

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FIRST QUALITY BABY PRODUCTS, LLC,  
Petitioner,

v.

KIMBERLY-CLARK WORLDWIDE, INC.,  
Patent Owner.

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Case IPR2014-00169  
Patent 8,579,876 B2

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Before TONI R. SCHEINER, FRANCISCO C. PRATS, and  
DENISE M. POTHIER, *Administrative Patent Judges*.

SCHEINER, *Administrative Patent Judge*.

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

## I. INTRODUCTION

### A. Background

First Quality Baby Products, LLC (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 15–22 of U.S. Patent No. 8,579,876 B2 (Ex. 1001, “the ’876 patent”) pursuant to 35 U.S.C. §§ 311–319. Paper 1 (“Pet.”). Kimberly-Clark Worldwide, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). On the basis of the information presented in the Petition and the Preliminary Response, the panel determined that Petitioner had demonstrated a reasonable likelihood of prevailing with respect to at least one of the challenged claims, and on May 30, 2014, an *inter partes* review of claims 15–22 was instituted on the following asserted grounds: that claims 15–20 and 22 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Widlund<sup>1</sup> and Toyo;<sup>2</sup> and claim 21 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Widlund, Toyo, and Kuske.<sup>3</sup> Paper 9 (“Dec.”).

After trial was instituted, Patent Owner filed a Patent Owner Response (Paper 15, “PO Resp.”), to which Petitioner filed a Reply (Paper 19, “Pet. Reply”).

Both parties presented witness testimony via declaration during the course of the proceeding. Patent Owner presented the Declaration of Kent A. Franklin (Ex. 2004, “Franklin Decl.”) with its Patent Owner’s Response.<sup>4</sup>

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<sup>1</sup> WO 95/27462 (published Oct. 19, 1995) (Ex. 1003).

<sup>2</sup> JP 3021190 (issued Feb. 16, 1996) (Ex. 1005) (a certified English translation begins on page 12 of the exhibit).

<sup>3</sup> WO 97/49618 (published Dec. 31, 1997) (Ex. 1007).

<sup>4</sup> All references to the Franklin Declaration are to the revised version submitted September 16, 2014.

Petitioner presented the Declaration of Daniel D. Gardner (Ex. 1017, “Gardner Decl.”) with its Reply.

Patent Owner filed a Motion to Exclude Evidence (Paper 24; “Mot. to Exclude”), and a Motion for Observations on Cross Examination of Mr. Gardner (Paper 26; “Mot. Obs.”). Petitioner filed an Opposition to the Motion to Exclude Evidence (Paper 28; “Pet. Opp.”), and a Response to Patent Owner’s Motion for Observations on Cross Examination (Paper 30; “Resp. to Mot. Obs.”). Patent Owner filed a Reply to the Opposition to the Motion to Exclude Evidence. Paper 29 (“Reply to Opp.”).

Oral argument was requested by both parties, and was held on January 30, 2015. A transcript of the oral argument is included in the record. Paper 40 (“Tr.”).<sup>5</sup>

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, addresses issues and arguments raised during trial.

For the reasons discussed below, we determine that Petitioner has proved, by a preponderance of the evidence, that claims 15–22 of the ’876 patent are unpatentable.

Patent Owner’s Motion to Exclude Evidence is dismissed.

#### *B. Related Matters*

The parties do not identify any judicial or administrative matters that would affect, or be affected by, a decision in this proceeding. Pet. 6; Paper 5.

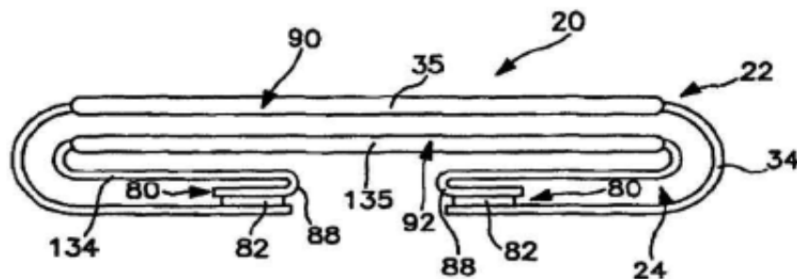
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<sup>5</sup> Petitioner and Patent Owner filed Objections to Demonstratives (Papers 38, 39). In the Final Written Decision, we have considered only arguments and evidence presented in the demonstratives that were presented previously or are supported by the record.

*C. The '876 Patent*

The '876 patent, titled “Tucked Fastener for Improved Fastener Performance,” relates to pants-like absorbent garments, e.g., children’s diapers and training pants, with refastenable side seams. Ex. 1001, 1:14–15, 2:2–4. The '876 patent explains that portions of these garments are typically folded, or tucked, “to create a more compact orientation” for packaging, but “fastener performance can be compromised when a resilient fastening component in a refastenable seam is creased during processing or compression in preparation for or during packaging.” *Id.* at 7:50–52, 8:35–38.

Figure 18 of the '876 patent is reproduced below.



**FIG. 18**

Figure 18 is a top view of the waist region of absorbent garment 20, showing front side panels 34 and back side panels 134 folded over back panel 135. As shown in the figure, each back side panel 134 has two folds, one at or near the edge of back panel 135, and another at or near the edge of fastening component 82; each front side panel 34 has only one fold. Ex. 1001, 17:56–18:10. In that configuration, refastenable seams 80 and fastening components 82 lie flat in a plane parallel to front waist region 90 and back waist region 92. *Id.*

According to the '876 patent, “[a] flat orientation of resilient fastening components in the tucked position prevents creases from occurring in the fastening components, thereby preserving the available fastener seam strength and making the fasteners less likely to disengage during product application and wear.” *Id.* at 7:62–67.

*D. Illustrative Claims*

Of the challenged claims, claim 15 is the only independent claim. Claims 15 and 16, reproduced below, are illustrative.

