on September 25, 2019,¹⁸ is LILLEbaby's VP of supply chain and logistics. She supervises the R&D of LILLEbaby's products, including the domestic industry products. Tr. at 268:19-269:22; JX-0321C at 48:18-25; JX-0321C at 49:1-52:3. She spends about [REDACTED] of her time on R&D and [REDACTED] on supply chain, logistics, and distribution in connection with the domestic industry products. Tr. at 270:13-271:8; JX-0321C at 111:17-112:11; *see also* JX-0321C at 96:15-98:17 (describing her supervision of product development and design execution), 98:18-101:11 (describing her role in development of the Pursuit, Serenity and EasyGo carriers), 103:22-105:11 (describing her supervision of technical design), 105:12-106:1 (describing her supervision of product prototyping), 106:2-23, 107:4-25, 109:15-23, 109:24-111:16 (describing her supervision of third-party quality control and regulatory safety standard testing), 108:20-109:4 (describing her revision of tech packs based on problems identified during prototyping); JX-0329C at 43-46 (Abucejo-Ranario Declaration).

Ms. George, Senior Director of Brand and Product, and Ms. Knight, Junior Product Manager, also contributed their time to the design and development of the domestic industry products. Tr. at 122:12-22 (Ms. Knight's 2017 R&D work), 265:10-21, 270:9-12 (Ms. Knight's 2018 and 2019 R&D work), 267:22-268:9 (Ms. George's 2018 and 2019 R&D work); JX-0321C at 50:6-16 (Ms. Knight's product design role), 50:14-52:3 (describing dual supervision roles of Ms. Abucejo-Ranario and Ms. George of Ms. Knight and Ms. Beermann); JX-0329C at 32-33 (George Declaration); JX-0329C at 39-41 (Knight Declaration).

Ms. Dwyer, former CMO of LILLEbaby, also spent time working on R&D of the domestic industry products. Tr. at 129:12-22, 160:4-16, 265:10-21, 267:10-21, 268:10-18, 270:13-271:1.

¹⁸ The transcript of Ms. Abucejo-Ranario's deposition is marked as exhibit JX-0321C.

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Not all of the R&D work performed by the above persons for LILLEbaby relate to the domestic industry products. Therefore, LILLEbaby used several different methods to allocate its domestic expenditures to the domestic industry products. *See* CIB at 106-12. The allocation methods used by LILLEbaby are estimates, as LILLEbaby does not keep records linking its workers' hours or activities to specific products. *See* Tr. at 263:22-265:6; JX-0329C (LILLEbaby's interrogatory response); JX-0332C; JX-0333C; JX-0334C; JX-0335C.

To allocate labor costs for R&D work performed on the domestic industry products, LILLEbaby used the approximate percentage of time a worker performed such work, thereby excluding R&D work on non-domestic industry products. Tr. at 265:7-271:8, 366:9-20. If the worker in question also performed non-R&D work on domestic industry products, the time percentage of that non-R&D work was further multiplied by [REDACTED] to allocate it to the domestic industry products.¹⁹

A detailed example of this type of allocation calculation was provided by LILLEbaby's economic expert Dr. Stec with respect to LILLEbaby employee Keely Knight's 2018 labor cost. The record shows that Ms. Knight performed R&D and customer service during 2018. Tr. at 710:4-17; JX-0329C at 39-41. Of the time she spent on R&D activities throughout 2018, she spent [REDACTED] on domestic industry products and [REDACTED] on non-domestic industry products. JX-0329C at 39-41. For the first five months of 2018, Ms. Knight worked on R&D about [REDACTED] of the time and

¹⁹ The [REDACTED] multiplier is a reflection of the ratio of LILLEbaby's U.S. sales of DI products in November and December of 2018 compared to worldwide sales of DI products for that same time period. This revenue-based sales ratio of [REDACTED], discussed in the preceding section, is commensurate with, and more conservative than, the unit-based sales ratio of [REDACTED] discussed in the same section. This type of percentage-based allocation is often used in economic prong analyses at the Commission, especially when, as here, the complainant does not keep product-by-product records of its expenditures. I find Dr. Stec's use of a [REDACTED] multiplier is a reasonable approximation under the circumstances of this investigation.

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spent the remainder of her time on customer service. *Id.* For the last seven months of 2018, she worked exclusively on R&D. *Id.* An arithmetic calculation results in a conclusion that Ms. Knight spent [REDACTED] of her time in 2018 conducting R&D relating to the DI products. As for the time Ms. Knight spent performing customer service activities in the first five months of 2018, Dr. Stec applied the [REDACTED] multiplier to arrive at the conclusion that Ms. Knight spent [REDACTED] of her time in 2018 working on customer service activities related to the DI products. Tr. at 710:18-712:1. In total, Ms. Knight worked [REDACTED] of her time on DI products in 2018, which, when multiplied by her 2018 salary of [REDACTED], provides a 2018 domestic industry labor cost of about [REDACTED]. *Id.*

Dr. Stec apportioned in a similar manner the labor costs of LILLEbaby R&D workers who also worked on supply chain, logistics, and distribution (Rizza Abucejo-Ranario) or sales and marketing (Erin Dwyer and Elisa George). Specifically, he identified the percentage of a worker's time spent on R&D for the domestic industry products, then added those hours to the time that worker spent on non-R&D activities multiplied by the apportionment factor of [REDACTED]. Tr. at 278:6-8, 278:21-279:3, 712:20-713:8; JX-0329C at 32-33, 43-46.

Using these sales and time allocation methods, Dr. Stec apportioned the labor costs to the domestic industry products for the relevant period. Tr. at 708:23-717:2. The total domestic expenditures Dr. Stec calculated for the domestic industry products are as follows:

- [REDACTED] for R&D,
- [REDACTED] for customer service,
- [REDACTED] for product training,
- [REDACTED] for supply chain, logistics, and distribution, and
- [REDACTED] for sales and marketing,

for a total of [REDACTED] during the relevant period. Tr. at 709:18-710:3; *see* CDX-0248.

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3. Analysis

As discussed further below, it is my determination that LILLEbaby's domestic expenditure of [REDACTED] for R&D during the relevant period satisfies the economic prong of the domestic industry requirement under 35 U.S.C. § 1337(a)(1)(3)(C), and that the [REDACTED] in domestic labor costs satisfies the economic prong of the domestic industry requirement under 35 U.S.C. § 1337(a)(1)(3)(B).

