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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HAN XU, JOHN FERRER, ANTONIUS LAMBERTUS DEBEER,
ZDENEK MECL, FRANTISEK KLASKA, JIRI KUMMER,
PAVLINA KASPARKOVA, and JAROSLAV KOHUT

Appeal 2019-003684
Application 14/058,376
Technology Center 1700

Before ROMULO H. DELMENDO, BEVERLY A. FRANKLIN, and
JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to reject claims 1–27.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies The Procter & Gamble Company as the real party in interest. Appeal Brief filed January 7, 2019 (“Appeal Br.”) at 1.

² Non-Final Office Action entered July 5, 2018 (“Office Act.”) at 1.

CLAIMED SUBJECT MATTER

Claim 1 illustrates the subject matter on appeal, and is reproduced below with subject matter of particular relevance to the present appeal italicized:

1. An article comprising:
a liquid pervious layer;
a liquid impervious layer;
an absorbent core disposed between said liquid pervious layer and said liquid impervious layer; and
a nonwoven web comprising:
at least a first layer of fibers that are made of a first composition comprising a first polyolefin, a second polyolefin, and a softness enhancer additive,
wherein said *second polyolefin is a propylene copolymer* and
wherein said *second polyolefin is a different polyolefin than said first polyolefin*; and
wherein the softness enhancer additive comprises one or more saturated amides and one or more unsaturated amides;
at least a second layer of fibers that are made of a second composition void of propylene copolymers,
wherein fibers of the first layer have a different denier than fibers of the second layer and
wherein a basis weight of the first layer is substantially the same as a basis weight of the second layer, and wherein the nonwoven web comprises a neckdown modulus of 3.5 N/cm or greater.

Appeal Br. 8 (Claims Appendix) (emphasis added and spacing altered relative to original).

REJECTIONS

The Examiner maintains the following rejections in the Examiner's Answer entered February 4, 2019 ("Ans."):

I. Claims 1–16 and 18–24 under 35 U.S.C. § 103(a) as unpatentable over Lu³ in view of Dharmarajan,⁴ Peng,⁵ and Childs,⁶ as evidenced by AIC Stearamide Specification Sheet;⁷

II. Claims 25–27 under 35 U.S.C. § 103(a) as unpatentable over Lu in view of Dharmarajan and Peng, as evidenced by AIC Stearamide Specification Sheet; and

III. Claim 17 under 35 U.S.C. § 103(a) as unpatentable over Lu in view of Dharmarajan, Peng, Childs, and Cheng.⁸

FACTUAL FINDINGS AND ANALYSIS

Upon consideration of the evidence relied upon in this appeal and each of Appellant’s contentions, we affirm the Examiner’s rejections of claims 1–27 under 35 U.S.C. § 103(a) for the reasons set forth in the Office Action, the Answer, and below.

We review appealed rejections for reversible error based on the arguments and evidence Appellant provides for each issue that Appellant

³ Although the Examiner’s rejections apply Lu et al. (WO 2011/088099 A1, published July 21, 2011) as a prior art reference, the Examiner provides citations to Lu et al. (US 2011/0282313 A1, published November 17, 2011) when setting forth the rejections. Office Act. 3–22. Because Appellant does not contest the Examiner’s citation to the U.S. application rather than the PCT application, we likewise also cite the U.S. application when referring to “Lu” for consistency with the Examiner’s rejection.

⁴ Dharmarajan et al. (WO 2010/039579 A1, published April 8, 2010, “Dharmarajan”).

⁵ Peng et al. (US 6,740,609 B1, issued May 25, 2004, “Peng”).

⁶ Childs et al. (US 6,357,137 B1, issued March 19, 2002, “Childs”).

⁷ AIC Stearamide Specification Sheet (<http://aicma.com/products/Stearamide%20Finawax-S%20Beads%20STEFIB.pdf>) accessed 7/13/2017.

⁸ Cheng et al. (US 2007/0027262 A1, published February 1, 2007, “Cheng”).

identifies. 37 C.F.R. § 41.37(c)(1)(iv); *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (explaining that even if the Examiner had failed to make a prima facie case, “it has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections”)).

Appellant presents arguments directed to independent claims 1, 22, and 25, which Appellant argues together, and Appellant does not argue the separate patentability of any of the dependent claims. Appeal Br. 3–7. We, therefore, select claim 1 as representative, and decide the appeal as to claims 1–27 based on claim 1 alone. 37 C.F.R. § 41.37(c)(1)(iv).