15. A folded disposable absorbent garment comprising:

an absorbent chassis including a bodyside liner, an outer cover, and an absorbent assembly positioned between the bodyside liner and the outer cover, a front region, a back region, a crotch region extending between and interconnecting the front and back regions, a waist opening and a pair of leg openings, the front region having first and second front side panels, and the back region having first and second back side panels;

a first refastenable seam being defined by a resilient fastening component being releasably secured to a mating fastening component, the resilient fastening component being disposed on one of the first front side panel and the first back side panel and the mating fastening component being disposed on the other one of the first front side panel and the first back side panel, the first front side panel and the first back side panel being folded such that the first refastenable seam lies in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies; and

a second refastenable seam being defined by a resilient fastening component being releasably secured to a mating fastening component, the resilient fastening component being disposed on one of the second front side panel and the second back side panel and the mating fastening component being disposed on the other one of the second front side panel and the second back side panel, the second front side panel and the

second back side panel being folded such that the second refastenable seam lies in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies and in substantially the same plane as the first refastenable seam.

16. The folded disposable absorbent garment of claim 15 wherein the resilient fastening component of the first refastenable seam is disposed on the first front side panel and the mating fastening component of the first refastenable [seam] is disposed on the first back side panel, the first back side panel being folded twice and the first front side panel being folded once, the resilient fastening component of the second refastenable seam being disposed on the second front side panel and the mating fastening component of the second refastenable seam being disposed on the second back side panel, the second refastenable seam overlying the absorbent assembly in the back region of the chassis, the second back side panel being folded twice and the second front side panel being folded once.

Ex. 1001, 20:45–21:23.

### *E. Grounds of Unpatentability Instituted for Trial*

An *inter partes* review was instituted based on the following grounds of unpatentability:

Claims 15–20 and 22 under 35 U.S.C. § 103(a) as unpatentable over Widlund and Toyo; and

Claim 21 under 35 U.S.C. § 103(a) as unpatentable over Widlund, Toyo, and Kuske.

## II. ANALYSIS

### *A. Claim Construction*

In an *inter partes* review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see also In re Cuozzo*

*Speed Tech., LLC*, 778 F.3d 1271, 1280 (Fed. Cir. 2015) (“Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”). There is a “heavy presumption” that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Claim 16 recites “the first back side panel being folded twice and the first front side panel being folded once” and “the second back side panel being folded twice and the second front side panel being folded once.”

In its Petition, Petitioner proposed that the above claim terms—which are identical, except that the first refers to the first front and back side panels, while the second refers to the second front and back side panels—“should be interpreted to mean ‘the front and back side panels each have a first fold where the side panels are folded over the absorbent assembly, and the back side panel has a second fold different from the first fold in the back side panel.’” Pet. 15.

In support of its proposed interpretation, Petitioner provided an annotated version of Figure 18, which illustrates graphically Petitioner’s interpretation of the relevant folds in back side panels 134 and front side panels 34 of diaper 20. Figure 18 of the ’876 patent, as annotated by Petitioner, is reproduced below.

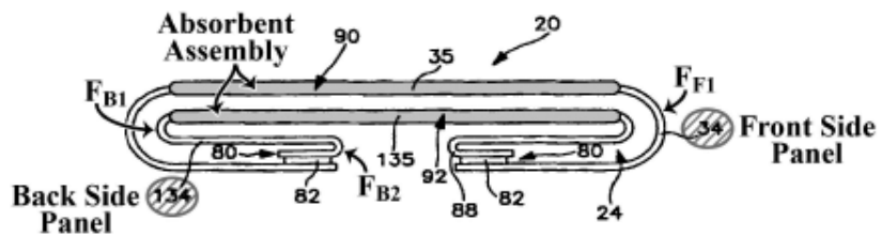


FIG. 18

**ANNOTATED**

Annotated Figure 18 shows two folds, labeled  $F_{B1}$ ,  $F_{B2}$  by Petitioner, in each back side panel 134, and one fold  $F_{F1}$  in each back side panel 34. Pet. 11–12.

Claim 16 depends from claim 15. Claim 15 requires that “the first refastenable seam lies in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies,” and that “the second refastenable seam lies in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies.” The Specification, in describing Figure 18, indicates that the requisite parallel configuration is achieved by folding the front side panels twice, and the back side panels once, or vice versa. Ex. 1001, 17:56–18:10.

Accordingly, in the Decision on Institution, Petitioner’s proposed interpretation of “the first back side panel being folded twice and the first front side panel being folded once” as meaning that “the front and back side panels each have a first fold where the side panels are folded over the absorbent assembly, and the back side panel has a second fold different from the first fold in the back side panel” was determined to be the broadest reasonable interpretation of the claim term in light of the Specification. Dec. 8. Neither Petitioner nor Patent Owner objects to that construction of the term, and based on our analysis of the full record developed during trial,



we determine it is not necessary to depart from it for purposes of this decision.

*B. Principles of Law*

To prevail in its challenge to the patentability of the claims, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). A claim is unpatentable under 35 U.S.C. § 103(a) 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. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Moreover, it is well settled that “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *KSR*, 550 U.S. at 420. As long as some suggestion to combine the elements is provided by the prior art as a whole, the law does not require that they be combined for the reason or advantage contemplated by the inventor. *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992); *In re Kronig*, 539 F.2d 1300, 1304 (CCPA 1976).

We analyze the instituted grounds of unpatentability in accordance with those principles.

*C. Claims 15–20 and 22—Obviousness over Widlund and Toyo*

Petitioner asserts that the folded absorbent garment of claims 15–20 and 22 is unpatentable under 35 U.S.C. § 103, given the combined disclosures of Widlund and Toyo. Pet. 26–33. Patent Owner contends that the result of combining Widlund and Toyo would be unpredictable, and that the combination would not meet the limitations of the challenged claims. PO Resp. 18–31.

Having reviewed the Petition, Patent Owner’s Response, and Petitioner’s Reply, as well as the relevant evidence discussed in each of those papers, we are persuaded, by a preponderance of the evidence, that claims 15–20 and 22 are unpatentable over the combined disclosures of Widlund and Toyo.

*1. Widlund (Ex. 1003)*

Widlund discloses “a pants-type diaper,” depicted in Figure 5, reproduced below.