The Staff and Respondents argue that LILLEbaby has not satisfied the economic prong in this investigation, but I find their arguments unpersuasive. *See* SIB at 99-105; RRB at 96-111. As an initial matter, the Staff raises several arguments in its post-hearing brief that were not included in its pre-hearing brief. I therefore find these arguments abandoned pursuant to Ground Rule 11.2. *See* Order No. 2 (Apr. 10, 2019). The abandoned arguments are that R&D for the COMPLETE product line "occurred too long ago to support a finding that LILLEbaby satisfies the economic prong under subsection C" and that LILLEbaby's alleged R&D activities "lack a nexus" with the asserted patent. *Compare* SIB at 100-03 *with* SPB at 171-73. Staff's remaining arguments as to economic prong focus on whether labor performed by LILLEbaby's CEO Jeff Colton should be allocated to the domestic industry products and whether LILLEbaby's domestic expenditures relating to sales, marketing, and distribution efforts should be considered as part of the economic prong analysis. *See* SIB at 102-05. Respondents argue that LILLEbaby's claimed R&D expenses should be given minimal weight because of the nature of the activities involved and that LILLEbaby's expenses are not "substantial" as required by the governing statute. *See* RIB at 99-106. Staff and Respondents question the legitimacy of including the labor hours of certain LILLEbaby employees as part of the economic prong analysis. *See* SIB at 102, RIB at 104-06. I address the arguments of Staff and Respondents below.

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Respondents argue that the work of Ms. Lehan and Ms. Sahadi should be given little to no weight because their work involved researching and making aesthetic choices regarding which fabrics to use in the domestic industry products, and that “[t]he term ‘R&D’ ordinarily conjures images of researchers in a laboratory or product designers in front of CAD software.” *See* RIB at 104-05. I reject with Respondents’ characterization of what R&D “should” be in these circumstances. In an industry such as LILLEbaby’s, where the aesthetic appeal of a product is vital to its commercial success, time and other resources spent researching fabrics and patterns that would appeal to the target audience is properly considered an R&D expenditure. Respondents and Staff also argue that the work of Mr. Colton, LILLEbaby’s CEO, has not been shown to have a nexus to the asserted patent and should therefore be given little to no weight. *See* RIB at 105-06; SIB at 102. I find that argument lacks merit. LILLEbaby is a small company, and it is not unreasonable for its CEO to spend a significant portion of his time and attention on LILLEbaby’s highest-selling product line. *See Certain Loom Kits for Creating Linked Articles*, Inv. No. 337-TA-923, Comm’n Op., 2015 WL 5000874, at *4 (June 26, 2015) (crediting the value of the development work time expended by the head of a small company under section 337(a)(3)(C)). Mr. Colton’s activities, including those relating to process, product, and hiring, are properly considered in the economic prong analysis. *See, e.g.,* Tr. at 294:7-295:13.

I find that the R&D labor cost of [REDACTED] is substantial in view of the facts of this investigation, the articles of commerce at issue, and the realities of the marketplace. The record reflects that LILLEbaby exploited the patented technology by extending the COMPLETE product line to include six carrier types and by creating the new and improved product lines Pursuit (three carrier types), Serenity (two carrier types), and EasyGo. The amount of LILLEbaby’s R&D investment over the relevant period is substantial for a small company; it allowed LILLEbaby to

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maintain a sizeable share of the child carrier market while producing several award-winning products. The record demonstrates that LILLEbaby was successful in leveraging its R&D expenditures into a successful commercial product — LILLEbaby’s worldwide gross profits over the relevant period totaled [REDACTED], which is [REDACTED] times its R&D labor expense. The amount of LILLEbaby’s domestic investment “represents investment in the United States in research, design, and [product] engineering that created a new, improved product, protected by the asserted patent.” *See Certain Road Construction Machines & Components Thereof*, Inv. No. 337-TA-1088, Initial Determination at 78-79 (Feb. 14, 2019) (citing *Certain Multimedia Display & Navigation Devices & Sys., Components Thereof, & Prods. Containing Same*, Inv. No. 337-TA-694, Comm’n Op. at 12 (Jul. 22, 2011) (finding that R&D activities that relate more than minimally to the United States constitute a substantial investment under section 337(a)(3)(C)). I therefore find that LILLEbaby satisfies the economic prong of the domestic industry requirement under subsection C. As for LILLEbaby’s overall domestic labor expenditure of [REDACTED] over the relevant period, I find that this amount is significant in view of the facts of this investigation, the articles of commerce at issue, and the realities of the marketplace. In addition to R&D costs, LILLEbaby’s labor costs include investments in sales and marketing for the DI products protected by the asserted patent. I find that including sales and marketing expenses in the economic prong analysis is warranted under the circumstances of this investigation because LILLEbaby designed and developed the DI products itself and is no mere importer. *See Printing & Imaging Devices*, Inv. No. 337-TA-690, Order No. 24 at 34 (Apr. 21, 2010) (“While marketing and sales activity, alone, may not be sufficient to meet the domestic industry test, those activities may be considered as part of the overall evaluation of whether or not a Complainant meets the economic prong.”), *rev’d on other grounds*, Comm’n Op. at 30-31; *see also Certain Mobile Devices & Related Software*, Inv.

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No. 337-TA-750, Initial Determination at 6 (Sept. 15, 2011) (“The Commission has embraced a flexible, market-oriented approach to domestic industry, favoring case-by-case determination ‘in light of the realities of the marketplace’ that encompass ‘not only the manufacturing operations’ but may also include ‘distribution, [R&D] and sales.’”). In particular, LILLEbaby’s domestic investments in customer service and support and product training add value by providing education about the proper use of the domestic industry products. For example, some employees are trained baby-wearing experts, others educate consumers (either retail store salespersons or end consumers) on how to properly configure and use the carriers, provide in-person carrier fittings, develop training videos to teach the same, and answer customers’ inquiries about proper carrier usage. *See* Tr. at 273:21-274:12, 276:6-17, 759:3-25; JX-329C at 35-37 (Hill Declaration), 55-56 (Thurston Declaration); JX-0319 (Przybylski Dep.) at 36:8-13, 43:4-15, 88:9-89:9. I therefore find that LILLEbaby satisfies the economic prong of the domestic industry requirement under subsection B.

X. MOTION TO TERMINATE BYKAY AND AND JONOBABY

On January 30, LILLEbaby filed a motion to terminate respondents JonoBaby Babtragen (“JonoBaby”) and ByKay BV (“ByKay”) (collectively, the “Settling Parties”) on the basis of settlement. Motion Docket No. 1154-055. None of the participating respondents oppose the motion. Mot. at 1; *see* Ergo and Tula’s Response to LILLEbaby’s Motion to Terminate JonoBaby and ByKay EDIS Doc. ID 702017.²⁰ Staff supports the motion. EDIS Doc. ID 701535.