Lu discloses bonded webs of nonwoven fabric, and discloses forming the nonwoven webs into multilayer sheets that include two or more layers of different types of nonwoven webs, such as sheet including a spunbond layer and a meltblown layer. Lu ¶¶ 13, 41, 61, 78. Lu discloses forming the filaments of the bonded webs from thermoplastic polymers or polymer blends, such as a blend of polypropylene and polyethylene. Lu ¶¶ 72, 74, 75.

Lu discloses incorporating the multilayer sheets into absorbent articles as “one or more of any element of an absorbent article.” Lu ¶ 26 (“any embodiment of material disclosed herein can be used as part, or parts, or substantially all, or all of one or more of any element of an absorbent article” *id.*). Lu discloses disposable, wearable absorbent article 512A comprising absorbent material 514A (absorbent core) disposed between liquid permeable wearer-facing external layer 513A (liquid pervious layer) and liquid impermeable garment-facing external layer 515A (liquid impervious

layer). Lu ¶¶ 31–35; Fig. 5. Lu discloses that both liquid permeable wearer-facing external layer 513A (liquid pervious layer) and liquid impermeable garment-facing external layer 515A (liquid impervious layer) can include a nonwoven material of Lu’s invention, such as a multilayer sheet described above. Lu ¶¶ 26, 29, 30, 33, 35.

The Examiner finds that Lu does not disclose that Lu’s nonwoven bonded web comprises a first layer of fibers made of a first composition comprising a first polyolefin, a second polyolefin, and a softness enhancer additive, and a second layer of fibers made of a second composition void of propylene copolymers, where the fibers of the first layer have a different denier than the fibers of the second layer, and the basis weight of the first layer is substantially the same as a basis weight of the second layer. Office Act. 3–4.

Dharmarajan, however, discloses a multilayer nonwoven fabric comprising a facing layer and an elastic layer adjacent to the facing layer. Dharmarajan ¶ 7. Dharmarajan discloses that the facing layer is soft and extensible, and may comprise a polypropylene copolymer, a propylene- α -olefin elastomer, and an additive. Dharmarajan ¶¶ 11, 14, 15, 19. Dharmarajan discloses that the elastic layer may comprise “any material that is elastic,” and Dharmarajan lists numerous exemplary materials suitable for forming the elastic layer, all but one of which do not include propylene copolymers. Dharmarajan ¶ 17. Dharmarajan discloses that the facing layer may be spunbonded, while the elastic layer may be meltblown, and Dharmarajan explains that meltblown fabrics “differ from the traditional spunbonded fabrics by having lower fiber denier (fineness).” Dharmarajan ¶¶ 40, 44.

In view of these disclosures in Dharmarajan, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention to use Dharmarajan's multilayer nonwoven fabric as the multilayer sheet constituting the wearer-facing external layer of Lu's absorbent article, so that the facing layer of Lu's multilayer sheet (or nonwoven fabric) would be soft and extensible, as disclosed in Dharmarajan. Office Act. 4.

Appellant does not dispute the Examiner's finding that although Dharmarajan does not disclose that the additive included in the facing layer is a softness enhancer, "Dharmarajan is not particularly concerned with the specific additive used, and that it would be within the purview of one of ordinary skill to include the desired additives to obtain the desired properties of the final product." *Compare* Office Act. 4–5, *with* Appeal Br. 3–7.

To this end, Peng discloses that incorporating a blend of fatty acid amides comprising erucamide and stearamide into a polypropylene resin used to form fibers of a nonwoven fabric imparts "distinct tactile and ductile softness" to the fabric, without negatively impacting the physical properties of the fabric, such as tensile strength. Peng col. 2, ll. 29–30. The Examiner finds that paragraph 38 of Appellant's Specification indicates that erucamide is an unsaturated amide, while AIC evidences that stearamide is a saturated amide. Office Act. 5. In view of the above disclosures in Peng, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention to include the fatty acid amide blend disclosed in Peng as the additive in the facing layer of Dharmarajan's multilayer nonwoven fabric, when using Dharmarajan's multilayer nonwoven fabric as the multilayer sheet constituting the wearer-facing

external layer of Lu's absorbent article, to provide tactile and ductile softness to Lu's modified wearer-facing external layer. Office Act. 5.