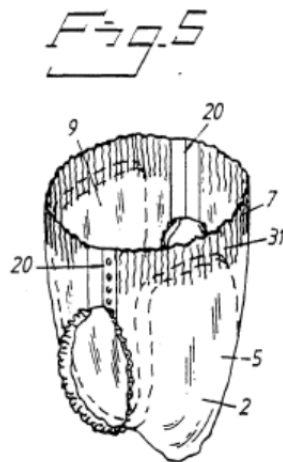
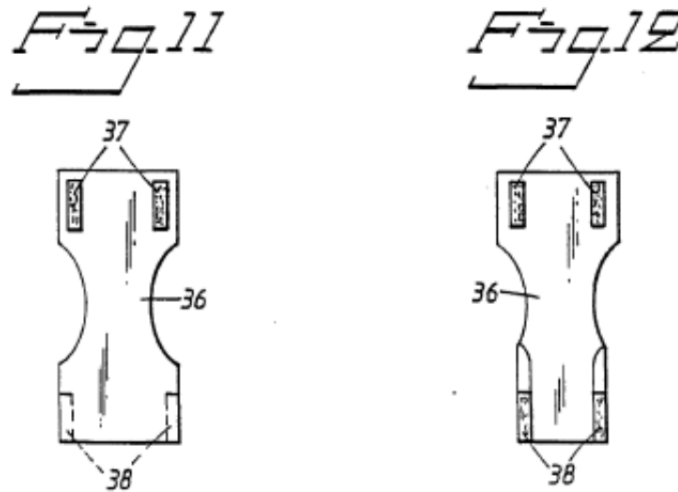


Figure 5 of Widlund is a perspective view of pants-type diaper 20 comprising absorbent body 5 enclosed between inner and outer casing sheets 9 and 2, respectively. Ex. 1003, 8:34–9:1. As shown in the figure, “the

front and rear side parts of the pant diaper are joined together by means of a releasable and refastenable fastener means 20.” *Id.* at 10:18–20.

Figures 11 and 12 of Widlund are reproduced below.



Figures 11 and 12 of Widlund “illustrate schematically a pants-type diaper blank 36 in which . . . a fastener element is comprised of two mutually coacting parts 37, 38.” Ex. 1003, 14:30–33. Figures 11 and 12 show that parts 37 “are fastened respectively to the inner surface of the blank [36] at the front side parts thereof, while the other part[s] 38 of the fastener elements . . . [are] fastened to the outer surface of the blank at the rear side parts thereof.” *Id.* at 14:33–37.

Widlund additionally discloses:

In order to produce a finished pants-type diaper [e.g., the diaper shown in Figure 5] from a blank that has the configuration illustrated in Figure 11, those parts of the rear side parts of the blank 36 that contain the parts 38 of the fastener elements are folded against the inner surface of the blank, so as to provide a blank 36 having the configuration shown in Figure 12. The blank is then folded so that the front and the rear side parts

thereof are placed edge-to-edge, and the coating parts 37, 38 are pressed firmly against one another.

*Id.* at 15:6–15.

Widlund discloses that the finished diapers are “conveyed . . . to a packaging station in which they are packaged,” but does not provide any further folding or packaging instructions. *Id.* at 7:34–35.

## 2. *Toyo (Ex. 1005)*

Toyo discloses disposable underpants, similar to Widlund’s pants-type diaper, except that “both side edges [of Toyo’s underpants] are adhered” permanently (Ex. 1005 ¶ 2), rather than being releasable and refastenable.

According to Toyo, if the disposable underpants were packaged in their unfolded “approximate” or “truncated” pentagon form (*id.* ¶¶ 2, 4), “any resulting package would be too irregularly shaped for easy handling” (*id.* ¶ 4). Toyo, therefore, recommends folding the side selvages of the underpants toward the center of the underpants to form “an approximately rectangular shape” suitable for packaging. *Id.* ¶¶ 4, 5. Toyo explains that:

[T]he “selvages” of these disposable underpants are parts corresponding to the two sides of the underpants in which an absorbent part is not interposed in the layered structure . . . and thus the thickness of the selvages is thinner than that of the absorbent part. Therefore, there is no increase in the thickness of the disposable underpants when the disposable underpants of this invention are folded.

*Id.* ¶ 9.

Toyo discloses several possible folding configurations for its disposable underpants resulting in a flat, approximately rectangular shape. Figure 6, reproduced below, depicts the first of these folding configurations.

Figure 6

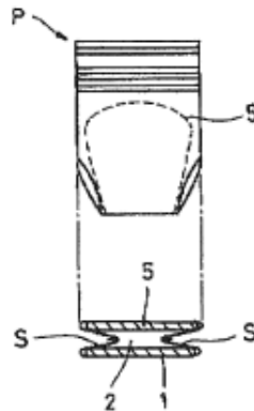


Figure 6 depicts a front elevation and cross-section of Toyo's folded disposable underpants wherein selvages S, S are folded and inserted between the front panel and the back panel of the disposable underpants. Ex. 1005, Abstract, ¶ 5. In other words, selvages S, S are tucked between the front and back panels of the underpants to achieve a flat, approximately rectangular shape.

However, Toyo teaches “it is extremely difficult to perform the folding process illustrated in Figure 6” using the “typical continuous production method for disposable underpants” (*id.* ¶ 6). Toyo cautions:

If the folding is not done precisely, many underpants will be produced in which one selvage S of the underpants will be folded irregularly and the selvage S is not accurately inserted between the front and rear panels of the underpants, or when the underpants are folded, the selvage S protrudes on the outside, which results in partial irregular protrusion when the underpants are packaged in packaging bags.

*Id.* ¶ 8.

Accordingly, Toyo discloses alternative folding configurations, wherein “the resulting underpants are folded correctly and compactly into a rectangle of about the same size as the absorbent region” (*id.* ¶¶ 10, 11, 18),

so that “even when stacking a . . . number of disposable underpants, there is no abnormal bulging or protrusion, and a cubic package can be smoothly achieved” (*id.* ¶ 18). In one of these alternative configurations, “one of the right or left selvages is housed between the . . . thick front panel and the absorbent panel of the back panel (which is folded in two front-to-back)” (*id.* ¶ 10), and “the other selva is folded back toward the outside of the disposable underpants” (*id.*). In another alternative configuration, “both the left and right selvages are folded back to the outside of the front panel of the underpants, or . . . both the left and right selvages are folded back to the outside of the back panel of the underpants” (*id.* ¶ 11). Finally, “either the left or right selva is folded back to the front panel of the underpants or to the rear part thereof” (*id.*).