The Commission’s rules provide that “[a]ny party may move at any time for an order to terminate an investigation in whole or in part as to any or all respondents on the basis of settlement, a licensing or other agreement” 19 C.F.R. § 210.21(a)(2). The present motion is based upon settlement agreements between LILLEbaby and ByKay and LILLEbaby and JonoBaby, each of

²⁰ LILLEbaby’s motion for leave to file a reply, Motion Docket No. 1154-056, is hereby granted and has been considered.

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which “resolves all of the issues in dispute in this investigation between those parties.” Mot. at 2. Further, as required by Commission rule 210.21(b)(1), LILLEbaby states that “there are no other agreements, written or oral, express or implied, between” the settling parties “regarding the subject matter of this investigation.” Mot. at 2, 3; see also 19 C.F.R. § 210.21(b)(1). LILLEbaby avers that termination of this investigation as to only the Settling Parties on the basis of settlement does not constitute a determination as to the violation of section 337, including as to the merits of the claims or defenses raised during the investigation. Mot. at 2, 3; *see* 19 C.F.R. § 210.21(b)(2).

Commission Rule 210.21(b) also requires that the moving parties file a copy of the settlement agreement that serves as the basis of the requested termination. *See* 19 C.F.R. § 210.21(b)(1). If the agreement contains confidential business information within the meaning of Commission Rule 201.6(a), the moving parties must attach a public version with such confidential business information redacted to their motion, alongside an unredacted confidential version. *Id.* LILLEbaby maintains that the settlement agreements contain confidential business information within the meaning of 19 C.F.R. § 201.6. *See* Mot. at 2, 3. The confidential version of the agreement with ByKay is attached hereto as Exhibit 1, and the public version is attached hereto as Exhibit 2. The confidential version of the agreement with JonoBaby is attached thereto as Exhibit 3, and the public version is attached hereto as Exhibit 4. Having reviewed the submitted versions of the settlement agreements, I find that LILLEbaby and the Settling Parties have complied with Rule 210.21(b)(1), redacting only information that qualifies a confidential business information under Rule 201.6(a).

In any initial determination terminating an investigation by settlement agreement or consent order, the administrative law judge is directed to consider and make appropriate findings regarding the effects of the proposed settlement on the public health and welfare, competitive

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conditions in the United States economy, production of like or directly competitive articles in the United States, and United States consumers. 19 C.F.R. § 210.50(b)(2). LILLEbaby asserts that termination of this investigation based on the attached settlement agreement will not adversely affect the public interest. Mot. at 3-4. Staff agrees. EDIS Doc. ID 701535 at 3-4. Based on the submissions of LILLEbaby and Staff, there is no evidence that terminating this investigation on the basis of settlement would adversely affect the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, or United States consumers.

Because all of the conditions for termination on the basis of settlement are met, the motion to terminate the investigation as to JonoBaby and ByKay, Motion No. 1154-055, is granted.

XI. CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties, subject-matter jurisdiction over the investigation, and *in rem* jurisdiction over the accused products.
2. The importation requirement of section 337 is satisfied with respect to the accused products.
3. LILLEbaby has standing to bring the complaint in this investigation, and Motion Docket No. 1154-034 is denied.
4. Claim 18 of U.S. Patent No. 8,172,116 is invalid as anticipated by Linday.
5. Claim 18 of U.S. Patent No. 8,172,116 is invalid as obvious in view of Linday and the knowledge of a person of ordinary skill in the art.
6. Claim 18 of U.S. Patent No. 8,172,116 is not indefinite.
7. Claim 18 of U.S. Patent No. 8,172,116 is unenforceable for inequitable conduct during prosecution of the patent application.
8. None of the accused products have been shown to infringe claim 18 of U.S. Patent No. 8,172,116.
9. The technical prong of the domestic industry requirement would be satisfied by LILLEbaby's practice of claim 18 of U.S. Patent No. 8,172,116 if that claim were valid and enforceable.

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10. The economic prong of the domestic industry requirement would be satisfied based on expenditures related to articles protected by claim 18 of U.S. Patent No. 8,172,116 if that claim were valid and enforceable.
11. No violation of section 337 has occurred based on the importation or sale of articles alleged to infringe claim 18 of U.S. Patent No. 8,172,116.
12. Respondents JonoBaby Babtragen and ByKay BV are terminated on the basis of settlement, and Motion Docket No. 1154-055 is granted.

XII. RECOMMENDED DETERMINATION ON REMEDY & BOND

The Commission's Rules provide that the administrative law judge shall issue a recommended determination concerning the appropriate remedy in the event that the Commission finds a violation of section 337, and the amount of bond to be posted by respondents during Presidential review of the Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

A. Limited Exclusion Order

Because I do not find a violation of section 337, I do not recommend that a limited exclusion order should issue. However, if the Commission determines that a violation of section 337 has occurred, I recommend that the Commission issue a limited exclusion order barring entry of articles that infringe the claim 18 of the '116 patent. That order would encompass the accused products of respondents Ergo, Tula, and Infantino.

Respondents request that, if a limited exclusion order issues, it include a certification provision allowing importation of products that Respondents certify do not fall within the order and that the order include an exception for warranty and repair. RRB at 111-112. Staff supports the former, but opposes the latter. SIB at 111. Although Respondents raised these issues in their prehearing brief, *see* RPB at 371-72, LILLEbaby did not address either request in its post hearing brief.

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Certification provisions aid U.S. Customs and Border Protection in enforcing Commission orders and are particularly warranted where, as here, respondents sell a variety of goods not accused in the investigation, including goods similar to those accused. *See Certain Dental Implants*, Inv. No. 337-TA-934, Comm’n Op., EDIS Doc. ID 580942 (May 11, 2016). Given the abstract nature of the claims and the difficulty in discerning infringement that results, as well as the numerous similar but non-accused products offered by Respondents, including non-infringing redesigns, I recommend a certification provision be included in any limited exclusion order that the Commission may issue.