Although, as discussed above, Dharmarajan discloses that the facing layer of Dharmarajan's multilayer nonwoven fabric may be spunbonded and the elastic layer may be meltblown, with the elastic meltblown layer having lower fiber denier (fineness) than the spunbonded layer, the Examiner finds that Dharmarajan does not disclose that the facing and elastic layers have substantially the same basis weight. Office Act. 5.

Childs, however, discloses a dryer-activated fabric treatment article comprising a conditioning composition attached to a nonwoven fabric substrate. Childs col. 1, ll. 16–27. Childs discloses forming the nonwoven substrate by layering a 4 or 6 denier fiber onto a continuous 12 denier fiber layer “at the same basis weight.” Childs col. 2, ll. 26–41. Childs discloses that a nonwoven substrate so formed has an increased thickness, resulting in a higher loading capacity, and “deliver[s] a significant improvement in fabric strength over a fabric with the same basis weight made from 12 denier fiber only.” Childs col. 2, ll. 32–41. Childs discloses that the “percentage of various deniers as well as the order of application of the deniers can be changed to produce variations in substrate physical properties such as substrate thickness or sheet feel.” Childs col. 5, ll. 31–34.

In view of these disclosures in Childs, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention to form the facing and elastic layers of Dharmarajan's multilayer nonwoven fabric to have the same basis weight using fibers having different denier, as disclosed in Childs, when using Dharmarajan's multilayer nonwoven fabric as the multilayer sheet constituting the wearer-

facing external layer of Lu's absorbent article, so that Lu's modified wearer-facing external layer would have "the tensile strength of the lower denier and the thickness and coating capacity of the higher denier." Office Act. 5–6.

Appellant argues that the Examiner "picks and chooses disclosure from . . . separate references," and, Appellant argues, although the Examiner "sets forth alleged reasons for why one skilled in the art would be motivated to combine the teachings of the multiple references, there are no reasons given why the skilled artisan would rationally seize on the particular species of materials disclosed in a long list of options disclosed in the references, which in combination would lead to the pending subject matter." Appeal Br. 4. Appellant argues that the Examiner's rejection, therefore, "rel[ies] on hindsight." *Id.*

Appellant's arguments do not identify reversible error in the Examiner's rejection, for reasons that follow.

As discussed above, Lu discloses an absorbent article including a wearer-facing external layer formed of a multilayer sheet of nonwoven web layers. Lu ¶¶ 13, 26, 41, 61, 78. As also discussed above, Dharmarajan discloses a multilayer nonwoven fabric comprising a soft and extensible facing layer comprising a polypropylene copolymer, a propylene- α -olefin elastomer, and an additive, and an elastic layer adjacent the facing layer that may comprise a material that does not include propylene copolymers. Dharmarajan ¶¶ 11, 14, 15, 17, 19. As further discussed above, Peng discloses an additive comprising a blend of a saturated and unsaturated amide that imparts tactile and ductile softness to nonwoven fabrics. Peng col. 2, ll. 29–47. And Childs discloses forming a nonwoven fabric substrate

by layering a lower denier fiber on a higher denier fiber at the same basis weight to impart increased thickness and significantly improved fabric strength to the nonwoven fabric. Childs col. 2, ll. 26–41.

The Examiner's proposed combination of Lu, Dharmarajan, Peng, and Childs is based on using Dharmarajan's multilayer nonwoven fabric including Peng's additive as the multilayer sheet constituting the wearer-facing external layer of Lu's absorbent article, so that the facing layer of Lu's multilayer sheet (or nonwoven fabric) would be soft and extensible, as disclosed in Dharmarajan, and forming the facing and elastic layers of Dharmarajan's multilayer nonwoven fabric to have the same basis weight using fibers having different denier, as disclosed in Childs and Dharmarajan, respectively, to enhance the tensile strength and coating capacity of the nonwoven fabric. Office Act. 3–6.

The propylene- α -olefin elastomer in the (first) facing layer of Dharmarajan's multilayer nonwoven fabric corresponds to the first polyolefin recited in claim 1, the polypropylene copolymer in Dharmarajan's (first) facing layer corresponds to the second polyolefin recited in claim 1 that is different from the first polyolefin and is a propylene copolymer, and the numerous materials disclosed in Dharmarajan for forming the (second) elastic layer of Dharmarajan's multilayer nonwoven fabric, which do not include a propylene copolymer, each correspond to a material void of propylene copolymers recited in claim 1 used to form the second layer of the recited nonwoven web. Including Peng's blend of fatty acid amides comprising erucamide and stearamide as the additive in Dharmarajan's facing layer would result in the softness enhancer additive comprising one or more saturated amides and one or more unsaturated amides recited in claim

1.