Figure 2 of Toyo is reproduced below.

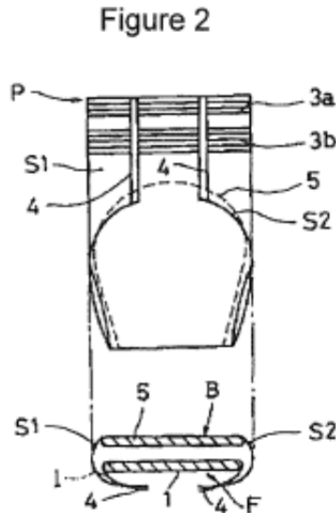


Figure 2 depicts a front elevation and cross-section of Toyo’s folded disposable underpants “wherein both selvages S1 and S2 of disposable underpants P are folded up towards the front of the front panel F.” Ex. 1005 ¶ 16. Alternatively, “selvages S1 and S2 can be folded to the outside of the back panel B of the underpants.” *Id.*

3. Analysis—Claims 15–20 and 22

Claim 15

Petitioner asserts that “the refastenable training pant of Widlund has all of the elements of the absorbent garment of [claim 15], with the exception that the side panels are not folded over the absorbent assembly.” Pet. 27 (internal footnote omitted). Petitioner asserts, “[h]owever, in Toyo, the side panels S1 and S2 of the training pant P are folded such that the seams 4 are parallel to the absorbent assembly and lie in the same plane as each other, as shown” in Figure 2 of Toyo (*id.* at 27–28), reproduced below, as annotated by Petitioner.

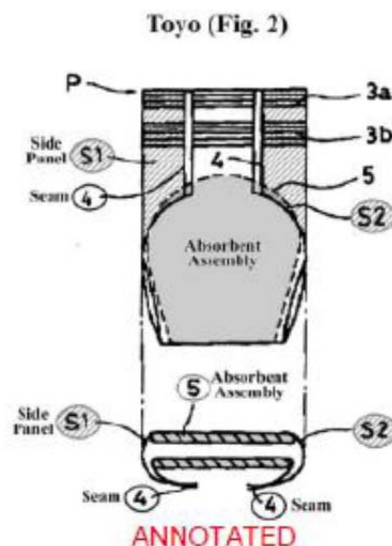


Figure 2 of Toyo, as annotated by Petitioner, depicts a front elevation and cross-section of Toyo’s training pant P, where side panels S1 and S2 are folded over, and lying in a plane generally parallel to, the absorbent assembly of training pant P. Pet. 28.

Petitioner asserts that it would have been obvious for one of ordinary skill in the art to fold the side panels of Widlund’s training pants over the absorbent assembly in preparation for packaging because “there were only ‘a

finite number of identified, predictable solutions’ for positioning side panels of training pants in a package,” and Toyo “recommends folding the side panels over the absorbent body” (*id.* at 29), to avoid “‘protrusions’ which cause the package of training pants to swell” (*id.* at 28). Petitioner further asserts that folding Widlund’s pants-type diaper in that manner “will result in the ‘refastenable’ seams 20 being parallel to the absorbent assembly 5 and lying [in] the same plane as each other” (*id.* at 29), as recited in claim 15.

Patent Owner argues that “Petitioner’s ‘obvious to try’ rationale” is supported merely “with a conclusory statement that only ‘a finite number of identified, predictable solutions’ for positioning side panels of training pants in a package existed” (PO Resp. 16), Petitioner fails to “identif[y] what these limited number of predictable solutions are” (*id.*), and “offers no support in the form of evidence or expert witness testimony on which it can base such a position” (*id.*). Patent Owner, supported by its witness, Mr. Franklin, argues that “side panels can be folded or arranged in many ways, including not being folded at all, for positioning in a package.” *Id.* (citing Ex. 2004 ¶ 34).

We are not persuaded by this argument. Petitioner plainly relies on the limited number of configurations disclosed by Toyo as suitable for folding disposable underpants in a manner that avoids “‘protrusions’ which cause the package of training pants to swell” (Pet. 28, 29). We agree with Petitioner that it would have been obvious for one of ordinary skill in the art to fold the side panels of Widlund’s training pants over the absorbent assembly in preparation for packaging based on Toyo’s suggestion, in order to avoid irregular protrusions and bulges which would interfere with packaging the underpants. That challenged claim 15 is limited to one particular suitable folding configuration disclosed by Toyo does not make



that folding configuration any less obvious. *See Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (The disclosure in the prior art of “a multitude of effective combinations does not render any particular formulation less obvious.”).

Patent Owner also takes issue with Petitioner’s assertion that folding the side panels of Widlund’s pants-type diaper over the absorbent body (i.e., assembly) “will result in the ‘refastenable’ seams 20 being parallel to the absorbent assembly 5 and lying in the same plane as each other.”<sup>6</sup> PO Resp. 15; Pet. 29. Patent Owner, again relying on the testimony of Mr. Franklin, argues that “the folding scheme taught by Toyo yields less than predictable results regarding the location and orientation of the seams” (PO Resp. 25); thus, “there is uncertainty whether [Toyo’s] bonded seams would lie substantially parallel to the absorbent part and in the same plane as each other when packaged” (*id.* at. 19), and “folding Widlund in the manner

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<sup>6</sup> To the extent Patent Owner argues that Petitioner’s assertions in the Petition are merely “conclusory attorney argument without expert witness testimony as to what the teachings of the cited art would reasonably convey to one of ordinary skill in the art” (PO Resp.15), we note that “[t]estimony from a technical expert can be helpful to show what would have been known to a person of ordinary skill in the art and explain the significance of elements in a claim,” but it “is not a prerequisite for establishing unpatentability by a preponderance of the evidence, . . . just as it is not a prerequisite for a petition seeking *inter partes* review.” *Guangdong Xinbao Electrical Appliances Holdings v. Adrian Rivera*, Case IPR2014-00042, slip op. at 22, 23 (PTAB Feb. 6, 2015) (Paper 50). This is especially true where, as here, the invention and prior art references are directed to relatively straightforward and easily understandable technology. *See Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009) (explaining that expert opinions are not always a prerequisite to show unpatentability, because in many patent cases the technology will be easily understandable without the need for expert explanatory testimony).

proposed by Petitioner suffers from the same unpredictability present in the arrangement and folding scheme taught by Toyo” (*id.* at 26). Patent Owner contends, therefore, that:

[F]olding the side parts of Widlund’s pants-type diaper blank . . . using the method taught by Toyo would not result a folded disposable absorbent garment wherein front and back side panels are folded such that each of the refastenable seams overlies the outer surface of one of the front region and the back region of the absorbent chassis in a plane generally parallel to the front and back regions of the absorbent chassis as recited in claim 15 of the [’876] patent.

*Id.* at 29.

We have considered the arguments and evidence Patent Owner relies on in support of these contentions, particularly the testimony of Patent Owner’s witness, Mr. Franklin, but are not persuaded.

First, Mr. Franklin contends “[i]f Widlund was stretched and laid flat along the lateral axis like Toyo Figure 5, prior to folding, the fastening components would be creased” (Ex. 2004 ¶ 60a), thus, folding the side panels over the absorbent assembly as taught by Toyo would not result in a folded garment where the refastenable seams lie “in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies” (*id.* ¶ 60).

Figure 5 of Toyo, depicting elevation and cross-sectional views of Toyo’s disposable underpants prior to folding for packaging, is reproduced below:

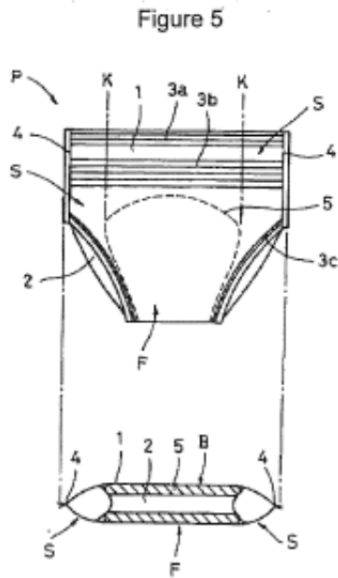
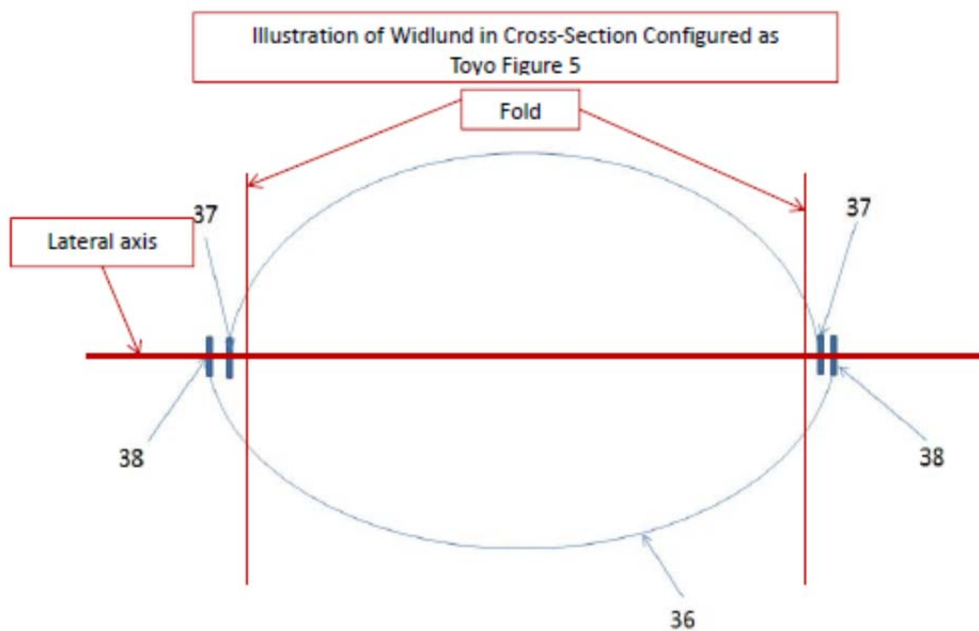


Figure 5 of Toyo depicts elevation and cross-section views of Toyo's disposable underpants prior to folding for packaging (i.e., with the selvages unfolded).

Mr. Franklin's concept of Widlund's pants-type diaper "stretched and laid flat along the lateral axis like Toyo Figure 5, prior to folding" (Ex. 2004 ¶ 60a) is shown in the illustration reproduced immediately below:



The illustration reproduced immediately above shows Mr. Franklin's concept of a cross-section of Widlund's pants type diaper, configured as in Figure 5 of Toyo. Again, relying on this illustration, Mr. Franklin contends "[i]f Widlund was stretched and laid flat along the lateral axis like Toyo Figure 5, prior to folding, the fastening components would be creased" upon folding (Ex. 2004 ¶ 60a), and the refastenable seams would not lie "in a plane generally parallel to a plane in which at least a portion of the absorbent assembly lies" (*id.* ¶ 60).

Nevertheless, we are not persuaded because Mr. Franklin's illustration does not reflect accurately Widlund's teachings, Toyo's teachings, or Petitioner's stated rationale. To produce Widlund's finished pants-type diaper from a blank that has the configuration illustrated in Widlund's Figure 11, "those parts of the rear side parts of the blank 36 that contain the parts 38 of the fastener elements are folded against the inner surface of the blank, so as to provide a blank 36 having the configuration shown in Figure 12." Ex. 1003 15:8–12; *see supra* Part II.C.1. "The blank is then folded so that the front and the rear side parts thereof are placed edge-to-edge, and the coating parts 37, 38 are pressed firmly against one another." Ex. 1003, 15:12–15. Thus, at the point Widlund's finished diaper is conveyed to the packaging station (*see id.* at 7:34–35), the diaper and side parts are flat and fastener elements 37, 38 are parallel to the plane of the lateral axis depicted in Mr. Franklin's illustration. Similarly, Toyo's diaper is flat prior to folding. *See* Ex. 1005, Fig. 5. In Mr. Franklin's illustration, however, the finished diaper is expanded as if for use, and the fastener elements are perpendicular to the plane of the lateral axis. The rationale implicit in Mr. Franklin's illustration is that re-flattening the diaper would crease the

fasteners, and thus, the fasteners would not lie in a plane generally parallel to the absorbent assembly upon folding the side panels over the absorbent assembly. Mr. Franklin has not explained adequately, however, why one of ordinary skill in the art would expand and re-flatten Widlund's already-flat diaper before packaging.

Mr. Franklin further contends that "there is no certainty that [Toyo's] bonded seams would lie substantially parallel to the absorbent and in the same plane as each other when packaged" (Ex. 2004 ¶ 61), because "product attributes such as thickness of the absorbent core and cross direction distance from the side panel attachment to the bond line can all affect the final orientation of the bond area relative to the absorbent" (*id.* ¶ 63). Patent Owner contends that folding Widlund's diaper in the manner taught by Toyo "suffers from the same unpredictability" (PO Resp. 26).

In support of his position, Mr. Franklin relies, in large part, on a comparison between Toyo's Figure 5 (reproduced *supra*) and an annotated version of Toyo's Figure 2. Toyo's Figure 2, as annotated by Mr. Franklin, is reproduced below.

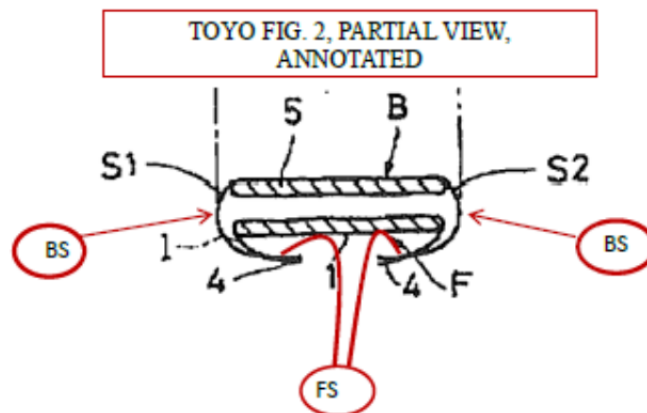


Figure 2 of Toyo, as annotated by Mr. Franklin, depicts a cross-section of Toyo's training pant P, with side panels S1 and S2 folded over the absorbent assembly of training pant P.

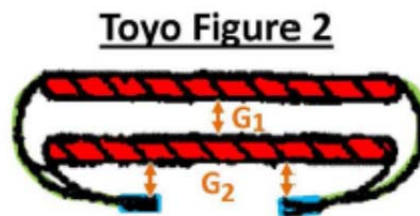
Mr. Franklin notes that Toyo's Figure 5 shows that "the lengths of the front and back selvages between the absorbent part and the bonded seams 4 are equal" prior to folding. Ex. 2004 ¶ 62. Mr. Franklin asserts, however, "[u]pon folding in the manner suggested by Toyo, with reference to [annotated] Figure 2, the lengths of the back selvages BS are substantially greater than the lengths of the front selvages FS." *Id.* According to Mr. Franklin, "[f]or the bonded seams 4 to lie parallel to the absorbent part of the underpants and in the same plane as each other upon folding in this manner, the back selvages BS must extend along a longer lateral path from the absorbent part to the engagement seam 4 than the front selvages FS." *Id.* ¶ 63. Mr. Franklin contends that the back selvages could extend more than the front selvages only "if the length of the back selvage BS increases—such as by stretching—and/or if the length of the front selvage FS decreases—such as by wrinkling, bunching, or the like." *Id.* Further, "releasing the stretching force such as before or during packaging allows the back selvages to contract to their relaxed state" (*id.* ¶ 64), and wrinkling and bunching of the front selvage "can also result in folding or creasing at unpredictable locations along the lengths of the selvages, including at the bonded seam, upon compacting the stacked underpants P in the packaging" (*id.* ¶ 65).

Petitioner argues that Mr. Franklin's conclusions about the unpredictability of folding Toyo's underpants are "based on a series of wrong premises" (Pet. Reply 5). We agree, and credit the testimony of Petitioner's witness, Mr. Gardner, on this point.

Specifically, Mr. Gardner disagrees with Mr. Franklin’s assertions that “the ‘lengths’ of the back side panels [are] ‘substantially greater than the lengths’ of the front side panels” when folded (Ex. 1017 ¶ 43 (citing Ex. 2004 ¶ 63)); that this purported “change in measurements shows that the back side panels stretch[ ] during folding . . . and/or the front side panels bunch[ ] up” (*id.* ¶ 44 (citing Ex. 2004 ¶ 63)); and that “this alleged stretching and bunching may . . . move[ ] the seams 4 into different planes, and as a result, the seams may not be generally parallel to the absorbent assembly” (*id.* (citing PO Resp. 19–22)).

As Mr. Gardner explains:

47. A simple review of the Figures in Toyo reveals that they are not drawn to scale. For example, Figure 2 shows a substantial gap (labeled  $G_1$ ) separating the back B and front F sides of the absorbent assembly 5. (*See* Ex. 1005, Toyo at Fig. 2). Figure 2 also shows a sizeable gap (labeled  $G_2$ ) between the folded side panels S and the front F side of the absorbent assembly. I have annotated Figure 2 to show these gaps:



48. The pant in Figure 2 has been completely folded through the crotch region so that the front F region of the absorbent assembly 5 overlies the back region 5. (*Id.*) In addition, the side panels S1 and S2 have been folded at the edge of the absorbent assembly so that the side panels are laid flat against the absorbent assembly. (*Id.* at ¶¶ [0016]–[0018]).

Ex. 1017 ¶¶ 47, 48.

Mr. Gardner further explains that “Figure 2 is a two dimensional drawing, [thus] the crotch region is not shown.” *Id.* ¶ 49. According to Mr. Gardner, “[a] person of ordinary skill in the art would understand that the gap G<sub>1</sub> is an exaggeration that helps illustrate that the training pant is folded in half through the crotch” (*id.*), and “the gap G<sub>2</sub> is an exaggeration that helps to illustrate the folds in the side panels against the absorbent assembly” (*id.* ¶ 50). Mr. Gardner asserts that “there are no actual gaps between the front F and back B regions of the absorbent assembly” and “[t]hese components actually touch each other” (*id.* ¶ 51), which “is consistent with Toyo’s teaching that . . . the side panels are ‘folded *against* the outside of the’ absorbent assembly,” and “the training pant has a ‘*flat* shape’ when ‘folded up as in Figure 2.’” (*id.* ¶¶ 52, 53 (citing Ex. 1005 ¶¶ 16, 17)). Likewise, Mr. Gardner asserts that “the lengths of the side panels in Figure 2 are clearly exaggerated to compensate for the [imaginary] gaps . . . and are not intended to represent a change in length or width.” *Id.* ¶ 56.

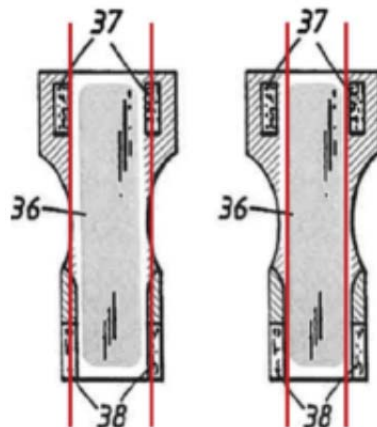
Thus, Mr. Gardner disagrees with the underlying premise of Mr. Franklin’s testimony, and concludes that “[a] person of ordinary skill in the art would understand that without the gaps, the front and back side panels actually extend about the same distance when folded over the absorbent assembly” (*id.*). That being the case, Mr. Gardner also disagrees with Mr. Franklin’s assertion that “there is no certainty that the bonded seams would lie substantially parallel to the absorbent and in the same plane as each other when packaged.” Ex. 2004 ¶ 61; *see* Ex. 2017 ¶¶ 41–56.

Mr. Franklin further contends “[i]f the once-folded side panels of Widlund were folded along the fold line (k) shown in Toyo Figure 5” (Ex. 2004 ¶ 68), it would “result in the fastening parts being creased” (*id.*),



in which case the refastenable seams would not lie in a plane generally parallel to the plane of the absorbent assembly. According to Mr. Franklin, “as the fasteners are folded over the absorbent, normal cross direction manufacturing variation in the placement of the absorbent and fastener components (+/- 3/16 in) would cause the fastener to be in the fold around the edge of the absorbent causing a crease in the fastener when the product is compressed during packaging.” *Id.* ¶ 47. Alternatively, Mr. Franklin contends that there would be “a high likelihood that the diaper blank becomes folded . . . add[ing] bulk to the package” (*id.* ¶ 66)—and “Toyo specifically teaches away from increasing thickness” (*id.* ¶ 67 (citing Ex. 1005 ¶¶ 9, 13)).

In support of his position, Mr. Franklin relies, in large part, on two annotated versions of Widlund’s Figure 12. The original version of Widlund’s Figure 12 is reproduced *supra* in Part II.C.1. The annotated versions relied on by Mr. Franklin are based on a version of Widlund’s Figure 12 modified by Petitioner to designate the side panels (cross-hatching) and the absorbent portion (shading) (Pet. 27). Patent Owner further modified the figure with hypothetical fold lines, analogous to Toyo’s fold lines (k), to produce the two annotated versions reproduced below.



Annotated versions of Widlund's Figure 12, relied on by Mr. Franklin, are reproduced above. The annotated versions are based on a version of Widlund's Figure 12, initially modified by Petitioner to designate the side panels (cross-hatching) and the absorbent portion (shading) (Pet. 27). Patent Owner further modified the figure with hypothetical fold lines, analogous to Toyo's fold lines (k), to produce the two annotated versions reproduced above (*see* Ex. 2004 ¶¶ 66, 68; PO Resp. 27, 28).

Again, Petitioner argues that Mr. Franklin's conclusions are based a faulty premise (Pet. Reply 9). We agree, and credit the testimony of Petitioner's witness, Mr. Gardner, on this point.

Mr. Gardner asserts that Mr. Franklin's conclusion that Widlund's diaper could not be folded in the manner taught by Toyo without either creasing the fastener elements, or folding the absorbent assembly (which Toyo teaches is undesirable), rests on an assumption that Figure 12 is drawn to scale. Mr. Gardner asserts that there is nothing in Widlund to indicate that Figure 12 is drawn to scale (Ex. 1017 ¶ 70), and notes that Mr. Franklin acknowledged on cross-examination that Figure 12 is not drawn to scale (*id.* (citing Ex. 1016, 194:11–16, 200:24–204:8)). Essentially, Mr. Gardner's position is that there is inadequate basis for Mr. Franklin's conclusion that “there is not enough room between the fasteners and absorbent assembly (which is not even shown) in Figure 12 of Widlund to fold the side panels in accordance with Figure 2 of Toyo.” Ex. 1017 ¶ 86. Moreover, Mr. Gardner points out that Mr. Franklin did not consider whether the side panels in any other figure of Widlund, for example, Figure 5 (reproduced *supra* in Part II.C.1), “could be folded as shown in Figure 2 of Toyo”—that is, folded

between, but not through, the absorbent assembly and the side seams.

Ex. 1017 ¶ 85 (citing Ex. 1016, 232:22–234:12, 266:5–12).

It is within our discretion to assign the appropriate weight to testimony offered by the witnesses. *See, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *In re Am. Acad. Of Sci. Tech Ctr.*, 367 F3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

Having weighed the testimony and supporting evidence of Patent Owner’s witness, Mr. Franklin, and Petitioner’s witness, Mr. Gardner, we find Mr. Gardner’s testimony more compelling, and are persuaded, by a preponderance of the evidence, that the disposable garment of claim 15 would have been unpatentable over the combined teachings of Widlund and Toyo.

#### Claim 16

Claim 16 depends from claim 15 and recites “the first back side panel being folded twice and the first front side panel being folded once.”

Patent Owner contends that claim 16 is “patentable over the combination of Widlund in view of Toyo for at least the same reasons as claim 15 and for the additional features not set forth therein.” PO Resp. 32.