Although Staff takes the position that a repair and warranty exception is not warranted, LILLEbaby did not oppose the inclusion of such a provision in its briefs. Such exceptions are commonplace, particularly where consumers have made investments in articles protected by warranties that can only be honored with potentially excluded goods. *See, e.g., Certain Mobile Devices, Associated Software, and Components Thereof*, Notice of Commission Final Determination at 3 (May 18, 2012) (provided an exception for “service, repair or replacement articles for use in servicing, repairing or replacing mobile devices under warranty or insurance contract”); *Certain Combination Motor and Transmission Sys. and Devices Used Therein, and Prods. Containing the Same*, Inv. No. 337-TA-561, Final Initial and Recommended Determinations at 193 (Feb. 13, 2007) (USITC Pub. No. 4130) (any limited exclusion order should not reach third-party customers who had already purchased the accused hybrid vehicles and exempted components for use in repair and replacement of previously purchased vehicles). Given that LILLEbaby did not oppose the inclusion of such an exception, I recommend that, should the Commission enter a limited exclusion order, it include an exception for repair and warranty of previously sold accused products.

PUBLIC VERSION

B. Cease and Desist Order

Because I do not find a violation of section 337, I do not recommend the issuance of a cease and desist order. If the Commission determines that a violation of section 337 has occurred, however, I recommend entry of cease and desist orders against Ergo, Tula, and Infantino, for the reasons discussed below.

Under Commission precedent, “[c]ease and desist orders are generally issued when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order.” *Certain Air Mattress Systems, Components Thereof, and Methods of Using the Same*, Inv. No. 337-TA-971, Comm’n Op. at 49 (May 17, 2017) (EDIS Doc. No. 614743) (citations and footnote omitted). “A complainant seeking a [cease and desist order] must demonstrate, based on the record, that this remedy is necessary to address the violation found in the investigation so as to not undercut the relief provided by the exclusion order.” *Id.* at 50.

All three Respondents are domestic corporations with principal places of business in the United States. RPHB at 4-5. As of June 10, 2019, Ergo had [REDACTED] units of Ergo accused products in the United States. CX-0312C (Ergo Baby Stipulation) at ¶ 8. Infantino had approximately [REDACTED] units of the Infantino accused products as of October 14, 2019. CX-0505C (Infantino stipulation) at ¶ 8. But Tula has far fewer accused products in its domestic inventory, approximately [REDACTED] units. CX-0313C (Tula Stipulation) at ¶ 8.

Respondents argue LILLEbaby has failed to provide sufficient context to determine whether these inventories are commercially significant. The record is clear, however, that both Infantino and Ergo’s inventories are substantial fractions of the LILLEbaby’s total annual domestic sales in 2017 and 2018 by number of units. *See* Tr. at 1297:4-12, 1297:25-1298:9 (discussing CDX-0262C and CDX-0264C). In contrast, the record does not demonstrate that

PUBLIC VERSION

Tula's inventory is commercially significant when compared with the inventory of other parties in this investigation.

Because Ergo and Infantino are domestic corporations with commercially significant domestic inventory, I recommend the Commission issue cease and desist orders to those two respondents in the event the Commission determines that a violation of section 337 has occurred. I do not recommend the Commission issue a cease and desist order to Tula even if the Commission determines a violation of section 337 has occurred.

C. Bond During Presidential Review

In the event that the Commission determines to issue a remedy, it must determine the amount of bond to be required of a respondent during the 60-day Presidential review period. *See* 19 U.S.C. §1337(j)(3). The purpose of the bond is to protect the complainant from any injury. *See* 19 C.F.R. §§ 210.42(a)(1)(ii), 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the price differential between the domestic product and the imported, infringing product. *See Microsphere Adhesives, Processes for Making Same, and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, USITC Pub. 2949 (Dec. 8, 1995), Comm'n Op. at 24. In other cases, the Commission has turned to alternative approaches, especially when a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecomm. Chips and Prods. Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, USITC Pub. 2670 (June 22, 1993), Comm'n Op. at 41.

LILLEbaby seeks a bond of 12%, based on royalty rates it received from other parties in settlements negotiated during the course of this investigation. CPHB at 826. Staff supports this position. SIB at 107.

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Respondents argue that LILLEbaby has failed to meet its burden because it introduced no evidence that it will sustain injury absent a bond, and LILLEbaby's expert took no position on whether a bond was warranted. *See* RPHRB at 113 (citing Tr. at 755:3-11). Respondents note further that pricing for the accused products is readily publicly available, but LILLEbaby provided no explanation why it "was unable to ascertain the transaction prices of the Accused Products." RPHRB at 113 (quoting CPHIB at 130). Both of these failures, Respondents contend, warrant setting the bond at zero. *Id.*

Although I agree LILLEbaby likely could have performed a comparative price analysis, given that price information appears to be readily available, nothing in section 337 or the Commission's rules required it to undertake that specific analysis. The Commission regularly sets bond based on a reasonable royalty where that information is available. Here, multiple competitors entered into settlement agreements [REDACTED] *See* Tr. at 285:24-287:17, 718:21-719:13; CX-0011C:0007-0008; CX-0013C:0019-0020; CX-0012C:0009-0010; *see also* CDX-0261C. A bond of 12% is therefore reasonable in light of the record. Should the Commission determine to issue a remedy, I recommend Respondents be subject to a bond of 12% for importation during the Presidential review period.

XIII. INITIAL DETERMINATION

I hereby certify to the Commission this Initial Determination and the Recommended Determination.

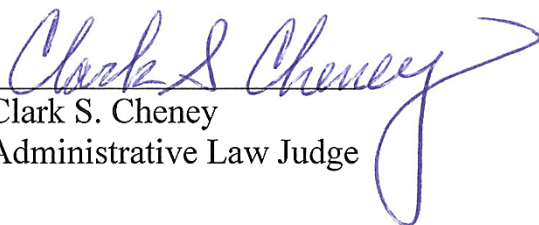
The Secretary shall serve the confidential version of this Initial Determination upon counsel who are signatories to the Protective Order (Order No. 1) issued in this investigation. A public version will be served at a later date upon all parties of record.

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Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

Within seven days of the date of this document, the parties must jointly submit a statement to Cheney337@ustic.gov stating whether or not each seeks to have any portion of this document redacted from the public version. Should any party seek to have any portion of this document redacted from the public version thereof, the parties shall attach a copy of a **joint** proposed public version of this document indicating with red brackets any portion asserted to contain confidential business information.²¹ To the extent possible, the proposed redactions should be made electronically, in a PDF of the issued order, using the “Redact Tool” within Adobe Acrobat, wherein the proposed redactions are submitted as “marked” but not yet “applied.” The parties’ submission concerning the public version of this document should not be filed with the Commission Secretary.

SO ORDERED.