Although Appellant argues that the Examiner does not provide reasons “why the skilled artisan would rationally seize on the particular species of materials disclosed in a long list of options disclosed in the references, which in combination would lead to the pending subject matter” (Appeal Br. 4), claim 1 broadly recites a nonwoven web comprising (1) at least a first layer of fibers that are made of a first composition comprising (a) a first polyolefin, (b) a second polyolefin that is different from the first polyolefin and is a propylene copolymer and, and (c) a softness enhancer additive; and (2) at least a second layer of fibers that are made of a second composition void of propylene copolymers.

One of ordinary skill in the art seeking to produce a multilayer nonwoven fabric as disclosed in Dharmarajan for use as the multilayer sheet constituting the wearer-facing external layer of Lu’s absorbent article would have found it obvious to utilize any of the suitable materials and additives suggested by the combined disclosures of Lu, Dharmarajan, Peng, and Childs for forming such a multilayer nonwoven fabric, including those encompassed by the nonwoven web recited in claim 1. The disclosure in Lu, Dharmarajan, Peng, and Childs of numerous suitable materials and additives, and combinations thereof, for producing a multilayer nonwoven fabric does not render any particular combination any less obvious, because the references are available for all they would have taught and suggested to one of ordinary skill in the art at the time of Appellant’s invention. *Merck & Co., Inc. v. Biocraft Labs, Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (“That the ’813 patent discloses a multitude of effective combinations does not render any particular formulation less obvious. This is especially true

because the claimed composition is used for the identical purpose.”); *In re Susi*, 440 F.2d 442, 445 (CCPA 1971) (obviousness rejection affirmed where the disclosure of the prior art was “huge, but it undeniably include[d] at least some of the compounds recited in appellant’s generic claims and [was] of a class of chemicals to be used for the same purpose as appellant’s additives”).

Although Appellant argues that the Examiner’s rejection impermissibly relies on hindsight, the Examiner’s rejection is based on the explicit disclosures of the applied prior art references, and what a combination of those disclosures would have taught and suggested to one of ordinary skill in the art at the time of Appellant’s invention. Contrary to Appellant’s argument, the Examiner’s rejection, therefore, is not based on impermissible hindsight. *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971) (Explaining that a rejection does not rely on improper hindsight reconstruction “so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure.”).

Appellant argues that Dharmarajan “does not teach or suggest propylene copolymers should be avoided” in the second fiber layer of the nonwoven fabric described in the reference. Appeal Br. 5. Appellant argues that paragraph 16 of Dharmarajan discloses that certain polypropylene copolymers can be used to form the elastic/extensible material of the second fiber layer, and paragraph 17, cited by the Examiner, “then follows by disclosing specific materials that can be used for the elastic layer.” *Id.* Appellant argues that one of ordinary skill in the art looking at Dharmarajan as a whole would understand that certain polypropylene copolymers could be used to form the elastic material of the second fiber layer. *Id.*

Appellant's arguments again do not identify reversible error in the Examiner's rejection, for the following reasons.

Paragraph 16 of Dharmarajan defines "elastic" and "extensible," and indicates that "[e]xtensible fabrics are formed from a material that is extensible (e.g., polyurethanes, styrenic block copolymers, ethylene vinyl acetates, certain polypropylene copolymers, polyethylenes, and blends thereof), or formed by mechanically distorting or twisting a fabric (natural or synthetic)." Paragraph 17 of Dharmarajan discloses suitable materials for forming the (second) elastic layer of Dharmarajan's multilayer nonwoven fabric, and lists twenty-eight exemplary suitable elastic materials, only one of which includes propylene (propylene- α -olefin elastomer). The Examiner, therefore, cited paragraph 17, rather than paragraph 16, of Dharmarajan for disclosure of suitable materials for forming the (second) elastic layer of Dharmarajan's multilayer nonwoven fabric.

The disclosure in paragraph 16 of Dharmarajan that certain polypropylene copolymers are extensible materials, and the disclosure in paragraph 17 that propylene- α -olefin elastomer is a suitable material for forming the (second) elastic layer of Dharmarajan's multilayer nonwoven fabric, do not negate Dharmarajan's disclosure of a multitude of suitable materials for forming the elastic layer that do not include propylene copolymers. Although Dharmarajan does not explicitly disclose that inclusion of propylene copolymers in the elastic layer should be avoided, Dharmarajan's disclosures as a whole would have suggested that any of the materials described in the reference as suitable for forming the (second) elastic layer of Dharmarajan's multilayer nonwoven fabric could be successfully used to form the elastic layer, including the numerous explicitly

disclosed materials that do not include polypropylene copolymers, as recited in claim 1.