Nevertheless, Petitioner asserts “as shown . . . in Figure 12 of Widlund, the back side panels are folded over” before the refastenable seams are fastened, “and thus, [the back side panels] include the ‘first’ fold of Claim 16.” Pet. 29. Petitioner asserts that folding the side panels of

Widlund's training pants over the absorbent assembly in preparation for packaging, as instructed by Toyo, will meet the additional limitations of claim 16, as "the front side panels will have a 'first' fold and the back side panel will have a 'second' fold located near the absorbent chassis." *Id.*

Having reviewed Figure 12 of Widlund, together with the description of Figure 12 (*see* Ex. 1003, 15:6–15), we are satisfied that Petitioner has shown, by a preponderance of the evidence, that folding the side panels of Widlund's training pants over the absorbent assembly in preparation for packaging, in the manner disclosed by Toyo, would result in "the first back side panel being folded twice and the first front side panel being folded once," as required by claim 16.

Claims 17–20 and 22

Claims 17–20 and 22 depend directly or indirectly from claim 15. Petitioner asserts, and Patent Owner does not dispute, that "the refastenable training pant of Widlund has all of the elements of the absorbent garment of Claims 15–20 and 22, with the exception that the side panels are not folded over the absorbent assembly." Pet. 27 (footnote omitted).

Specifically, Petitioner asserts that Widlund discloses that each of the first and second resilient fastening components may comprise a hook component secured to one of the first and second front side panels, as required by claims 17 and 18, respectively. Pet. 32 (citing Ex. 1003, 14:27–15:22; Figs. 11, 12). Similarly, Widlund discloses that each of the first and second resilient fastening components may comprise a loop material secured to one of the first and second back side panels, as required by claims 19 and 20, respectively. *Id.* With respect to claim 22, Petitioner asserts that Toyo

discloses storing folded disposable absorbent garments in a packing bag and, thus, forms a package. Pet. 33 (citing Ex. 1005 ¶¶ 1, 17, 18; Fig. 7).

We have reviewed the evidence cited by Petitioner and are satisfied that Petitioner has established, by a preponderance of the evidence, that all of the elements recited in the dependent claims are disclosed by the cited prior art, and that Claims 17–20 and 22 would have been obvious over Widlund and Toyo for the reasons discussed above in connection with claim 15.

*D. Claim 21—Obviousness over Widlund, Toyo, and Kuske*

Claim 21 depends from claim 15, and recites that “the outer cover [of the garment] includes a graphic located in the front region of the chassis.”

Kuske discloses a child’s disposable absorbent training pant with various graphic elements disposed on the front “so as to convey an aesthetically and/or functionally pleasing appearance to the user and caregiver.” Ex. 1007, 4:1–8, 5:1–15; Figs. 1, 2.

Petitioner asserts that “it would have been obvious to include [Kuske’s] graphic . . . on the front of the chassis of the children’s training pant of Widlund, as folded in the manner taught in Figure 2 of Toyo” (Pet. 59), as Kuske discloses the desirability of including graphics on children’s training pants.

Patent Owner contends that claim 21 is “patentable based on its dependency on claim 15, which is patentable over the cited references.” PO Resp. 32.

We have reviewed the evidence cited by Petitioner and are satisfied that Petitioner has established, by a preponderance of the evidence, that the folded garment of claim 15 would have been obvious over Widlund and

Toyo for the reasons discussed above, and that it would have been obvious to include Kuske's graphics on the folded garment as well, as required by claim 21.

*E. Patent Owner's Motion to Exclude*

The Gardner Declaration (Ex. 1017)

Patent Owner contends that portions of the Gardner Declaration are "outside the permissible scope of the Petitioner's Reply . . . [and] should be excluded as irrelevant under Federal Rule of Evidence 402." Paper 24 (Mot. to Exclude), 3.

Specifically, Patent Owner seeks to exclude paragraphs 1, 4, 5, 11, and 116 of the Declaration because "Mr. Gardner's opinions of the ultimate issue of obviousness are beyond the scope of the evidence in the original petition" (*id.*), and "Mr. Gardner's testimony is new evidence and there is no reason he could not have offered this testimony" with the Petition. *Id.* at 4.

We decline to strike these paragraphs from the record, as we did not consider or rely on them. Patent Owner's Motion to Exclude is dismissed with respect to paragraphs 1, 4, 5, 11, and 116 of the Gardner Declaration.

Patent Owner further contends that paragraph 40 of Mr. Gardner's Declaration "seeks to introduce evidence of a district court's decision on a patent not at issue in this case" and "should be stricken under Federal Rule of Evidence 402 as irrelevant." *Id.*

We decline to strike paragraph 40 from the record, as we did not consider or rely on it in any way. Patent Owner's Motion to Exclude is dismissed as moot with respect to paragraph 40 of the Gardner Declaration.

Patent Owner further seeks to exclude paragraphs 8, 40, 84, and 87–89 of Mr. Gardner's Declaration because they concern "opinions on

International Patent Publication No. WO 00/37009 to Fletcher” (*id.*), and “[t]he Board did not institute review based on the Fletcher patent” (*id.*).

We decline to strike paragraphs 8, 40, 84, and 87–89 from the record, as we did not consider or rely on them in any way. Patent Owner’s Motion to Exclude is dismissed as moot with respect to paragraphs 8, 40, 84, and 87–89 of the Gardner Declaration.

The Fletcher Reference (Ex.1004)

Finally, Patent Owner seeks to exclude Exhibit 1004, as “[t]he Board did not institute review based on the Fletcher patent” and “Fletcher and all references to it should be stricken under Federal Rule of Evidence 402 as irrelevant.” *Id.* at 4.

We decline to strike Exhibit 1004 from the record, as we did not rely on it in any way in reaching our decision. Patent Owner’s Motion to Exclude is dismissed as moot with respect to Exhibit 1004.

### III. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that claims 15–20 and 22 of the ’876 patent are unpatentable under 35 U.S.C. § 103 as obvious over Widlund and Toyo, and that claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Widlund , Toyo, and Kuske.

### IV. ORDER

Accordingly, it is

ORDERED that claims 15–22 of U.S. Patent No. 8,579,876 B2 are unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Exclude is dismissed; and

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



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For PETITIONER:

KENNETH P. GEORGE  
BRIAN A. COMACK.  
Amster, Rothstein & Ebenstein LLP  
kgeorge@arelaw.com  
dcomack@arelaw.com

For PATENT OWNER:

JENNIFER E. HOEKEL  
B. SCOTT EIDSON  
RICHARD BRIDGE  
Armstrong Teasdale LLP  
jhoekel@armstrongteasdale.com  
seidson@ armstrongteasdale.com