Clark S. Cheney
Administrative Law Judge

²¹ If the parties submit excessive redactions, they may be required to provide an additional written statement, supported by declarations from individuals with personal knowledge, justifying each proposed redaction and specifically explaining why the information sought to be redacted meets the definition for confidential business information set forth in Commission Rule 201.6(a). 19 C.F.R. § 201.6(a).

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served via EDIS upon the Commission Investigative Attorney, **Andrew Beverina, Esq.**, and the following parties as indicated, on **April 7, 2020**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
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- ☒ Via First Class Mail
- ☐ Other: Service to Be
Completed by Complainants

**CERTAIN CHILD CARRIERS AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1154

Certificate of Service – Page 2

Jonobaby Babytragen
GutenbergstraBe 17
14467 Potsdam
Germany

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other: Service to Be
Completed by Complainants

Quanzhou Mingrui Bags Co. Ltd.
Room 301, No. 3 Building, East JinPu Road
Hi-Tech Park JiangNan, FuQiao, Quanzhou, Fujian 362000
China

☐ Via Hand Delivery
☐ Via Express Delivery
☒ Via First Class Mail
☐ Other: Service to Be
Completed by Complainants

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN CHILD CARRIERS AND
COMPONENTS THEREOF**

INV. NO. 337-TA-1154

ORDER NO. 34: CONSTRUING CLAIMS

(November 21, 2019)

I. Introduction

This order concerns the construction of certain claim terms and phrases in U.S. Patent Nos. 8,172,116 (“the ’116 patent”) and 8,424,732 (“the ’732 patent”). The ’116 and ’732 patents are directed to devices to enable adults to carry children. *See* ’116 patent at Abstract; ’732 patent at Abstract. The ’732 patent is a continuation of the ’116, so the two patents share a specification.

Pursuant to the procedural schedule in this investigation, complainant LILLEbaby, LLC (“LILLEbaby”) and respondents Blue Box OpCo LLC d/b/a Infantino, The Ergo Baby Carrier, Inc., and New Baby Tula, LLC (collectively, “Respondents”) submitted initial claim construction briefs on July 31, 2019, and responsive claim construction briefs on August 14, 2019.¹ *See* Order No. 7. Also pursuant to the procedural schedule, Staff filed its own initial claim construction brief (“SIMB”) on August 7, 2019, and a responsive claim construction brief (“SRMB”) on August 21, 2019.

¹ Other respondents provided claim construction briefing but have since been terminated from the investigation based on settlement.

On September 11, 2019, I convened a hearing to entertain oral argument on claim construction. The parties presented nine claim construction disputes in their briefing. On November 12, 2019, several claims of the asserted patents were terminated from the investigation, mooted the parties' dispute over the construction of the term "foldable." *See* Order No. 31. The remaining disputed claim terms are addressed below.

II. Legal Standard

"An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*) (internal citations omitted), *aff'd*, 517 U.S. 370 (1996). Claim construction resolves legal disputes between the parties regarding claim scope. *See Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319 (Fed. Cir. 2016).

Evidence intrinsic to the application, prosecution, and issuance of a patent is the most significant source of the legally operative meaning of disputed claim language. *See Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*); *see also Markman*, 52 F.3d at 979. As the Federal Circuit explained in *Phillips*, courts must analyze each of these components to determine the "ordinary and customary meaning of a claim term" as understood by a person of ordinary skill in the art at the time of the invention. 415 F.3d at 1313.

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir.

2004)). “Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claims terms.” *Id.* at 1314; see *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (“In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to ‘particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.’”). The context in which a term is used in an asserted claim can be “highly instructive.” *Phillips*, 415 F.3d at 1314. Additionally, other claims in the same patent, asserted or unasserted, may also provide guidance as to the meaning of a claim term. *Id.*

The specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Id.* at 1316. “In other cases, the specification may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Id.* As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323. In the end, “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be . . . the correct construction.” *Id.* at 1316 (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

When the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence (*i.e.*, all evidence external to the patent and the prosecution history, including dictionaries, inventor testimony, expert testimony, and learned treatises) may be considered. *Id.*

at 1317. Extrinsic evidence is generally viewed as less reliable than the patent itself and its prosecution history in determining how to define claim terms. *Id.* “The court may receive extrinsic evidence to educate itself about the invention and the relevant technology, but the court may not use extrinsic evidence to arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence.” *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999).

III. Analysis

Level of Ordinary Skill in the Art

LILLEbaby contends a person of ordinary skill in the art at the time of the inventions of the asserted patents would “have had a level of knowledge roughly equivalent to that of a person holding a bachelor’s degree in mechanical engineering or industrial design and would have had a general understanding of child carrier development and ergonomic principles” or alternatively “have had about three years of experience in developing child carriers.” Complainant’s Initial Markman Brief (“CIMB”) at 10.

Respondents did not provide a proposed level of ordinary skill in their opening brief. In their responsive brief, they provided a level of ordinary skill that differs only slightly from that proposed by LILLEbaby. Respondents’ Reply Markman Brief (“RRMB”) at 1.

Staff adopts LILLEbaby’s position on the appropriate level of skill in the art. SIMB at 3.

Respondents contend that the claim construction analysis is the same under either proposal, rendering the dispute immaterial. *See* RRMB at 1. For clarity, I adopt LILLEbaby’s proposed level of skill in the art.

A. “coupled to”

Term	LILLEbaby’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction	Construction
“coupled to” ’116 patent, claims 18, 19, and 25. ’732 patent, claims 10, 13, and 14.	Plain and ordinary meaning, which is “connected to” ²	Plain and ordinary meaning, which is “attached to when previously detached from”	“connected to”	Plain and ordinary meaning.

LILLEbaby and Staff contend coupled means simply “connected to.” Respondents, on the other hand, contend the term “coupled” and its conjugations connote the joining of two previously separate members. Respondents’ Initial Markman Brief (“RIMB”) at 12. The material dispute between the parties is whether two parts “coupled to” each other can include “unitary construction of the two parts with a seamless junction.” *See* CIMB at 17; SIMB at 6. For example, in the patent’s usage, is one half of a single piece of continuously woven fabric “coupled to” the other half? LILLEbaby and Staff say yes and Respondents say no. Despite this disagreement, LILLEbaby and Respondents both posit their dueling constructions represent the plain and ordinary meaning of the term. *See* CIMB at 12 (“This term has its plain and ordinary meaning and no construction is necessary.”); RIMB at 12 (“the patents use the term ‘coupled’ to have its plain

² LILLEbaby further provides that “a person of ordinary skill in the art at the time of the inventions would know that a seat support part coupled to a torso support part may be formed from a single piece of material, or may be formed from multiple pieces of material, multiple layers of materials, or multiple materials. The junction between a torso support part and a seat support part may be a seamless transition. For example, the seat support part and torso support part may comprise a unitary construction of one or more layers of material. In other products, the junction may include seams, edges or other features delineating between the torso support part and the seat support part.” CIMB at 12, 13.

and ordinary meaning”). Curiously, Staff does *not* contend that the plain meaning of “coupled to” is “connected to”; it merely asserts that “connected to” is the most appropriate construction in the context of the asserted patents. *See* SIMB at 5.

I start by analyzing the intrinsic evidence. The claims themselves can provide guidance as to the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. Here, the asserted claims describe “a seat support part coupled to the torso support part.” *See, e.g.*, ’116 patent, claim 1; ’732 patent, claim 1. Other uses of the phrase include “a first fastener coupled to the left shoulder strap” (’116 patent, claim 2) and “a hip belt coupled to the seat support part” (’732 patent, claim 1). These examples inform the skilled artisan that coupling is a connection between two parts, but the claim language itself does not resolve whether those parts must have been previously detached from each other.

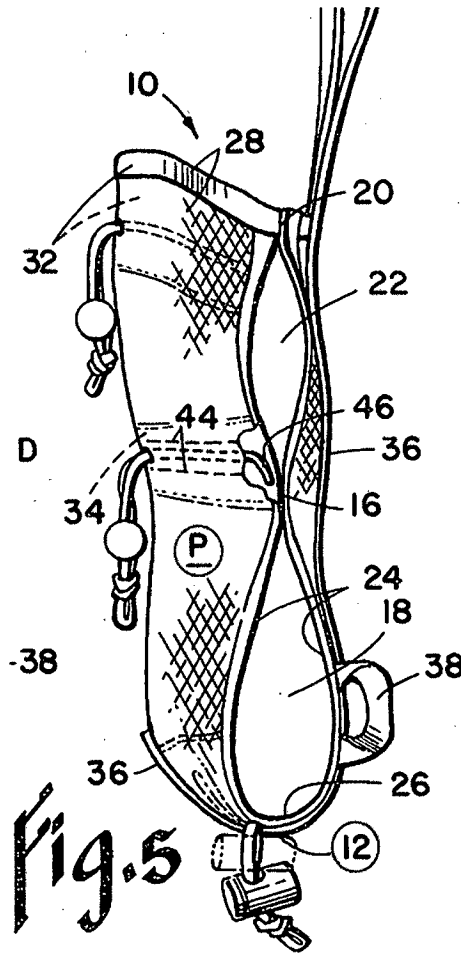
Similarly, the specification of the patents does little to resolve the dispute. Respondents assert that “[w]ithout exception” each time the specification describes objects as “coupled to” each other, the objects are “two separate, structural elements.” RIMB at 9-12. I do not find the specification passages cited by Respondents to be as definitive as Respondents contend. The specification merely uses the phrase “coupled to” in the same manner as the claims: the specification does not expressly state whether connected parts are regions of a unitary member or were, at some prior point, detached from each other. *See, e.g.*, ’116 patent at 2:62-66 (“The seat support part 120 is configured for supporting the posterior of the child 105 while in the carrier 100 and is coupled to the torso support part 115.”).

Respondents point to certain lines in the patent figures as supposedly showing “two physically separate parts that are attached to each other,” but there is no indication in the prose of the specification that the lines Respondents identify represent any such thing. The lines could be

decorative or merely illustrative of regions of a unitary member. The specification doesn't answer the question.

The prosecution history is more useful. During prosecution of the '116 patent, the examiner rejected the presented independent claims as anticipated by three separate references, including U.S. Patent Nos. 4,434,920 (Soft Othopedic Pouch Type Infant Carrier, "Moore"), and 4,986,458 (Infant Carrier, "Linday"). *See* Complaint Appendix A, EDIS Doc. ID 672042 ('116 file history, 9/15/2011 Non-Final Rejection) at COMPL000087-103. The examiner found that Moore disclosed a "seat support part (12) coupled to the torso support part (P)." *Id.* at COMPL000087. Moore described her claimed infant carrier as comprising "a single elongate fabric panel P folded more or less in half transversely so as to define an open topped pouch closed at the bottom 12 to produce a seat." Moore at 3:19-23.³ The described configuration is shown in Figure 5 of Moore (annotated with circled part numbers below):

³ Moore's express description of her drawing as illustrating a "single elongate fabric panel" stands in contrast to any description of the drawings in the asserted patents. The asserted patents never state, for example, whether the seat support part and torso support part are parts of a "single...fabric panel" or something else.



Thus, the examiner of the '116 patent considered a single piece of fabric in Moore to serve as the torso support part "coupled to" the seat support part in satisfaction of the claim language.

At the same time, the examiner also rejected the independent claims because Linday disclosed a "seat support part (3) coupled to the torso support part (1)." Complaint Appendix A ('116 file history, 9/15/2011 Non-Final Rejection) at COMPL000091. Similar to Moore, Linday disclosed that the claimed infant carrier's torso support part and seat support part are formed from a single piece of material. Linday at 2:46-52. The '116 examiner identified the seat support part 1 in Linday as the lower part of the single piece of fabric that also formed the torso support part 3.

This further confirms the examiner understood a seat support part could be “coupled to” a torso support part even though the two were merely regions of a single piece of material.

The examiner indicated that proposed dependent claims 16, 17, 18, 26 and 27, which further included limitations concerning the upper-leg-support parts, would be allowable if written in independent form. Complaint Appendix A (’116 file history, 9/15/2011 Non-Final Rejection) at COMPL000101.

After receiving the foregoing rejection, the applicant cancelled the anticipated independent claims and re-wrote allowable dependent claims in independent form, using the same “coupled to” language that was used in the rejected claims. *See* Complaint Appendix A at COMPL000113-16 (’116 file history, 12/5/2011 Amendment). The new claims, with the same “coupled to” limitations, were then allowed. *Id.* at COMPL000128-132 (1/6/2012 Notices of Allowance and Allowability).

This history demonstrates the examiner understood that one region of a unitary object, like a single piece of fabric, could be coupled to another region of that same object. The examiner did not interpret the phrase “coupled to” to require previously detached parts. Although the examiner was applying the broadest reasonable interpretation of the claims and I must apply the *Phillips* claim construction standard here, the examiner’s understanding is intrinsic evidence of how a person of ordinary skill in the art understood the term at the time the application was filed. *See Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1347 (Fed. Cir. 2005) (“Statements about a claim term made by an examiner during prosecution of an application may be evidence of how one of skill in the art understood the term at the time the application was filed.”); *see also Phillips*, 415 F.3d at 1315 (collecting cases holding that the meaning of a term can be discerned from how it is understood by persons of ordinary skill in the art and in the prosecution history). Given that

the patent claims and specification provide little guidance, the examiner's understanding is the best indication in the intrinsic record of whether "coupled to" encompasses two parts that have never previously been detached. The examiner understood that two parts of a unitary object could be "coupled to" each other. Importantly, nothing else in the intrinsic record contradicts the examiner's understanding.

In view of the intrinsic evidence, particularly the prosecution history, I determine that Respondents' construction of "coupled to" should not be adopted. As for Staff's construction, I find that substituting other terms for "coupled"—like "connected"—does little to resolve the parties' dispute and so I decline to adopt it.

To the extent that LILLEbaby contends that two parts that merely touch are "coupled to" each other, I find LILLEbaby disclaimed that scope at the *Markman* hearing. See Transcript of *Markman* hearing held on September 11, 2019 ("Tr.") at 101:22-102:4 ("If the sleeve was cut in half, and it wasn't a sleeve, then, and it was just laying on top of the hip belt, **I wouldn't say that's coupled to the hip belt. It's just touching.**") (emphasis added); 103:15-23 ("[coupled is] not just touching . . . there has got to be something that keeps it there"). I therefore decline to adopt a construction so broad as to encompass merely touching.

Viewing the record as whole, I find that the phrase "coupled to" should be construed according to its plain and ordinary meaning. LILLEbaby and Respondents agree on that construction, so far as it goes. See CIMB at 12 ("This term has its plain and ordinary meaning and no construction is necessary."); RIMB at 12 ("the patents use the term 'coupled' to have its plain and ordinary meaning"). To the extent LILLEbaby and Respondents dispute the plain and ordinary meaning of "coupled to," the analysis above resolves that dispute to the extent necessary at this point in the investigation. See *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355

(Fed. Cir. 1998) (“[A]fter the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact.”). The parties may view my decision here as a close question. Should either party wish to preserve for Commission review any arguments under their proposed construction, they should present evidence on that construction and its implications at the hearing.

B. “decoupled from”

Term	LILLEbaby’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction	Construction
“decoupled from” ’116 patent, claim 19.	Plain and ordinary meaning, which is “disconnected from”	Plain and ordinary meaning, which is “detached from when previously attached to”	“disconnected from”	not coupled to when at least temporarily previously coupled

At the *Markman* hearing at this investigation, the parties agreed that in the context of the claims “decoupled from” means “not coupled to when at least temporarily previously coupled.” See Tr. at 186:10-15 (Complainant), 186:20-24 (Respondents), 188:3-9 (Staff).

C. “can be coupled”, “configured for coupling”, “configured for optionally coupling”

Term	LILLEbaby’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction	Construction
“can be coupled” ’116 patent, claim 25. ’732 patent, claim 13.	Plain and ordinary meaning, which is “can be connected”	“is designed to be changed between being detached and attached”	“can be connected”	Plain and ordinary meaning
“configured for coupling” ’116 patent, claim 18.	Plain and ordinary meaning, which is “configured for connecting”		“arranged for connecting”	has physical structure for coupling
“configured for optionally coupling” ’732 patent, claim 10.	Plain and ordinary meaning, which is “configured for optionally connecting”		“arranged for optionally connecting”	has physical structure for optional coupling

Respondents argue for a single construction for the claim terms “can be coupled,” “configured for coupling,” and “configured for optionally coupling.” RIMB at 15. Staff and LILLEbaby argue that each must be given different constructions, with LILLEbaby arguing for what it contends is the plain and ordinary meaning of each term. CIMB at 17, 27; SIMB at 15, 25, 30. The main dispute appears to be whether the terms “may read on a permanent coupling.” RRMB at 5, 12, 18.

1. “can be coupled”

At the *Markman* hearing in this investigation, all the parties except the BabyBjörn Respondents agreed that no construction of this term was necessary because viewing the term in

the context of other claim language resolves any dispute. *Compare* Tr. at 104:21-105:18, 109:1-110:9 *with id.* at 112:3-16. The BabyBjörn Respondents have now been terminated from the investigation. Accordingly, I will apply the plain and ordinary meaning of this term, in context, in my infringement analysis.

2. “configured for coupling”

At the *Markman* hearing, LILLEbaby and Staff agreed that “configured for” means “has physical structure for performing [the claimed function.]” Tr. at 164:20-166:1 (LILLEbaby), 166:2-4 (Staff). At least some of the respondents maintained, however, that “configured for” required an inquiry into the intended design of the product. *See* RIMB at 19-20; RRMB at 12-13; Tr. at 169:24-170:17. Those respondents also maintained that “configured for” and “configured for optionally” both entailed a degree of optionality, and so would not read on permanent attachments. RRMB at 12; Tr. at 170:18-21.

I find that “configured for” means “has physical structure for performing [the claimed function],” and “coupling” has its plain and ordinary meaning as discussed above. To the extent Respondents maintain this term requires an inquiry into the intent of the designer of the accused structure, I find nothing in the intrinsic evidence requires such an inquiry as a matter of claim construction.

Additionally, for the reasons discussed below regarding “configured for optionally coupling”, I find that “configured for coupling” reads on permanent attachments.

3. “configured for optionally coupling”

To the extent Respondents seek a construction that “configured for optionally coupling” applies only to structures that can be attached and detached, apparently LILLEbaby and Staff

believe the proper construction of this phrase should cover two objects that have been permanently affixed to each other.

To resolve the parties' dispute, I begin again with the language of the claim. "[C]onfigured for optionally coupling" appears only in claim 10 of the '732 patent. The addition of the word "optionally" distinguishes this phrase from the claim term discussed above, "configured for coupling." The difference between the two phrases creates a presumption that "configured for coupling" does not necessarily entail optionality. *Phillips*, 415 F.3d at 1325 ("claim terms should not be read to contain a limitation where another claim restricts the invention in exactly the same manner"); *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) ("There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.").

Other language in claim 10 gives context for the interpretation of "optionally coupling." Claim 10 requires that an upper-leg-support part "is configured for optionally coupling to the left side of the hip belt." Claim 10 then goes on to describe two alternative states that result when the upper-leg-support part is coupled or not coupled:

if the [left/right] upper-leg-support part is coupled to the [left/right] side of the hip belt, the [left/right] upper-leg-support part is configured to support at least part of the [left/right] [thigh] of the child, otherwise the [left/right] upper-leg-support part does not [substantially]⁴ support the [left/right] [thigh] of the child

See '732 patent, claim 10. The claims thus describe two alternative configurations, each with a specifically defined function, contingent on whether or not the upper-leg-support part is coupled to the hip belt. The parties agree that all the claims of the patents require this ability to switch between two configurations for the child's legs. *See* Tr. at 27:14-16 (LILLEbaby's counsel: "all claims require the ability of going back and forth between both configurations"); 28:6-7

⁴ "Substantially" is included in the claim only with respect to the left thigh of the child.

(“Respondents agree that the reversibility is a requirement”); 28:25-29:5 (Staff agrees the claims require changing leg configurations). Claim 10 of the ’732 patent is one embodiment of the changeable configuration.

The use of “configured for optionally coupling” in claim 10 of the ’732 patent stands in contrast to the use of “configured for coupling” in the claims of the ’116 patent. Whereas claim 10 describes two states resulting from coupling or not coupling the upper-leg-support parts to the hip belt, the ’116 patent claims do not describe two states associated with claim elements that are merely “configured for coupling.” The reason for this difference becomes clear in context: the ’116 patent claims with the phrase “configured for coupling” describe components of the shoulder straps (either the straps themselves, as in claims 1 and 9, or fasteners used to couple the shoulder straps to the torso, as in claims 2, 11, and 20). When the shoulder straps are not coupled at all, the invention cannot carry a child and therefore would fail to function as claimed. Thus, the coupling for which the strap ends and fasteners are configured is not “optional,” because the coupling must occur for the apparatus to fulfill its claimed function. As a corollary, because elements “configured for coupling” in the ’116 patent need not change between coupled and uncoupled states to achieve the claimed functionality, “configured for coupling” is broad enough to encompass a permanent or non-reversible coupling.

This distinction is born out by the specification. The phrase “configured for optionally coupling” does not appear in the specification, but column 10 of the ’732 patent describes the two states of the invention recited in claim 10:

the [left/right] upper-leg-support part 145-L is further configured for coupling to the [left/right] side of the hip belt 140; . . . ; if the [left/right] upper-leg-support part 145-L is coupled to the [left/right] side of the hip belt 140 . . . , the carrier 100 is configured for supporting the thighs 110 of the child 105 proximately perpendicular to the body 165 of the child 105; and if the [left/right] upper-leg-support part 145-L is decoupled from the left

side of the hip belt 140 . . . , the carrier 100 is configured to enable the thighs 110 of the child 105 to hang proximately parallel to the body 165 of the child 105.

'732 patent at 10:41-54. Like claim 10, the specification describes two alternative configurations contingent on whether or not the upper-leg-support part is coupled to the hip belt. And like the claims of the '116 patent, the only other use of “configured for coupling” in the '732 patent specification is to describe the relationship of the claimed strap ends (and related fasteners) to the claimed torso support part (and its related fasteners). *See* '732 patent at 10:26-34.

Based upon the foregoing, and the record as a whole, I find that “configured for optionally coupling” describes a coupling which must be reversible.

D. “[does] not support”

Term	LILLEbaby's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction	Construction
“[does] not support” '116 patent, claim 18. '732 patent, claim 10.	Plain and ordinary meaning, which is: “enables the [right/left] upper leg of the child to hang downward” ⁵	Plain and ordinary meaning, which is: “provides no support for” (or, in the alternative, indefinite)	Plain and ordinary meaning, which is: “does not support”	Plain and ordinary meaning

⁵ LILLEbaby's full position is that “This term has its plain and ordinary meaning and no construction is necessary. A person of ordinary skill in the art at the time of the inventions would know that the term “[does] not support” in the phrase “otherwise the [right/left] upper-leg-support part does not support the [right/left] upper leg of the child” means “otherwise the [right/left] upper-leg-support part enables the [right/left/] upper leg of the child to hang downward.” I summarize their proposed understanding as “enables the [right/left] upper leg of the child to hang downward” for comprehensibility of this opinion.

At the *Markman* hearing in this investigation, the parties agreed that this term should be given its plain and ordinary meaning. See Tr. at 197:14-198:5. I will therefore apply the plain and ordinary meaning of this phrase in my infringement analysis.

E. “disposed on”

Term	LILLEbaby’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction	Construction
“disposed on” ’116 patent, claims 1, 9, and 18. ’732 patent, claim 10.	Plain and ordinary meaning, which is: “located on”	Plain and ordinary meaning, which is: “located on something else”	Plain and ordinary meaning, which is: “located on”	Plain and ordinary meaning

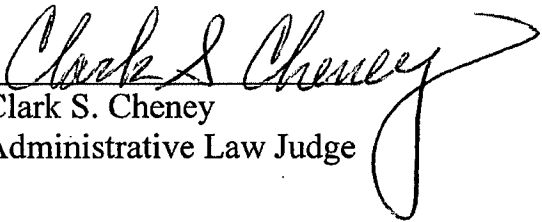
In claim construction briefing and at the claim construction hearing, the parties agreed that the term “disposed on” should be understood by its plain and ordinary meaning, but disputed what that meaning is. Subsequently, the parties have agreed that “disposed on” means “located on.” EDIS Doc. ID 694850 (Respondents Pre-Hearing Brief) at 37. Accordingly, I will apply that definition in my infringement analysis.

F. “strap end(s)”

Term	LILLEbaby’s Proposed Construction	Respondents’ Proposed Construction	Staff’s Proposed Construction	Construction
“strap end(s)” ’116 patent, claim 18.	Plain and ordinary meaning, which is: “terminating portion(s) of a strap”	Plain and ordinary meaning, which is: “terminating portion(s) of the strap”	Plain and ordinary meaning, which is: “terminating portion(s) of the strap”	Plain and ordinary meaning

At the *Markman* hearing in this investigation, the parties agreed that this term should be understood by its plain and ordinary meaning. Tr. at 221:23-223:25. I will apply that meaning in my infringement analysis.

SO ORDERED.


Clark S. Cheney
Administrative Law Judge

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER NO. 34** has been served by hand upon the Commission Investigative Attorney, Andrew Beverina, and the following parties as indicated, on **November 21, 2019**.



Lisa R. Barton, Secretary
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**CERTAIN CHILD CARRIERS AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1154

Certificate of Service – Page 2

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**CERTAIN CHILD CARRIERS AND COMPONENTS
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