Appellant argues that the reason provided by the Examiner for combining Childs with Lu of achieving a tensile strength of lower denier fibers and a thickness and coating capacity of higher denier fibers “is insufficient and does not provide a rational basis.” Appeal Br. 6. As to tensile strength, Appellant argues that “Childs explains that certain deniers do not have the strength required for processing,” but “such processing in Childs would not necessarily be the same as the processing of the articles disclosed in Lu, as Lu is not concerned with producing dryer-activated fabric treatment products.” *Id.* at 5. And as to the coating capacity of higher denier fibers, Appellant argues that “[a]bsorbent articles such as those disclosed in Lu would not need enhanced coating capacity for fabric condition compositions.” Appeal Br. 5–6.

As discussed above, however, Dharmarajan discloses that the facing layer of Dharmarajan’s multilayer nonwoven fabric may be spunbonded and the elastic layer may be meltblown, with the elastic meltblown layer having lower fiber denier (fineness) than the spunbonded layer, corresponding to fibers of a first layer having a different denier than fibers of a second layer recited in claim 1. As also discussed above, Childs discloses that forming a nonwoven fabric by layering a lower denier fiber on a higher denier fiber at the same basis weight delivers a significant improvement in fabric strength.

One of ordinary skill in the art seeking to enhance the strength of a multilayer nonwoven fabric as disclosed in Dharmarajan for use as the multilayer sheet constituting the wearer-facing external layer of Lu’s absorbent article, would have formed the facing and elastic layers of

Dharmarajan's multilayer nonwoven fabric to have the same basis weight as disclosed in Childs using fibers having different denier, as disclosed in both Dharmarajan and Childs.

The disclosure in Childs referred to by Appellant states in its entirety:

Substrates of a higher denier, for example 10 denier or higher, tend to have a greater thickness and coating capacity but do not have the tensile strength required for processing. By combining the lower denier fibers with the higher denier fibers, a substrate is produced that has the tensile strength of the lower denier combined with the thickness and coating capacity of the higher denier substrate.

Childs col. 1, l. 66–col. 2, l. 5. Childs does not specify the type of “processing” that higher denier substrates lack sufficient tensile strength to withstand. Such processing could, for example, relate to manufacturing processes rather than processing during use in a clothes dryer.

Consequently, without more, Appellant's argument that the “processing” disclosed in Childs “would not necessarily be the same as the processing of the articles disclosed in Lu” (Appeal Br. 5) does not support Appellant's assertion that the Examiner's reasons for combining Childs with Lu are insufficient and lack a rational basis.

And although Appellant argues that “[a]bsorbent articles such as those disclosed in Lu would not need enhanced coating capacity for fabric condition compositions” (*id.* at 4), enhanced coating capacity is not the only advantage disclosed in Childs imparted by producing a nonwoven fabric by layering lower denier fibers onto higher denier fibers at the same basis weight. As discussed above, Childs discloses that forming a nonwoven fabric by layering a lower denier fiber on a higher denier fiber at the same basis weight delivers a significant improvement in fabric strength. And

Dharmarajan discloses that the facing layer of Dharmarajan's multilayer nonwoven fabric may be spunbonded and the elastic layer may be meltblown, with the elastic meltblown layer having lower fiber denier (fineness) than the spunbonded layer. One of ordinary skill in the art seeking to enhance the strength of a multilayer nonwoven fabric as disclosed in Dharmarajan for use as the multilayer sheet constituting the wearer-facing external layer of Lu's absorbent article, would have formed the facing and elastic layers of Dharmarajan's multilayer nonwoven fabric to have the same basis weight as disclosed in Childs using fibers having different denier, as disclosed in both Dharmarajan and Childs.

Appellant argues that Childs is nonanalogous art because Childs is not in the same field of endeavor as the presently claimed invention. Appeal Br. 6. Appellant argues that Childs is in the field of invention of dryer-activated fabric treatment products that can comprise nonwoven fabrics, while "the present claims are directed to nonwovens in an article comprising a liquid pervious layer; a liquid impervious layer; an absorbent core disposed between said layers, such as absorbent articles which are worn." Appeal Br. 6 (citing Childs col. 1, ll. 13–20; Spec. p. 29, ll. 26–32; and pending claims 1–27). Appellant argues that Childs is also not reasonably pertinent to the problem faced by the present inventors of providing "good tactile properties and less necking with polyolefin-based nonwovens for worn, absorbent articles" because Childs teaches nonwovens incorporated into dryer-activated fabric treatment products having improved ability to hold fabric conditioner compositions (coating capacity) due to increased substrate thickness. Appeal Br. 6–7 (citing Substitute Spec. p. 1, ll. 31–32; Childs Abstr.; col. 2, ll. 12–18, 26–31).

A reference is analogous art if it is either in the field of the inventors' endeavor, or is reasonably pertinent to the particular problem with which the inventors were concerned. *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006). The test for determining an applicant's field of endeavor "requires the PTO to determine the appropriate field of endeavor by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (reference describing a toothbrush found to be in the same field of endeavor as a claim to a hairbrush based on findings regarding function and structural similarity); *see also In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979) (crediting description of the field of endeavor contained in the application's specification).

Appellant's Specification indicates that the "Field of the Invention" "generally relates to products and other articles of manufacture that include a nonwoven web having good tactile and mechanical properties." Substitute Spec. p. 1, ll. 5–6.

The Specification indicates that "one embodiment of the invention" is a nonwoven web illustrated in Figure 1 comprising "a bottom fibrous layer 110 and a top fibrous layer 210 that is laid on top of the bottom fibrous layer 110 during the manufacturing process of the 15 nonwoven web 10." Substitute Spec. p. 6, ll. 12–15. The Specification also discloses that "Figure 2 illustrates a schematic cross-section view of another embodiment of a nonwoven web 10 that includes a bottom fibrous layer 110, a top fibrous layer 210 and at least one intermediate fibrous layer 310 disposed between the top and bottom fibrous layers." Substitute Spec. p. 16, ll. 30–32.

The Specification discloses that "Figure 6 shows a schematic cross-

section view of a product, more particularly, an absorbent article 50 that may benefit from the use of any of the nonwoven webs 10 previously discussed.” Substitute Spec. p. 29, ll. 26–27. The Specification also discloses that “any of the nonwoven webs of the invention described hereinbefore may also be advantageously used in any other products that may benefit from improved tactile properties.” Substitute Spec. p. 38, ll. 25–27.

Appellant’s Specification thus explicitly indicates that the field of Appellant’s invention relates to products and other articles of manufacture that include a nonwoven web having good tactile and mechanical properties. And the Specification describes numerous embodiments of Appellant’s invention directed to nonwoven webs that have two fiber layers, which are structurally similar to the nonwoven substrate disclosed in Childs that includes two fiber layers. One of ordinary skill in the art, therefore, reasonably would have understood that the dryer-activated fabric treatment article comprising a conditioning composition attached to a nonwoven fabric substrate disclosed in Childs is within the field of the inventor’s endeavor—products including nonwoven webs having good tactile and mechanical properties.

Even if Childs were not in the field of the inventors’ endeavor, the multilayer nonwoven fabric substrate disclosed in Childs is reasonably pertinent to the particular problem with which the inventors were concerned. “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

One of ordinary skill in the art seeking to produce a nonwoven web having good tactile and mechanical properties reasonably would have looked to Childs' disclosure that forming a nonwoven fabric substrate by layering a lower denier fiber onto a higher denier fiber at the same basis weight imparts significantly improved strength to the resulting fabric, relative to a fabric produced with only higher denier fiber. Childs col. 2, ll. 26–41. The ordinarily skilled artisan seeking to produce a nonwoven web having good tactile and mechanical properties also reasonably would have looked to Childs's disclosure that the “[p]ercentage of various deniers as well as the order of application of the deniers can be changed to produce variations in substrate physical properties such as substrate thickness or sheet feel.” Childs col. 5, ll. 31–34.

We, accordingly, sustain the Examiner's rejections of claims 1–27 under 35 U.S.C. § 103(a).

CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–16, 18–24	103(a)	Lu, Dharmarajan, Peng, Childs, AIC	1–16, 18–24	
25–27	103(a)	Lu, Dharmarajan, Peng, AIC	25–27	
17	103(a)	Lu, Dharmarajan, Peng, Childs, Cheng	17	
Overall Outcome			1–27	

Appeal 2019-003684
Application 14/058,376

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED