

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ATTENDS HEALTHCARE PRODUCTS, INC.,  
Petitioner,

v.

PAUL HARTMANN AG,  
Patent Owner.

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Case No. IPR2020-01479  
U.S. Pat. No. 8,771,249

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**PATENT OWNER'S RESPONSE**

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## **I. Introduction**

Patent Owner PAUL HARTMANN is a world leader in incontinence management. Part of HARTMANN's solutions are improved incontinence briefs based on the '249 patent and its family (the Beckert patents). The Beckert patents relate to an improved diaper closure system. The inventors created a diaper that would encourage users to fasten the diaper so that it would be secure and not leak, even if improperly fastened.

The inventors found that, surprisingly, if the retaining forces between closures and the outer face of the *chassis* in the front of the diaper are sufficient to secure the diaper on the wearer but are lower than the retaining forces between closures and the outer face of the *side ears*, users correctly fasten the closures to the outer face of the ears. Ex. 1001, 2:17-34. This novel fastening system increases the wearer's comfort while reducing risk of damage to the backsheet and preventing leakage. *Id.* The Beckert patents further teach specific ranges of over-abdomen retaining forces between closures and the front and between closures and the ears that achieve these results. *Id.* 2:35-41.

HARTMANN is not the only company to recognize the value of this novel arrangement. Other companies have licensed the Beckert patents, including Medline, a leader in the incontinence market in the United States. Medline has not only licensed the Beckert patents, but it provides notice that its products use the

Beckert patents, marking over 130 of its incontinence products with the Beckert patents, demonstrating the importance of this family. Ex. 2006.

The prior art does not recognize or suggest the novel closure system taught by the Beckert patents. Instead, the cited references teach securing fasteners on wings at the side or front of the diaper, but not both and not with different retaining forces. None of the references, alone or in combination, teach having sufficient (yet different) retaining forces between closures and the front, and between closures and side ears of a diaper. None teach using different retaining forces to encourage proper placement while still providing security if improperly fastened. Because the prior art does not teach this, Petitioner cobbles together parts of references using the Beckert patents as a guide and then argues that the resulting diaper must meet the claimed retaining forces requirements. All of Petitioner's arguments rely on inherency.

Petitioner's declarant, Arrigo Jezzi, focuses on one aspect of a nonwoven—basis weight—and selects particular basis weights from the ranges of values disclosed in the prior art based on the teachings of the Beckert patents. Mr. Jezzi then argues that the resulting diaper must have the claimed retaining forces because he selected a higher basis weight nonwoven for the side parts than for the main part of the diaper, similar to examples in the Beckert patents. But that is not how inherency, or even obviousness, works. All that Mr. Jezzi has done is show

that the Beckert patents teach one of ordinary skill in the art how to make and use the invention. And Petitioner ignores that a higher-basis-weight nonwoven does not *necessarily* have higher retaining forces than a lower-basis-weight nonwoven. Many factors impact how well a nonwoven engages fasteners and holds a diaper—basis weight is just one of them.

Neither Petitioner nor Mr. Jezzi establishes that the modified diapers would be fastened at the front and ears, that the diapers could be held on the wearer if fastened at either the front or ears, or that the retaining forces between closures and the front would be lower than the retaining forces between closures and the ears. And Petitioner never alleges, let alone shows, that the modified diapers *necessarily* do all of these things, as required for inherency.

Many of Petitioner's grounds are based on Karami '772 allegedly disclosing attaching fasteners/closures to the front of the diaper in an untreated "stay-away zone" and necessarily being able to hold the diaper on the wearer when fastened there. But Karami '772 discloses neither. Karami '772 teaches, as its "inventive concept," treating a nonwoven with water jetting and/or aperturing so that "fasteners are able to securely attach" to the nonwoven. Ex. 1003, ¶¶ [0040], [0044], [0052]. Karami '772 never teaches, let alone suggests, that the fasteners could engage an untreated nonwoven to hold the diaper. To the contrary, it describes an area with an untreated nonwoven as a "stay-away zone" with either no

or “diminished affinity.” Ex. 1003, ¶ [0053]. To argue that Karami ’772’s stay-away-zone could engage fasteners to hold the diaper on the wearer, Petitioner looks to a portion of a T-shaped diaper in Karami ’626 that does not engage fasteners. This is not sufficient for inherency.

Petitioner’s other grounds are based on Benning, which teaches securing fasteners to the front of the diaper—not the ears. Petitioner proposes replacing Benning’s underlayer, which covers the main part of the diaper and engages fasteners, with a backsheet from Karami’s ’626’s T-shaped diaper, which does not engage fasteners. Petitioner then argues that its modified diaper has the claimed retaining forces. But making a diaper out of Benning’s sides, which do not secure fasteners, and the T-shaped diaper’s front, which does not secure fasteners, does not lead to a diaper that can secure fasteners at either the sides or front, let alone both. Also, it does not result in a diaper that *necessarily* has lower retaining forces between fasteners and the front of the diaper than between fasteners and the ears.

## **II. Diaper and Nonwoven Background**

There are three common type of diapers—conventional diapers, T-shaped or belt diapers, and pull-up diapers. Ex. 2004, ¶ 97. These diapers operate differently. *Id.* A T-shaped diaper has two wings that are fastened together to form a belt that is used to support the front of the diaper and carry the weight of the diaper. *Id.* A T-



shaped diaper is shown in Karami '626, Karami '772, and Stupperich Figure 1, which is annotated below showing the belt 10 (orange).

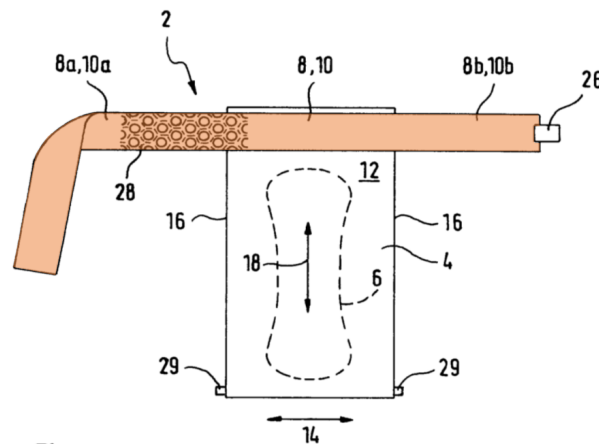
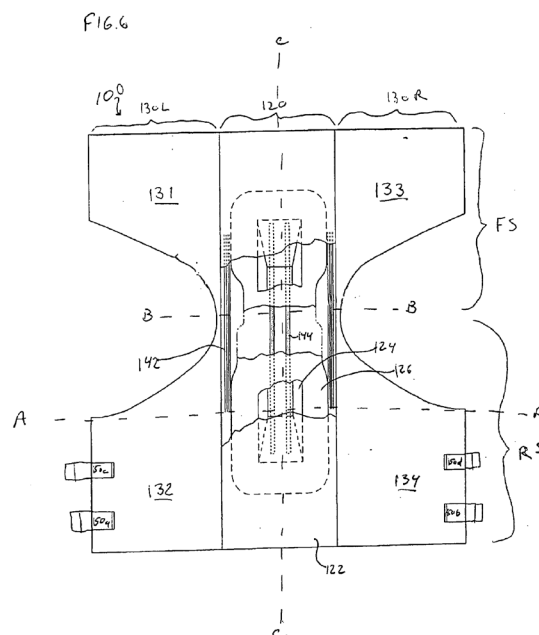
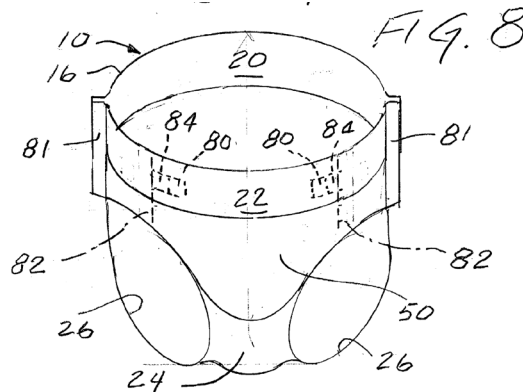


Fig. 1

In contrast, a conventional diaper generally has contouring around the legs or has four side portions. Ex. 2004, ¶ 97. The side portions at the rear are typically brought around towards the front to engage a surface. *Id.* No belt is formed. *Id.* A conventional diaper is shown in Karami '772 Figure 6, reproduced below.



A pull-up diaper is intended to be used in a manner similar to underpants and is designed to allow the diaper to be pulled up or down. Ex. 2004, ¶ 97. A pull-up diaper is illustrated in Figure 8 of Karami '626 (Ex. 1004), reproduced below.



For adult incontinence diapers, it is important that the diaper be comfortably secured on a wearer and prevent leaking. Ex. 2004, ¶¶ 32, 95. Skilled artisans designing a diaper would consider their objectives and then engineer the materials and manufacturing processes based on the design and performance requirements. *Id.*, ¶¶ 95–118. Incontinence products are commonly made of nonwoven fabrics, which vary considerably based on the fabric properties (e.g., fiber type, density, crimp, wetting, permeability, wicking, liquid run-off, bulk, strike through, and wetness barrier performance), fabric construction (e.g., interlacing, bonding method, and fiber orientation), and mechanical finishing (e.g., chemical, thermal, lamination, consolidation by point bonding, thermal stabilization and bonding density and pattern). *Id.*, ¶¶ 98, 100, 102, 103, 106. Given these variables, it is hard to compare particular nonwovens. *Id.*, ¶ 106.

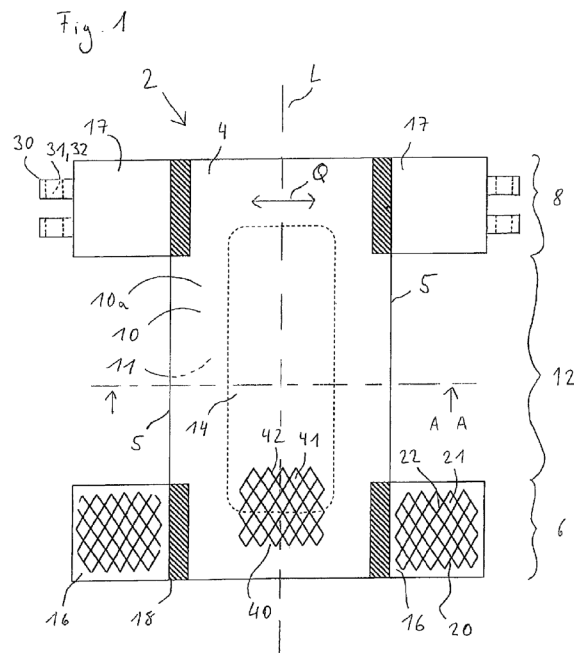
When it comes to the retaining forces of a nonwoven, how well the fibers of the nonwoven can snag a closure to secure a diaper on the wearer depends on many factors, including the closure used and the conditions by which the fabric was made: the type, size, shape, and density of the fibers; and the finishing processes or treatments used. *Id.*, ¶¶ 103-106. The basis weight of the nonwoven is not the only factor that goes into how well a nonwoven surface can engage a fastener. *Id.* The diaper design and these conditions impact the resulting end properties of the nonwoven, including how well it engages closures/fasteners. *Id.*, ¶ 106. Clear and reproducible test methods are an important tool for evaluating the end-materials and end-products. *Id.*, ¶ 72; *see also* Ex. 2003, 58:4–8 (stating that “because a lot of [tests used to test diaper materials] are customized or proprietary tests,” comparing results from these tests is like comparing “apples and oranges”).

### **III. Beckert Patents**

To solve the problem of securing an incontinence diaper on a wearer, the Beckert patents disclose a closure system where users are encouraged to correctly secure the diaper. Ex. 1001, 2:7-41; Ex. 2004, ¶¶ 30-36. The Beckert patents disclose a diaper and closures that can “be secured detachably at least in regions both on the outer face of the main part and also on the outer face of the side parts in the front area, the retaining forces between the mechanical closure means and the outer face of the main part being lower than the retaining forces between the

mechanical closure means and the outer face of the side parts in the front area.” *Id.*, 2:9-15. The Beckert patents teach that this arrangement encourages the correct fastening of diapers. *Id.*, 2:17-34. The Beckert patents disclose specific over-abdomen retaining forces that achieve this result and a method of measuring retaining forces that approximates actual use conditions. *Id.*, 2:35-45, 2:50-4:36. The disclosed testing method is detailed, understandable, and reproducible. Ex. 2004, ¶ 34. One of ordinary skill could reproduce it. *Id.*

A diaper 2 is illustrated in Figure 1, reproduced below. The diaper includes a main part 4 with a front area 6, rear area 8, and crotch area 12. Ex. 1001, 12:19-22. An absorbent body is disposed between the chassis-forming materials of the main part. *Id.*, 12:22-26. The diaper includes four side parts—front side parts 16 and rear side parts 17. *Id.*, 12:31-34. The rear side parts have closure means with mechanical closure aids, which can be detachably fixed to the outer face of the front side parts and the outer face of the main part at the front to secure the diaper on the wearer. *Id.*, 12:46-13:49.



The '249 patent has 54 claims. Claims 1 and 34 are independent claims.

Claim 1 includes, among other things, “a closure component including mechanical closure aids which, when in use, hold the diaper on the user body when said closure component is selectively fastened to either” the outer face of the chassis or the outer face of the ears that attach to the side edges of the chassis in the front area. Claim 1 further specifies that the retaining forces between the closure component and the outer face of the chassis are lower than the retaining forces between the closure component the outer face of the front ears.

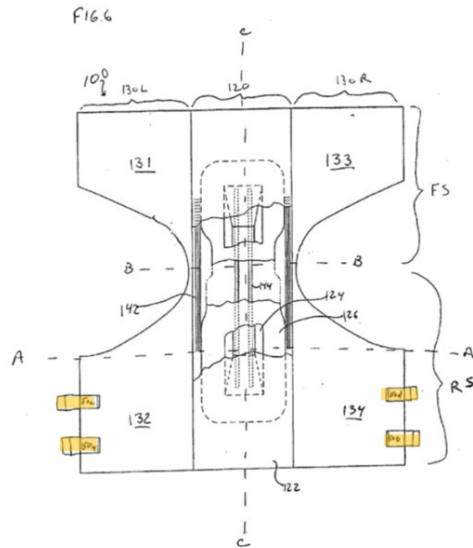
Thus, claim 1 requires that the retaining forces between the chassis and the closure be lower than the retaining forces between the ears and the closure and that those retaining forces be sufficient to hold the diaper on the user. Claim 34 includes similar requirements, along with additional requirements.

#### IV. References

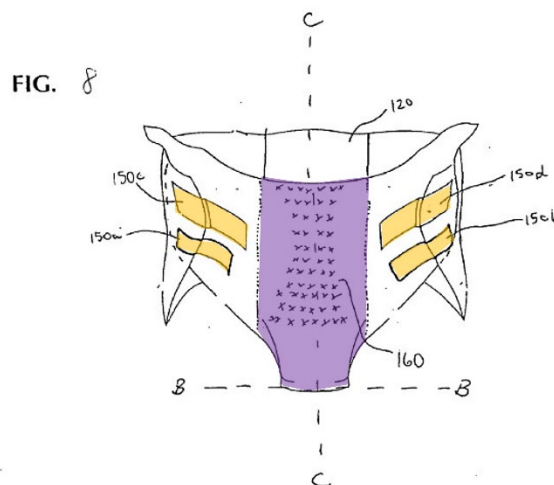
##### A. Karami '772

Karami '772 seeks to provide an absorbent article not requiring a loop fastening element and teaches instead that “hook-type fasteners are able to securely attach to a bonded nonwoven surface that has been subjected to a water jet treatment and/or aperturing.” Ex. 1003, ¶ [0025]; Ex. 2004, ¶¶ 52-62. Karami '772 refers to this as “the inventive concept.” Ex. 1003, ¶¶ [0040], [0044], [0052].

Diaper 100 shown in Figure 6 (annotated below) includes containment assembly 120, front wings 131 and 133, and rear wings 132 and 134, which are provided with fasteners 150a-150d (yellow). *Id.*, ¶ [0047]. Karami '772 teaches that a portion or “the entire outer surface of wings 131 and 133 is made of water jet treated and/or apertured nonwoven *so that* the hook-type fasteners 150a-150d *can securely engage* with any portion of the wings 131 and 133 when the diaper 100 is” worn. *Id.*, ¶ [0048] (emphasis added). It explains that the wings can be made of any nonwoven “that is later subjected to water jet treatment . . . and/or apertur[ing]” *Id.* Throughout all of the embodiments, Karami '772 makes treating the nonwoven a condition precedent to securely engaging fasteners. Ex. 1003, ¶¶ [0025], [0039], [0042], [0051].



In Figure 8 (annotated below), Karami '772 shows a diaper embodiment where the diaper “can be provided with at least one stay-away zone 160 at the front waist portion.” Ex. 1003, ¶ [0053]. The stay-away-zone can be formed by a film or alternatively by water jet treating the front waist portion except for a portion “that forms the stay-away zone 160” and has “diminished affinity” to fasteners. *Id.* One of ordinary skill would understand that the stay-away-zone (purple) is an area where fasteners (yellow) cannot securely engage. Ex. 2004, ¶¶ 64-67.



To show the benefit of treating the nonwoven, Karami '772 states the “shear and peel strengths of various hook-type fastener samples were measured using a modified version of the ASTM standardized testing procedures.” Ex. 1003, ¶ [0041]; Ex. 2004, ¶¶ 68-72. The results were reported in Table 1, which is cropped and reproduced below.

TABLE 1							
Hook Peel and Shear Strength Comparison 2" long x 1" wide Hook Samples (In a tape tab + finger lift)							
	Binder 25445 (TAPE52) Hook Samples					Binder 65445 Hook Samples	
	FQN 33.9 gsm Spunbond/Nonwoven	FQN 33.9 gsm Spunbond/Nonwoven- about 16 pins/sq in	FQN 20 gsm Spunbond/Nonwoven- about 32 pins/sq in	FQN 20 gsm Spunbond/Nonwoven- Treated	FQN 20 gsm Spunbond/Nonwoven- about 16 pins/sq in	FQN 33.9 gsm Spunbond/Nonwoven	FQN 33.9 gsm Spunbond/Nonwoven- about 16 pins/sq in
1st Peel Strength							
Load at Max Load (g/2 in)	142.628/25.7	298.389/25.2	443.046/85.3	532.557/96.8	613.135/83.8	78.026/56.1	292.842/52.1
Shear Strength							
Load at Max Load (g/2 in)	1094.645/569.7	2924.343/298.9	3325.295/420.2	993.601/115.5	1686.611/303.2	1616.699/586.9	2709.794/462.9
	Binder 65445 Hook Samples		Velcro USA Hook Samples				
	FQN 20 gsm Spunbond/Nonwoven	FQN 20 gsm Spunbond/Nonwoven- Treated	FQN 33.9 gsm Spunbond/Nonwoven	FQN 33.9 gsm Spunbond/Nonwoven- about 16 pins/sq in	FQN 20 gsm Spunbond/Nonwoven	FQN 20 gsm Spunbond/Nonwoven- Treated	FQN 20 gsm Spunbond/Nonwoven- Treated-about 16 pins/sq in
1st Peel Strength							
Load at Max Load (g/2 in)	231.120/114.4	530.477/77.2	104.840/60.1	262.006/52.2	446.605/55.9	673.645/131.3	
Shear Strength							
Load at Max Load (g/2 in)	1516.114/256.1	1677.780/640.3	203.931/132.5	1942.152/613.1	1032.605/132.6	2311.901/72.1	

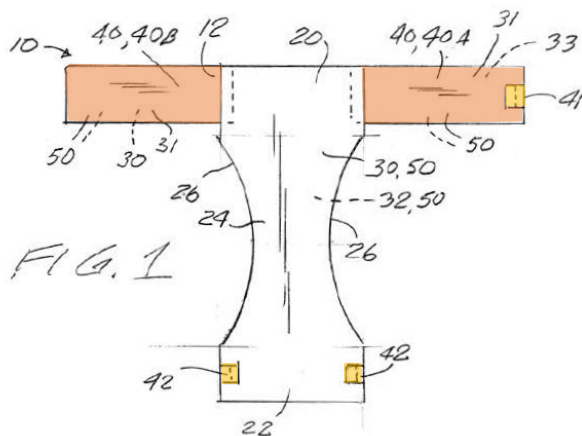
NOTES: All above testing was done peeling and shearing from the 2 inch length side of the hook samples.



## B. Karami '626

Karami '626 seeks to provide absorbent articles that do not require conventional loop-type fastening elements and does so by focusing on a particular type of diaper—a T-shaped diaper. Ex. 1004, ¶ [0002]; Ex. 2003, 163:9-11; Ex. 2004, ¶¶ 81-87.

As shown in Figure 1 annotated below, the T-shaped diaper includes back portion 20, front portion 22, a crotch portion 24, and a pair of wings 40 (orange). Ex. 1004, ¶¶ [0035], [0037]. Karami '626 explains that one of the wings 40 has fastener element 41 (yellow) and front portion 22 of the diaper has fastener elements 42 (yellow) on the frontsheet of the diaper. *Id.*, ¶ [0037].



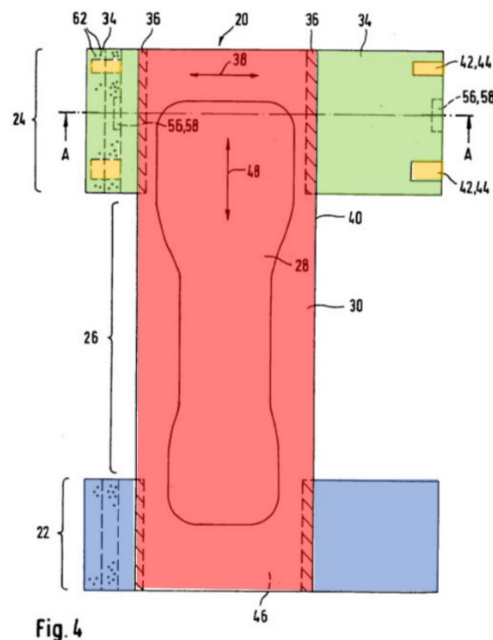
To put the T-shaped diaper on, “the free ends of the two wings 40 are brought around the sides and front of the waist of the wearer and make a partially overlapping connection about the front of the waist of the wearer” to form a “belt encircling the waist of the wearer.” Ex. 1004, ¶¶ [0037], [0038]. “The front portion 22 is then passed through the legs of the wearer and raised in front of the wearer

until the first laterally spaced pair of fastener elements 42 secured thereto engage the exposed outer surface of the belt 44.” *Id.*, ¶ [0038]. Karami ’626 makes it clear that all fasteners engage the belt formed by the wings to secure the T-shaped brief. Ex. 2004, ¶¶ 82-86, 89-90

### **C. Benning**

Benning seeks to create a diaper “in which the material sections folded over each other are releasably attached to each other so that they are kept in their folded configuration.” Ex. 1002, ¶ [0007]. Benning does this to prevent flutter in high-speed manufacture and keep material sections intact during packaging. *Id.*

In Figure 4, annotated below, Benning illustrates a diaper with four material sections, also called side flaps, extending from the main body (red) in the front (blue) and back (green). *Id.*, ¶¶ [0028], [0029], [0054], Fig. 4; Ex. 2004, ¶¶ 76-78. A “main body portion 20 comprises an absorbent core 28,” having “a fluid-impermeable underlayer 30 which can also form the outer visible side of the incontinence article.” Ex. 1002, ¶ [0053]. The material sections in the back have two closures 42 (yellow). *Id.*, ¶ [0055]. The closures “interact in a releasably adherent manner with an outside 46 of the front region 22 of the main body portion 20.” *Id.* Benning does not teach attaching the fasteners to the material sections.



Benning teaches that the side sections should be “less rigid than the main body portion or the chassis-forming materials of the main part, such as in particular the backsheet or a laminate of the main part consisting of the backsheet and topsheet.” *Id.*, ¶ [0033]. Benning explains that this provides “a skin-friendly side section” that the wearer would find pleasant. *Id.*, ¶ [0033].

## V. The Law of Inherency

“The inherency doctrine allows for a prior art reference to supply a missing limitation if it is ‘necessarily present’ or ‘inherent’ in that reference.” *Vivint, Inc. v. Alarm.com Inc.*, 741 F. App’x 786, 791 (Fed. Cir. 2018) (quoting *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003)). “[A] prior art reference, which does not expressly disclose every limitation of a claim, may still anticipate that claim if the missing limitation is ‘necessarily present, or inherent, in the single

anticipating reference.” *Vivint, Inc.*, 741 F. App’x at 791 (quoting *Schering Corp.*, 339 F.3d at 1377). “The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.” *In re Olerich*, 66 F.2d 578, 581 (C.C.P.A. 1981) (quoting *Hansgirk v. Kemmer*, 102 F.2d 212, 214 (C.C.P.A. 1939)). If the missing limitation is probably or possibly in the prior art, it is not “necessarily present” and therefore not inherent. *See Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002); *see also L’Oreal USA, Inc. v. Olaplex, Inc.*, 844 F. App’x 308, 314, 325-326 (Fed. Cir. 2021) (affirming the Board’s finding of no inherent obviousness where Petitioner failed to prove that the claimed percentages were necessarily present in, or the natural result of, the combined teachings of the prior art).

Inherency may also apply in an obviousness context, but use of inherent obviousness must “be ‘carefully circumscribed’ because ‘that which may be inherent is not necessarily known and that which is unknown cannot be obvious.’” *Vivint, Inc.*, 741 F. App’x at 792 (quoting *Honeywell Int’l Inc. v. Mexichem Amanco Holding S.A.*, 865 F.3d 1348, 1354-55 (Fed. Cir. 2017)). Inherency in obviousness “is present only when the limitation at issue is the ‘natural result’ of the combination of prior art elements.” *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014) (quoting *In re Oelrich*, 666 F.2d 578, 581 (C.C.P.A. 1981)). Probabilities or possibilities are insufficient. *Id.* “A party

must . . . meet a high standard in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis.”

*Millennium Pharms., Inc. v. Sandoz, Inc.*, 862 F.3d 1356, 1367 (Fed. Cir. 2017) (quoting *PAR Pharm.*, 773 F.3d at 1195-96).

## **VI. Petitioner Does Not Establish Obviousness of Any Claim Based on the Karami '772 and Benning**

Petitioner proposed Grounds 1, 4, 7, 9, and 11 where it modifies one embodiment in Karami '772 based on Benning. Pet. 20-50.<sup>1</sup> This combination, however, does not teach or result in the claimed invention. Petitioner argues that the claimed features would have been obvious based on selections driven by the Beckert patents, not the prior art. Because Petitioner relies on the Beckert patents rather than the prior art for modifying the Karami '772 diaper, it resorts to inherency to argue that the modified diaper meets the claims. But Petitioner does not show that the modified diaper would actually or necessarily have had fasteners that would engage the front of the diaper with sufficient retaining forces to secure the diaper on the user and that were lower than the retaining forces between the fastener and the side parts as claimed. Ex. 2004, ¶¶ 73, 79, 119-120.

Karami '772 teaches as its “inventive concept” treating a nonwoven by water jetting and/or aperturing so that fasteners can securely engage a nonwoven

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<sup>1</sup> Citations are to the Corrected Petition, Paper No. 12.

surface. Ex. 1003, ¶¶ [0040], [0044], [0052]. Karami '772 only discloses securing fasteners to nonwoven surfaces that have been treated. *See, e.g., Id.*, ¶¶ [0025], [0035]-[0040], [0042]-[0048], [0051]. Yet Petitioner argues that an untreated stay-away-zone on the front of the diaper would not only engage fasteners, but would have retaining forces “high enough to hold the diaper on the wearer in use.” Ex. 1012, ¶¶ 69, 75; Pet., 21-23. Karami '772 teaches otherwise.

Benning does not cure the deficiencies in Karami '772. Petitioner relies on Benning to argue that wings 131-134 in Figure 6 could be separate from containment assembly 120. Pet., 24-29. But that modification would not change the stay-away-zone at the front of the diaper or change Karami '772's teaching of treating a nonwoven so that fasteners can securely engage. Neither Karami '772 nor Benning discloses a diaper where the fasteners can be secured at different parts of the diaper having differing retaining forces. Ex. 2004, ¶¶ 73, 79, 119-123. And combining them does not lead to that result. *Id.*

**A. The combination does not have differing retaining forces and selectively fastening of a closure component to the front ears of a diaper to hold the diaper**

Petitioner's proposed combination based on Karami '772 does not disclose, among others, limitations 1[c][1], 1[c][2], 1[d], 7-8, 11-12, 19-21, 34[c][1], 34[c][2], 34[d], 38, and 45-49. The combination does not disclose a chassis, ears, and a closure component which, “when in use, hold the diaper on the user body

when said closure component is selectively fastened to either” the chassis or first and second ears and where retaining forces between the closure component and the chassis are lower than retaining forces between the closure component and the first and second ears. Petitioner’s combination also does not disclose a different, higher basis weight, or thicker nonwoven for the ears than for the chassis.

**1. Karami ’772 teaches that the nonwoven must be treated to hold the diaper on the wearer**

Petitioner acknowledges that Karami ’772 discloses engaging fasteners 150a-150d with wings 131 and 133 to secure the diaper. Pet., 23-24. But Petitioner also argues that a “POSITA would have understood that the hooks would still attach to the backsheet’s stay-away zone.” *Id.* That is not so. Karami ’772 never suggests attaching fastener hooks to the backsheet’s stay-away-zone. Instead, in every embodiment, Karami ’772 discloses that the nonwoven must be treated by water jetting and/or aperturing in order for the fasteners to securely engage the nonwoven. Ex. 1003, ¶¶ [0025], [0035]-[0040], [0042]-[0048], [0051] Ex. 2004, ¶¶ 55, 124-126. Indeed, it calls this the “inventive concept” no less than three times. Ex. 1003, ¶¶ [0040], [0044], [0052].

Karami ’772 explains: “[i]n various exemplary embodiments of the present invention, an absorbent article is provided with a fastening system that does not include a loop fastening element. Instead, hook-type fasteners are able to *securely*

*attach* to a bonded nonwoven surface that has been *subjected to a water jet treatment and/or aperturing.*” Ex. 1003, ¶ [0025] (emphasis added). For the Figure 6 embodiment, Karami ’772 teaches that a portion or “the entire outer surface of wings 131 and 133 is made of water jet treated and/or apertured nonwoven *so that* the hook-type fasteners 150a-150d *can securely engage* with any portion of the wings 131 and 133 when the diaper 100 is placed on the wearer.” *Id.*, [0048] (emphasis added). It explains that the wings can be made of any nonwoven “that is later subjected to water jet treatment . . . and/or apertured.” *Id.* Throughout all embodiments, Karami ’772 makes treating the nonwoven a condition precedent for securely engaging fasteners. Ex. 1003, ¶¶ [0025], [0039] (use treated nonwoven “so that” the fasteners can attach), [0042] (treating the nonwoven “allows” fastener “to be securely fastened”), [0051] (use treated nonwoven “so that” fasteners “can securely engage”); Ex. 2004, ¶¶ 55, 124-126. One of ordinary skill would understand Karami ’772 to teach that treating the nonwoven is necessary for engaging fasteners to hold the diaper. Ex. 2004, ¶ 55.

Karami ’772 also makes it clear that the front of the diaper, if used to engage fasteners, would have to be treated in order to hold the diaper. Ex. 2004, ¶¶ 58, 61, 124. For the T-shaped diaper, it discloses that fasteners alternatively could be added to a wing and engage the front of the diaper *if* the front is treated. Ex. 1003, ¶ [0039]. Karami ’772 explains: “[w]ith this construction, at least a portion of the



outer surface of the *front portion 22* of the T-shaped diaper may be made of *water jet treated and/or apertured bonded nonwoven, so that* the hook-type fasteners at the free ends of the wings 40 can attach to the front portion 22.” *Id.* (emphasis added). One of ordinary skill would understand from this express teaching that the front of the diaper would have to be treated in order for fasteners to securely engage. Ex. 2004, ¶¶ 58, 61, 124.

When it comes to the Figure 6 embodiment, Karami ’772 does not teach or suggest attaching fasteners to the front of the diaper. Ex. 2004, ¶¶ 59-61, 64, 125. Karami ’772 describes the front as a “stay-away zone” in Figure 8, which Mr. Jezzi calls “at most, a variation of the FIG. 6 diaper.” Ex. 1003, ¶ [0053]; Ex. 1012, ¶ 75 n.1. One of ordinary skill in the art would understand that the front of the Figure 6 diaper would have to be water jet treated and/or apertured in order for fasteners to securely engage, as Karami ’772 teaches for the alternate T-shaped diaper embodiment. Ex. 2004, ¶ 61; Ex. 1003, ¶ [0039].

Karami ’772 thus teaches treating the nonwoven so that the fasteners can engage the treated surface to hold the diaper on the user. Ex. 2004, ¶¶ 52-63, 124-126. And one of ordinary skill would understand Karami ’772 to teach away from using an untreated nonwoven to engage fasteners to hold the diaper. *Id.*, ¶¶ 55, 61. Because the stay-away-zone is untreated, one of ordinary skill would understand that fasteners would not engage and fasten there. *Id.*, ¶¶ 56, 65-67, 124-129.

**2. One of ordinary skill in the art would understand the stay-away-zone to be an area that should not and could not be used to hold the diaper**

One of ordinary skill in the art would understand a stay-away-zone, including the one in Karami '772, to mean what it says—stay away. Ex. 2004, ¶¶ 64-67, 127-129. One of ordinary skill would understand it to be an area that should not and could not be used to hold a diaper on the user. *Id.*

The first named inventor of Karami '772 has used the term stay-away-zone before. Karami is an inventor on Damaghi (Ex. 1028). Damaghi describes a stay-away-zone as a portion of a diaper “to which fasteners could not attach.” Ex. 1028, ¶ [0051]. Damaghi explains that the stay-away-zone could be created “by spraying a solution or attaching a film over a portion of nonwoven backsheet 30 to which the fastener could not attach.” *Id.* The term stay-away-zone is used the same way in Karami '772. Ex. 2004, ¶¶ 65-66. Like Damaghi, Karami '772 discloses that the stay-away-zone could be formed by “an inner backing film or backing film laminated” to a nonwoven. Ex. 1003, ¶ [0053]. One of ordinary skill would understand that that fasteners would not be able to attach and fasten to such a film. Ex. 2004, ¶ 66.

In addition to the film, Karami '772 states that the stay-away-zone alternatively could be created by water jet treating and/or aperturing “the entire front waist portion . . . except for a portion of the front waist portion that forms the

stay-away zone.” Ex. 1003, [0053]. One of skill would understand this to result in an area of the diaper where fasteners would not be able to attach and fasten. Ex. 2004, ¶ 67. Karami ’772 explains that the untreated nonwoven in the front “will have diminished affinity to hook-type fasteners.” Ex. 1003, ¶ [0053]. Rather than teaching that fasteners can engage the stay-away-zone as Petitioner contends (Pet., 22-24, 31, 40), the reference to diminished affinity makes it clear that the untreated nonwoven cannot engage fasteners to hold the diaper. Ex. 2004, ¶ 67. Indeed, it would make no sense for a stay-away-zone to refer to an area where fasteners cannot attach when a film is used and “alternatively” to an area where fasteners can both attach and hold the diaper. *Id.* Such an area would not be an alternative stay-away-zone. *Id.*

Petitioner cites Damaghi as evidence that the “hooks would still attach to the backsheet’s stay-away zone, while the better affinity wings 131, 133 would encourage fastening thereto for intended sizing,” particularly preventing “‘improper sizing of diapers.’” Pet., 23-24. But Damaghi teaches that improper sizing is prevented by using a stay-away-zone where “fasteners cannot attach.” Ex. 1028, ¶ [0021]. Damaghi teaches that “[b]y controlling the size and location of this ‘stay-away-zone’ improper sizing of diapers can be prevented.” *Id.* Thus, to the extent Petitioner alleges that the stay-away-zone in Karami ’772 encourages

fastening for “intended sizing,” it does so with a stay-away-zone where fasteners cannot attach.

**3. Petitioner does not establish that Karami ’772 inherently discloses retaining forces at the stay-away-zone**

Petitioner argues that “fasteners can also be releasably attached” to the “untreated stay-away zone” and that, “[e]ven in stay-away zone 160, retaining forces between fasteners 150a-150d and backsheet 130 were sufficient to hold the diaper on a wearer.” Pet., 31. As discussed above, Karami ’772 does not suggest attaching fasteners to the stay-away-zone. *Supra* VI.A. Karami ’772 teaches that the stay-away-zone has no affinity or “diminished” affinity. Ex. 1003, ¶ [0053]; Ex. 2004, ¶¶ 55, 64-67, 127. The ’249 claims, however, require that the retaining forces between the closure and the front of the diaper “hold the diaper on the user body.” Ex. 1001, 16:15. It is not enough that there be some affinity—the affinity must be sufficient to hold the diaper. One of ordinary skill in the art would understand that “diminished” affinity would not be sufficient. Ex. 2004, ¶¶ 67, 127-129.

Petitioner recognizes that Karami ’772 does not expressly disclose that fasteners could engage the stay-away-zone to secure the diaper and instead argues that one of ordinary skill would understand the forces to be sufficient by looking at material outside of Karami ’772. Pet., 31-33. Thus, Petitioner’s arguments are not

based on what Karami '772 discloses but on it inherently meeting the retaining force limitation. Petitioner, however, has not met the high standard for inherency.

Petitioner's expert argues that the "retaining forces between the hook fasteners and the untreated nonwoven [at the stay-away-zone] were high enough to hold the diaper on a wearer during use" based on: (1) the tests results reported in Karami '772, which confirms "there still were retaining forces between the hooks and untreated nonwoven"; and (2) Karami '626, which "teaches a nonwoven specifically designed for engaging with hooks of a hook-type fastener when 'use[d] by both large- and small-waisted persons.'" Ex. 1012, ¶¶ 68-70. But the test results, if anything, confirm that Karami '772 teaches that an untreated nonwoven would not have sufficient retaining forces to hold the diaper. And for Karami '626, Petitioner relies on a portion of a T-shaped diaper that does not engage fasteners so it cannot be evidence that the stay-away-zone in Karami '772 necessarily could securely engage fasteners.

Petitioner has not shown that Karami '772 inherently meets the requirement that retaining forces at the front and ears differ and can hold the diaper on the wearer. And any vagueness or ambiguity in Karami '772 on those points dooms Petitioner's obviousness case. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1556 (Fed. Cir. 1983) (holding that the vagueness of prior art references supports nonobviousness); *see also Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*,

853 F.3d 1272, 1284 (Fed. Cir. 2017) (explaining that an ambiguous reference will not anticipate a claim).

**a. Test results in Karami '772 do not establish inherency of the stay-away-zone to securely engage fasteners**

Karami '772 measured the “shear and peel strengths of various hook-type fastener samples” for a 33.9 gsm spunbond nonwoven untreated and subject to aperturing, and for a 20 gsm nonwoven water jet treated and both water jet treated and apertured. Ex. 1003, ¶ [0041], Table 1. It does not, however, describe the testing procedure used. *Id.*; Ex. 2004, ¶¶ 68-72, 128; Ex. 2003, 116:12-22. The testing reported in Table 1 was so poorly conducted and described that one of ordinary skill in the art could not draw conclusions from the results. Ex. 2004, ¶¶ 68-72, 128-129; *see also* Ex. 2003, 116:7-122:7, 177:5-16.

For instance, the statement below Table 1 in Karami '772 that “[a]ll above testing was done peeling and shearing from the 2 inch length side of the hook samples” makes no sense and does not clarify the testing procedure. Ex. 1003, Table 1; Ex. 2004, ¶ 69; Ex. 2003, 118:21-119:16. Table 1 also reports results, such as presenting first and second numbers for each sample, that are not explained and do not make sense. Ex. 2004, ¶ 71; Ex. 2003, 118:21-119:16 (stating that he “cannot make heads or tails of these numbers, honestly”), 119:22-121:7 (stating that he has “no idea what the lower number is” and that it is “very confusing”). The

results have not been normalized as typically would be done and use the wrong units of measurement. Ex. 2004, ¶ 72. The number of samples tested was not reported. Ex. 2003, 121:8-122:5; Ex. 2004, ¶ 70. And there would be no way for one of ordinary skill to reproduce the tests. Ex. 2004, ¶ 70; Ex. 2003, 122:6-7.

Because the testing reported is so unreliable and because even Petitioner's expert acknowledged that he could not make "heads or tails" out of the results (Ex. 2003, 118:21-119:16), those results cannot be evidence that the untreated nonwoven in the stay-away-zone has sufficient retaining forces to hold the diaper. Ex. 2004, ¶¶ 72, 127.

To the extent that Petitioner or Mr. Jezzi still maintains that the results in Table 1 can be relied on for anything, they would confirm the expectation that the untreated nonwoven at the stay-away-zone would not be able to securely engage fasteners. For instance, Karami '772 states that "a shear strength of at least 1300 grams per square inch is preferred." Ex. 1003, ¶ [0004]. But for the untreated 33.9 gsm nonwoven and fastener "Binder 25445," the "Load at Max Load" was reported to be 1094.645 "g/2 in," which is lower than 1300 g/in<sup>2</sup>. *Id.*, Table 1. Also, because the results are reported as grams per 2 inches, the results would be even lower if normalized to grams per inch. Ex. 2003, 181:21-182:3. Thus, the results reported for an untreated 33.9 gsm nonwoven further demonstrate that an untreated nonwoven would not have sufficient retaining forces to hold the diaper,

consistent with Karami '772's teaching that nonwovens must be treated to securely engage fasteners.

Petitioner also alleges that one of ordinary skill would have used a 20 gsm nonwoven at the stay-away-zone in the modified diaper. Pet., 42-43; Ex. 1012, ¶ 93. But Karami '772 did not even test an untreated nonwoven having a basis weight of 20 gsm. Ex. 1003, ¶ [0041], Table 1; Ex. 2004, ¶ 129; Ex. 2003, 122:20-123:4. It only tested 20 gsm nonwovens that had been treated. Ex. 1003, [0041]; Ex. 2004, ¶ 129. And Table 1 reports a force of 993.601 g/2 in. for a 20 gsm, water-jet-treated nonwoven and Binder 25445, which is less than the 1300 g/in<sup>2</sup> sought. Ex. 1003 ¶ [0004], Table 1. One of ordinary skill would understand Karami '772 to teach that an untreated 20 gsm nonwoven would not have sufficient retaining forces to engage fasteners and hold the diaper. Ex. 2004, ¶ 129.

**b. Karami '626 does not establish inherency of the stay-away-zone to hold the diaper**

Petitioner relies on Karami '626 as allegedly evidencing that the stay-away-zone in Karami '772 would inherently be able to securely engage fasteners. Pet., 32-33. Petitioner argues "Karami '772's backsheet—like Karami '626's—is a film-nonwoven laminate, with a 5-45 gsm nonwoven" and both disclose using the same fastener. *Id.*, 31-32. Petitioner further argues that Karami '626 explains that fasteners can engage any portion of the nonwoven surface to secure the diaper on



large- and small-waisted persons. *Id.*, 32. Karami '626's teachings, however, are not as broad as Petitioner suggests, and do not establish the inherency of Karami '772's stay-away-zone to engage fasteners. Ex. 2004, ¶¶ 130-135.

Contrary to Petitioner's assertion, Karami '626 does not disclose a range of 5-45 gsm for the nonwoven backsheet. Ex. 1004, ¶ [0065] (describing the outer range of 13-50 gsm). Also, Mr. Jezzi testified that he did not "think any POSITA in their right mind would look at a 5 gsm for an outer cover" and that he "certainly would not." Ex. 2003, 190:13-191:16. He testified that the retaining forces for a 5 gsm nonwoven "would not be very high," and he could not say that it would be able secure a diaper. *Id.*, 192:17-193:9, 194:5-7. Mr. Jezzi thus acknowledges the stay-away-zone would not necessarily be able to hold a diaper over the entire range of nonwovens disclosed. Petitioner therefore cannot establish that the stay-away-zone necessarily would have sufficient forces across the disclosed range of nonwovens to secure the diaper. *L'Oreal USA, Inc.*, 844 F. App'x at 308; *Trintec Indus., Inc.*, 295 F.3d at 1295.

Petitioner also overstates Karami '626's teaching about size adjustability. Ex. 2004, ¶¶ 85-86, 131, 169. Petitioner cites paragraph [0040] of Karami '626 as teaching size adjustability for all disclosed materials and surfaces. Pet., 32. But there, Karami '626 refers to the "T-shaped brief 12," not other types of diapers. Ex. 1004, ¶ [0040]. For the T-shaped diapers, fasteners only engage the wings, not the

backsheet of the main body. *Id.*, ¶¶ [0039]-[0041], [0050]-[0051]; Ex. 2004 ¶¶ 81-90, 131. For size adjustability, Karami '626 explains that fasteners can engage different parts of the wings that form the belt to accommodate small- and large-waisted wearers. Ex. 1004, ¶¶ [0039]-[0041], [0050]-[0051]; Ex. 2004, ¶¶ 82-86, 131, 169. Karami '626 does not teach that the main part of the T-shaped diaper can engage fasteners to secure the diaper on the wearer or show that the stay-away-zone in Karami '772 does. Ex. 2004, ¶ 131. One of ordinary skill in the art would not understand Karami '626 to teach that fasteners could engage any part of the diaper, regardless of the nonwoven chosen, to hold the diaper. Ex. 2004, ¶¶ 131-135.

Petitioner also argues that Karami 626's teaching of size adjustability applies to the diaper in Figures 9 and 10 using two fastener elements. Pet., 32. But that is not so. That diaper is described as a distinct embodiment from the T-shaped diaper described in Karami '626 as having size adjustability. Ex. 1004, ¶ [0055]. Also, the diaper in Figures 9 and 10 is shown only as a broad illustration and little description is provided. *Id.*; Ex. 2004, ¶¶ 87, 134. Karami '626 merely states one of skill could make "analogous improvements in the fit, appearance and economy of diapers" without describing the improvements or how to adapt them. Ex. 1004, ¶ [0055]. Given how little description is provided of the diaper in Figures 9 and 10, it

cannot establish that the stay-away-zone in Karami '772 necessarily has sufficient forces to hold a diaper.

Mr. Jezzi argues that both Karami '626 and '772 disclose using FABRILEX and fastener Binder 25445, which shows that Karami '626 can somehow evidence characteristics of the Karami '772 stay-away-zone. Ex. 1012, ¶ 70. But both references disclose using FABRILEX on the *wings*, not as the backsheet on the front of the diaper where the stay-away-zone is located. Ex. 1003, ¶ [0034]; Ex. 1004, ¶ [0039]; Ex. 2004, ¶ 133. Also, one of ordinary skill would not use an elastic nonwoven, such as FABRILEX, as a backsheet covering the absorbent core. Ex. 2004, ¶ 133. Also, Karami '772's own test results show that fastener Binder 25445 could not engage an untreated 33.9 gsm nonwoven or even a water-jet-treated 20 gsm nonwoven with sufficient retaining forces. *Supra* VI.A.3.a. As a result, the supposed similarity of the references is not evidence that the stay-away-zone necessarily has sufficient retaining forces to hold a diaper.

**c. Mr. Jezzi acknowledges that he would be speculating to say that fasteners could engage the stay-away-zone to hold the diaper**

Petitioner relies heavily on the opinion of its expert, Mr. Jezzi. Pet. 20-50 (citing Ex. 1012). Mr. Jezzi testified in an earlier IPR that he could not tell whether the retaining forces at the Karami '772 stay-away-zone would be sufficient to hold the diaper on a user. Ex. 2001, 157:9-158:14. In this proceeding, Mr. Jezzi did not

dispute his prior testimony and said it would be “speculative either way” to say whether or not the retaining forces at the stay-away-zone would be sufficient. Ex. 2003, 184:4-185:10.

Mr. Jezzi also acknowledged that he could not say that, in every situation, the stay-away-zone would be sufficient to retain the diaper on the wearer. *Id.*, 185:11-14. Mr. Jezzi testified that, in view of evidence outside of Karami ’772, including Karami ’626, he “would probably say they have sufficient retentive forces to hold a diaper next to the body.” *Id.*, 185:11-186:1. “Probably” is not enough for inherency and cannot establish that the stay-away-zone *necessarily* could engage fasteners to hold a diaper. *See Trintec Indus.*, 295 F.3d at 1295 (explaining that probabilities or possibilities are insufficient to show inherent anticipation); *PAR Pharm.*, 773 F.3d at 1195-96 (explaining the same for inherent obviousness).

**d. Alleged obviousness of using a higher basis weight nonwoven in the wings does not establish inherency**

Petitioner argues that it “was obvious to use a higher-basis-weight nonwoven in Karami ’772’s wings than in its containment assembly [], which would have rendered fastener retaining forces lower in the containment assembly.” Pet., 33. But using a higher basis weight nonwoven on the wings does not establish

that the retaining forces at the stay-away-zone in the front of the diaper, even if “lower,” would necessarily have been sufficient to hold the diaper.

Also, Petitioner’s assumption about a higher basis weight nonwoven necessarily having higher retaining forces ignores the many factors that go into how well a particular nonwoven surface will engage fasteners. Ex. 2004, ¶¶ 95-118. Indeed, Karami ’772 illustrates this. For example, for the tests run with fastener Binder 25445, a 20 gsm nonwoven that had been water jet treated and apertured had higher retaining forces (1686.611 g/2 in) than a 33.9 gsm untreated nonwoven (1094.645 g/2 in). Ex. 1003, Table 1. Mr. Jezzi asserts that, despite issues with the testing in Karami ’772, the results can be compared to each other and those results show that treated nonwovens have higher retaining forces. Ex. 2003, 117:6-15. Thus, Petitioner has not established that a higher basis weight nonwoven would necessarily have had higher retaining forces in the ’772-Benning diaper.

Petitioner also has not explained why one of ordinary skill in the art would have used a higher-basis-weight nonwoven on the wings of the ’772-Benning diaper, given that Karami ’772 expressly teaches that a lower basis weight nonwoven can be treated so that it has higher retaining forces. Pet., 33; Ex. 2003, 117:11-15; Ex. 2004, ¶¶ 136-140. Mr. Jezzi himself notes that higher basis weight nonwovens are more expensive and less comfortable. Ex. 1012, ¶ 92. It would not

have been obvious to use a higher basis weight nonwoven in the wings. Ex. 2004, ¶¶ 136-140.

Petitioner's conclusory argument about using a higher basis weight nonwoven in the wings of the '772-Benning diaper does not establish that the diaper would necessarily have had the claimed different retaining forces or that the stay-away-zone could hold the diaper.

**B. The claimed retaining force ranges would not have been obvious**

Claims 3-4, 14-16, 25, 31-32, 36-37, 39-40, 44, 50, and 53-54 recite specific retaining force ranges. For instance, claim 3 recites that the “retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said chassis, are 57-20 N/25 mm.” Ex. 1001, 16:26-29. Claim 4 depends from claim 3 and recites that the “retaining forces, determined as over-abdomen retaining forces between said closure component and said outer face of said first and second ears, are 90-58 N/25 mm.” *Id.*, 16:30-34. Petitioner has not shown that the ranges in claims 3-4, 14-16, 25, 31-32, 36-37, 39-40, 44, 50, and 53-54 would have been obvious. Ex. 2004, ¶¶ 141-146.

**1. Petitioner fails to address the actual claim language**

The Beckert patents disclose a method of measuring over-abdomen retaining forces that is clear, understandable, and easily reproducible. Ex. 1001, 3:64-4:36; Ex. 2004, ¶ 34; Ex. 2003, 179:20-180:3 (acknowledging that the Beckert patents

describe the test method “more explicitly”). The claims require that retaining forces be determined as over-abdomen retaining forces, yet Petitioner does not address that requirement when evaluating claims 3-4, 14-16, 25, 31-32, 36-37, 39-40, 44, 50, and 53-54. Pet., 35-42. Thus, Petitioner has failed to establish obviousness of those claims.

When it comes to claims 2 and 13, Petitioner asserts that “[o]ver-abdomen retaining forces are simply a proxy for shear forces,” and “the selection of a particular test method to measure characteristics of structures does not alter the structures themselves, nor that such structures would yield differential retaining forces.” Pet., 33. But Petitioner’s expert testified that the particular test method does matter. For instance, Mr. Jezzi addressed claim 2 of the related U.S. Patent No. 8,152,788, which recites that the retaining forces, “determined as over-abdomen retaining forces” between the closure means and the outer face of the main part are “57-20 N/25 mm or 50-25 N/25 mm.” Ex. 2005, 16:9-14; Ex. 2003, 195:5-20. He testified that he could not tell from Karami ’772 whether it discloses the claimed retaining forces. Ex. 2003, 195:5-20. Mr. Jezzi testified that test methods vary so making a correlation on retaining force numbers is hard to do. *Id.*, 185:14-22. Despite acknowledging that testing would be required to determine retaining force values, neither Mr. Jezzi nor Petitioner undertook any tests. The difficulty of proving obviousness does not relieve Petitioner of its burden of

addressing all claim limitations and showing the claim as a whole would have been obvious.

**2. Petitioner fails to show that the claimed retaining force ranges would have been obvious**

Petitioner argues that the “’249 Patent’s claims merely recite broad, workable ranges for such fastener retaining forces . . . to which no independent purpose or significance is attributed . . . and were therefore obvious, individually and in combination.” Pet., 36. But the Beckert patents attribute purpose and significance to those ranges. They expressly teach that the claimed retaining forces ranges achieve the surprising result of leading users to fasten the diaper correctly while still holding the diaper when it is not fastened in the preferred manner. Ex. 1001, 2:7-45; Ex. 2004, ¶ 145. The Beckert patents teach that the claimed ranges provide differing retaining forces that are also sufficient to hold the diaper on the wearer. *Id.* In addition, the Beckert patents explain that the claimed retaining force ranges provide greater comfort to the wearer and reduce the risk of damage and leakage. *Id.* These are all advantages flowing directly from the claimed ranges.

Petitioner also argues that “POSITA were capable of achieving the ’249 Patent’s.” Pet. 42. Assuming Petitioner meant to refer to the claimed retaining forces, the fact that a person of skill could have achieved specific retaining forces does not mean it would have been obvious to do so. *See Belden Inc. v. Berk-Tek*



*LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (stating that “obviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention”).

Petitioner discusses many ways one of ordinary skill could have increased the retaining forces of a nonwoven, such as through “temperature treatment,” “water jet treatment and/or aperturing,” “bonding,” and “selecting from the broad range of materials and basis weights.” Pet. 37-38. Petitioner’s arguments only further demonstrate that the basis weight of a nonwoven is not the only factor that determines retaining forces. All of Petitioner’s proposed combinations are premised on the notion that a higher basis weight nonwoven at the wings will necessarily have higher retaining forces than a lower basis weight nonwoven at the front. Petitioner’s arguments here undermine that premise by acknowledging that other factors can increase the retaining force of nonwovens. At the same time, when it comes to the claimed ranges, the fact that a skilled artisan could achieve the claimed ranges merely establishes enablement; it does not establish that a skilled artisan would have had a reason to seek the claimed retaining force ranges and combinations of ranges apart from the teachings of the Beckert patents.

Petitioner also argues that “Karami ’772’s stay-away zone struck a balance between permitting diaper-adjustability and encouraging proper diaper-sizing, each

of which was known to be advantageous,” and tries to equate that to the Beckert patents. Pet, 35-36. It is not clear how this argument supports obviousness of the claimed retaining force ranges but, in any event, Petitioner’s characterization of Karami ’772 is wrong. Karami ’772 never discusses providing any purported balance between diaper-adjustability and proper diaper-sizing. Karami ’772 teaches using a stay-away-zone where fasteners cannot attach, which, as Damaghi teaches, prevents improper sizing of diapers. Ex. 1003, ¶ [0052]; Ex. 1028, ¶ [0021].

The Beckert patents take an entirely different and novel approach by disclosing a diaper that encourages correctly fastening closures to side parts to hold the diaper, but also instills user confidence by reliably securing the diaper on the wearer if the closures are attached to the front instead. Ex. 2004, ¶¶ 142-143. The Beckert patents teach the specific and different retaining forces between the closure and side parts and the closure and the front to achieve this. *Id.*; Ex. 1001, 2:35-45. Petitioner has not shown that the claimed retaining force values in claims 3-4, 14-16, 25, 31-32, 36-37, 39-40, 44, 50, and 53-54 would have been obvious. Ex. 2004, ¶¶ 141-146.

**C. One of ordinary skill had no reason to make the combination**

Petitioner argues that one of skill would have been motivated to use “Benning’s separate-chassis-and-wings construction for Karami ’772’s diaper” to

“reduce costs and improve manufacturability” and to permit using a higher-basis-weight nonwoven for the wings and a lower-basis-weight backsheet nonwoven. Pet., 27-28. But using a separate-chassis-and-wings construction does not reduce costs or improve manufacturing. And using a higher basis weight nonwoven on the wings would have unnecessarily increased cost and decreased comfort.

One of ordinary skill would have understood that a separate-chassis-and-wings design would have increased the cost of production and difficulty of manufacture. Ex. 2004, ¶¶ 147-154. In order to manufacture distinct wings, additional equipment, manufacturing space, and employees would be needed. *Id.*, 149. Separate wings also would have required separate storage space, tracking, and planning. *Id.* Manufacturing the diaper would also be more complicated. *Id.*, ¶ 151. All of these issues would increase the cost per unit and cut into profits. *Id.*

One of ordinary skill also would not have been motivated to use a higher basis weight nonwoven in the wings of Karami '772. Ex. 2004, ¶¶ 152-154. Karami '772 teaches treating wings 131-134 so that they will have sufficient strength to engage a fastener and secure the diaper and calls it the “inventive concept.” Ex. 1003, ¶¶ [0040], [0044], [0048]. One of ordinary skill in the art seeking to utilize Karami '772's diaper would not want to eliminate the inventive concept. Ex. 2004, ¶ 152. One of ordinary skill also would have understood that Karami '772's treatment enabled the use of lower cost, more comfortable

nonwovens that could not on their own sufficiently engage a fastener, but could once the nonwovens were treated. *Id.* Using a higher basis weight nonwoven on the wings would be more expensive, and heavier, and less comfortable. *Id.*, 154.

For at least these reasons, one of ordinary skill in the art would not have modified the Karami '772 diaper as proposed by Petitioner.

## **VII. Petitioner Does Not Establish Obviousness of Any Claim Based on Benning and Karami '626**

Petitioner proposed Grounds 2-3, 5-6, 8, 10, 12, and 13 where it modifies the traditional diaper in Benning based on a T-shaped diaper in Karami '626. The combination, however, does not teach or result in the claimed invention. Ex. 2004, ¶¶ 79, 88, 156. Neither Benning nor Karami '626 teach the claimed differing retaining forces. Benning teaches engaging fasteners to the underlayer at the front of the diaper, not the side flaps. Benning further teaches that the side flaps should be designed for comfort and be more flexible than the underlayer. On the other hand, Karami '626 teaches having fasteners engage the wings that form the belt of the T-shaped diaper, not the backsheet at the front.

In its combination, Petitioner does not seek to combine the diaper portions from Benning and Karami '626 that were designed to engage fasteners. Instead, it combines portions of those diapers that were not designed to engage fasteners—the side flaps of Benning and the front of Karami 626's T-shaped diaper. One of

ordinary skill in the art, however, would not have combined portions of diapers in order to engage fasteners when those portions were not designed to engage fasteners. Ex. 2004, ¶¶ 158-162.

Petitioner also proposes making the side flaps in Benning heavier and more rigid than the underlayer. But one of ordinary skill would not have done that because Benning teaches the opposite—the side flaps should be more flexible. *Id.*, 163.

The diaper resulting from the Benning-'626 combination is not one where fasteners could fasten to the front and side flaps to hold the diaper on the user or one where the retaining forces between a fastener and the front would be lower than the retaining forces between a fastener and the side flaps. *Id.*, ¶¶ 171-181.

To meet the retaining force limitations, Petitioner again resorts to inherency, arguing that the modified diaper would meet them because the side flaps have a higher basis weight nonwoven than does the underlayer. But Petitioner has not met the high burden of showing that the combination necessarily would result in the claimed retaining forces. Petitioner's reliance on the basis weight of the nonwovens as dispositive is also misplaced because many other factors impact the ability of a nonwoven surface to engage fasteners. *Id.*, ¶¶ 99-110, 176-181.

**A. One of ordinary skill in the art would not have made the modifications to Benning proposed by Petitioner**

Petitioner proposes modifying the underlayer in Benning's diaper to use the backsheet of the front of the T-shaped diaper in Karami '626. Pet., 53-54.

Petitioner further argues that this would result in a diaper having a higher basis weight nonwoven at the side flaps (34 gsm) than at the front (20 gsm) or that it would have been obvious to do so. *Id.*, 57. One of ordinary skill in the art, however, would not have been motivated to make these changes to Benning. Ex. 2004, ¶¶ 158-170.

**1. One of ordinary skill in the art would not have modified Benning's diaper based on Karami '626**

One of ordinary skill would not have looked to modify Benning's traditional diaper based on the T-shaped diaper in Karami '626 because the diapers are designed differently and operate fundamentally differently. Ex. 2004, ¶¶ 158-170, 97. One of ordinary skill would not have sought to replace Benning's underlayer, which engages fasteners, with the backsheet of the front of Karami '626's T-shaped diaper because it does not engage fasteners. Ex. 2004, ¶¶ 159-162.

The T-shaped diaper has two wings 40 that are fastened together like a belt. Ex. 1004, ¶¶ [0037], [0038]; Ex. 2004 ¶¶ 81, 160-162, 165. Fasteners 42 on the frontsheet of the main part of the diaper are brought up to engage the outside of the belt so that the main part is attached to and hangs from the belt. Ex. 1004,

¶¶ [0037], [0038], Figure 1; Ex. 2004 ¶¶ 81-82, 165. All fasteners in the T-shaped diaper engage the wings/belt to secure the diaper on the wearer; no fasteners are attached to the front of the diaper. Ex. 1004, ¶¶ [0037], [0038]; Ex. 2004, ¶ 82, 160-162, 165, 167; Ex. 2003, 163:18-164:18.

Benning, on the other hand, has four side material sections, also called side flaps 34, which are wider than the wings/belt used in T-shaped diapers. Ex. 1002, ¶¶ [0028], [0054], [0055], Figure 4; Ex. 2004, ¶¶ 76, 165. Benning's fasteners are on the inside of the side flaps located at the back and are secured to the outside of the front region 22, not to the side flaps. Ex. 1002, ¶ [0055]; Ex. 2004, ¶¶ 76, 165. Thus, with Benning, fasteners engage the front, not side flaps, to hold the diaper; with Karami '626's T-shaped diaper, fasteners engage wings, not the front, to hold the diaper. Ex. 2004, ¶ 165-167. The four side flaps in Benning do not form a belt, do not engage fasteners, and do not carry the entire weight of the diaper as do the two wings in the T-shaped diaper. *Id.* And modifying the underlayer does not turn Benning's diaper into a T-shaped diaper or alter the function of the side flaps, which were not designed to engage fasteners. *Id.*, ¶ 166.

While Petitioner's expert said in his declaration that Benning and the T-shaped diaper were similar, his deposition testimony demonstrates that Mr. Jezzi did not appreciate how Karami '626's T-shaped diaper works. Ex. 2003, 143:7-149:3, 151:1-158:13. Mr. Jezzi thought that fasteners on the wings engaged the

backsheet of the main part of the T-shaped diaper. *Id.*, 146:11-19, 151:19-152:13.

Mr. Jezzi did not understand that fasteners were located on the frontsheet of the main part and were attached to the outside of the belt when donned so that no fasteners could engage the backsheet of the main part. *Id.*, 153:12-158:13. But, after reviewing Karami '626, Mr. Jezzi agreed that all fasteners engage the belt and do not engage the backsheet of the main part. *Id.*, 163:18-21, 164:13-19.

One of ordinary skill in the art would understand that Karami '626 does not teach using the front of the T-shaped diaper to engage fasteners and hold the diaper. Ex. 2004, ¶¶ 81-86, 159-160, 165-167. In fact, one of ordinary skill would understand that Karami '626 did not even care if a nonwoven was used for the front of the T-shaped diaper because it says that “[p]referably the nonwoven is the article backsheet or, in the case of a T-shaped brief, the article wings.” Ex. 1004, ¶ [0016]; Ex. 2004, ¶ 167. For the T-shaped diaper, Karami '626 is only concerned about the wings because that is the only surface that engages fasteners. Ex. 2004, ¶ 86, 167; Ex. 2003, 163:18-21, 164:13-19.

Because the T-shaped diaper operates fundamentally differently than the Benning diaper and because the front of the T-shaped diaper does not engage fasteners, one of ordinary skill would not have sought to use that portion of the T-shaped diaper as Benning's underlayer, particularly since Benning seeks to have fasteners engage the underlayer. Ex. 2004, ¶ 167.



**2. One of ordinary skill in the art would not have made  
Petitioner's modifications to Benning for size adjustability**

Petitioner identifies size adjustability as a reason to modify Benning based on Karami '626. Pet., 54-56. Mr. Jezzi asserts that Karami '626 teaches that fasteners can engage any portion of the T-shaped diaper, which provides size adjustability, and that using the backsheet from that diaper as Benning's underlayer would provide size adjustability. Ex. 1012, ¶¶ 107, 115-116. Mr. Jezzi also suggests that using a higher basis weight nonwoven at Benning's size flaps would provide size-adjustability. *Id.*, ¶ 115. One of ordinary skill, however, would not have made these modifications for size-adjustability. Ex. 2004, ¶¶ 168-170.

One of ordinary skill would recognize that Karami '626 does not teach that fasteners can be affixed anywhere on the diaper. *Id.*, ¶¶ 83-86, 169. In his deposition, Mr. Jezzi acknowledged that, for the T-shaped diaper, Karami '626 only discloses fasteners engaging the wings ; fasteners do not engage the backsheet at the front of the diaper. Ex. 2003, 163:18-21, 164:13-19.

Karami '626 states that "when the T-shaped brief 12 is made according to the present invention so that the fastener elements 41, 42 do not require landing zones and may engage with any portion of the nonwoven surface constituting the frontsheet 30, backsheet 32 or wings 40 of the brief, the accommodation of both small and large-waisted persons by a single brief with elastic wings 40 is

substantially simplified.” Ex. 1004, ¶ [0040]. In this way, Karami ’626 expressly ties size adjustability to the T-shaped diaper and use of the wings. The only size adjustability described in Karami ’626 is for the T-shaped diaper and the ability of fasteners to engage any portion of *wings* 40. Ex. 2004, ¶¶ 85-86, 169; Ex. 2003, 161:21-163:11; Ex. 1004, ¶¶ [0040]-[0041], [0050]-[0051]. Karami ’626 teaches that wings 40, and the belt formed by the wings, have a frontsheet 30 and backsheet 32. Ex. 1004, ¶¶ [0047], [0049], [0074]. One of ordinary skill would understand Karami ’626 to be teaching in paragraph [0040] that fasteners can engage any portion of the nonwoven surface constituting the frontsheet 30, backsheet 32 *of* wings 40. Ex. 2004 ¶¶ 85-86; *see also* Ex. 2003, 203:4-19. This would be commensurate with the actual disclosure in Karami ’626 of size adjustability. Ex. 2004, ¶¶ 85-86. Because Karami ’626 only teaches size adjustability by permitting fasteners to engage different parts of the *wings*, one of ordinary skill in the art would not consider it to be a reason to modify Benning’s *underlayer*. Ex. 2004, ¶ 169.

One of ordinary skill also would not have considered size adjustability a reason to use nonwovens having different basis weights in a diaper. *Id.*, ¶ 143. One of ordinary skill would have understood that size adjustability is achieved by being able to attach fasteners to the same nonwoven having the same retaining forces. *Id.* In that way, the fasteners could securely engage any part of the nonwoven surface

sought to provide size adjustability. *Id.* Thus, if one of ordinary skill sought greater size adjustability, they would have been motivated to use the same nonwoven for the surfaces to provide adjustability, not different nonwovens having different basis weights. *Id.*

**3. One of ordinary skill in the art would not have used a higher basis weight nonwoven on the side flaps**

Petitioner argues that it would have been obvious to use a lower basis weight nonwoven for Benning's underlayer than for the side flaps. Pet., 57. Petitioner's expert asserts that one of ordinary skill in the art would have understood that higher basis weights "tended to promote strength" and "were warranted for wings that often were subject to higher forces," and lower basis weights "tended to promote comfort and cost-savings" and were "warranted for backsheets that may not need to be as strong as the wings." Ex. 1012, ¶ 118. But Benning expressly teaches that the *side flaps* should be designed for comfort since they are felt by the skin and should be experienced as pleasant by the wearer. Ex. 1002, ¶ [0033]; Ex. 2004, ¶¶ 182-183. Under Mr. Jezzi's reasoning, Benning's preference for more comfortable side sections would lead to a lower basis weight nonwoven at the sides, not a higher one.

Benning also teaches that the sides should be "less rigid than the main body portion or the chassis-forming materials or the main part, such as in particular the

backsheet.” Ex. 1002 ¶ [0033]. As a result, one of ordinary skill would not have used a higher basis weight nonwoven for the side flaps than for the underlayer because that would have made them heavier and more rigid than the underlayer. Ex. 2004, ¶¶ 182-183.

A higher basis weight nonwoven also would not have been desired for the side flaps because Benning teaches that the side flaps are wider than the belt in T-shaped diaper. Ex. 1002, ¶ [0028]. This would have made the side flaps in the modified Benning diaper even heavier than the wing/belt in Karami ’626 and even less flexible. Ex. 2004, ¶ 183. Using a higher basis weight nonwoven at the side flaps also would have been more expensive (Ex. 1012, ¶ 118), leading one of skill even further away from the combination. Neither Petitioner nor Mr. Jezzi address these express teachings from Benning or explain why one of ordinary skill would have modified Benning’s diaper directly against these teachings.

Petitioner also argues that “Karami ’626’s broader teachings also render these differential basis weights, and others, obvious,” citing Karami ’626 paragraph [0065]. Pet., 57. But in that paragraph, Karami ’626 says that “slightly higher basis weights” are preferred “for use on the wings *of the T-shaped brief*, while relatively lower basis weights . . . are preferred for the backsheet of the front and back portions.” Ex. 1004, ¶ [0065] (emphasis added). Karami ’626, thus, expressly limits the preference for slightly different basis weights to the T-shaped

diaper, where fasteners do not engage the front of the diaper. Ex. 2003, 163:18-21, 164:13-19; Ex. 2004, ¶¶ 89-91, 184. And since the preference was limited to the T-shaped diaper, one of ordinary skill would have understood that differing basis weights was *not* preferred for other types of diapers, so it would not have been applied to Benning's traditional diaper. Ex. 2004, ¶ 184.

To the extent one wanted to modify Benning's underlayer to engage fasteners in a way taught by Karami '626, one of ordinary skill would have been led to use the higher basis weight nonwoven of Karami '626 wings/belt since that engages fasteners. *Id.* Thus, if anything, Karami '626 teaches using a higher basis weight nonwoven on the underlayer since Benning seeks to have closures engage the underlayer. *Id.*

Because one of ordinary skill in the art would not have modified Benning based on Karami '626's T-shaped diaper and because Benning teaches away from the combination, Petitioner has failed to show a reason to modify Benning.

**B. The combination does not have differing retaining forces and selectively fastening of a closure component to the chassis and the front ears of a diaper to hold the diaper**

Petitioner's proposed combination based on Benning does not disclose at least limitations 1[c][1], 1[c][2], 1[d], 7-8, 11-12, 19-21, 34[c][1], 34[c][2], 34[d], 38, and 45-49.

**1. Fasteners would not necessarily be able to fasten to the underlayer or hold the diaper**

Petitioner proposes replacing Benning's underlayer with the preferred 20 gsm backsheet used on the front of Karami '626's T-shaped diaper. Pet., 53, 57, 61, 65-67, 70. But Petitioner has not established that this backsheet could engage fasteners to hold the modified diaper on the user body as claimed. Ex. 2004, ¶¶ 171-173. The front of the T-shaped diaper does not engage fasteners. Ex. 2003, 163:18-164:18; Ex. 2004, ¶¶ 82-86, 159-162, 171-173. Thus, Karami '626's mention of using a 20 gsm nonwoven at the front of that diaper is not evidence that the nonwoven could engage fasteners or engage them sufficiently to hold the diaper.

When addressing limitation 1[c][2], Petitioner does not allege that, in the modified diaper, the "closure component is selectively fastened to" "said outer face of said chassis" or explain why the fastener would necessarily be able to do that given that the modified diaper uses a nonwoven from Karami '626 that does not engage fasteners as the outer face. Pet., 60; *see also id.*, 63. Petitioner merely argues that the fasteners are designed to "detachably fasten to conventional nonwovens," not the nonwoven it argued for the combination, and that "post-modification they would have interacted with the outer face of underlayer 30." *Id.* The claims require selectively fastened, not interacting. And given that Karami

'626 describes its preferred nonwoven as having interstices, or holes between the fibers, that are significantly larger than the fibers themselves, it would be hard for a hook to engage the fibers in that nonwoven. Ex. 2004, ¶ 92; Ex. 1004, ¶ [0063].

Without explanation other than a citation to its expert's declaration, Petitioner alleges that the "forces between closures 42 and either wing nonwoven or backsheet nonwoven would have been sufficient to hold the diaper on the user's body." *Id.*, 60. But neither Petitioner nor Mr. Jezzi acknowledges, let alone addresses, the fact that the front of Karami '626's T-shaped diaper used as the underlayer does not engage fastener. Petitioner also refers back to an argument that one of ordinary skill in the art could have achieved claimed ranges, which only proves that the '249 patent is enabled, not that the modified diaper would necessarily be able to fasten at the underlayer in the front. *Id.* (citing VIII.A.3).

Given that Karami '626 does not use the front of the T-shaped diaper to engage fasteners, one of ordinary skill in the art would not have expected the 20 gsm backsheet there to be able to engage fasteners to hold the diaper. Ex. 2004, ¶ 173. Karami '772 confirms this expectation. *Id.* When testing nonwovens, Karami '772 did not even consider it worth testing an untreated 20 gsm nonwoven for use in any of its diapers. Ex. 1003, ¶ [0041]; Ex. 2004, ¶ 173. For the test run with fastener Binder 25445, Karami '772 reports that a 20 gsm nonwoven subject to water-jet treatment only had a "Load at Max Load (g/2 in)" of 993.601, which is

less than the 1300 grams per square inch that Karami '626 says is the minimum preferred shear strength. Ex. 1003, Table 1; Ex. 1004, ¶¶ [0005], [0013], [0078]. One of ordinary skill would have understood Karami '772 to be teaching that a 20 gsm nonwoven would have to be treated in order to engage fasteners. Ex. 2004, ¶ 173. Similarly, one of ordinary skill in the art would have understood that the modified Benning diaper with an untreated 20 gsm nonwoven underlayer would not have sufficient retaining forces between the nonwoven and a fastener to hold the diaper. Ex. 2004, ¶ 173.

**2. Fasteners would not necessarily be able to fasten to the side flaps or hold the diaper**

Petitioner's arguments about how the modified diaper would meet the limitations requiring that the closure component be "selectively fastened" to the "outer face of said first and second ear" to "hold the diaper on the user body" are equally deficient. Pet., 60, 63. As Petitioner argues, the modified diaper would have retained Benning's side flaps, but the side flaps were not designed to fasten and hold the diaper. *Id.*, 54; Ex. 1012, ¶ 117; Ex. 2004, ¶¶ 174-175.

Benning's diaper is designed to have closures engage the front of the diaper. Ex. 1002, ¶¶ [0003], [0030], [0055]; Ex. 2004, ¶¶ 76, 174-175. It does not teach or suggest fastening the closures to any other location and does not teach fastening closures to the side flaps. Ex. 2004, ¶¶ 174-175. The side flaps in Benning were



designed for comfort, not for engaging fasteners or holding the diaper on the wearer. Ex. 1002, ¶ [0030]. Petitioner has not shown that the side flaps necessarily would have been able to engage and fasten closures/fasteners to hold the diaper.

**3. Petitioner has not established that the modified Benning diaper necessarily would have had the claimed differing retaining forces or would hold the diaper**

Petitioner argues that, in the modified diaper, fasteners “would have interacted with the outer faces of underlayer 30 and front wings 34” and that the forces “would have been sufficient to hold the diaper on the user’s body.” Pet., 60. Petitioner also argues that the modified diaper would have higher retaining forces at the side flaps than at the front based on the basis weights of the nonwoven selected. Pet., 61. But Petitioner has not shown that these claimed features of being selectively fastened, differing retaining forces, and holder the diaper on the user are *necessarily present* in the modified Benning diaper or the *natural result* of the Benning-’626 combination, as required for inherency. *See PAR Pharm.*, 773 F.3d at 1195; *Oelrich*, 666 F.2d at 581.

Petitioner argues that a higher basis weight nonwoven will have higher retaining forces than a lower basis weight nonwoven. Pet., 61. But even if the retaining forces were different, that does not mean the forces would be sufficient to secure the diaper on the wearer. Also, Petitioner’s argument ignores that basis weight is not the only factor that determines how well a nonwoven surface can

engage fasteners. Ex. 2004, ¶¶ 95-118, 176-181. Once a nonwoven is formed, it must be engineered so that fiber segments are available to be snagged by closures. *Id.*, ¶ 103-106. How well the fibers can snag the closure depends on many factors, including: the conditions by which the fabric was made; the type, size, shape, and density of the fibers; and the finishing processes or treatments used. *Id.*

Petitioner's expert, Mr. Jezzi, has even acknowledged that there are "variables" that impact how well a nonwoven can engage a fastener. Variables include the embossing pattern, "post-treating, such as heat setting," "ring rolling," or the elasticity of the component. Ex. 2003, 170:10-172:8. When discussing Stupperich, Mr. Jezzi acknowledges that bonding impacts how well a nonwoven can engage fasteners because "bonded fibers are unavailable for engagement with a hook fastener, which results in 'a decrease in the adhesive force of the mechanical closure system.'" Ex. 1012, ¶ 133. Karami '626 teaches that factors, such as "pore size," impacts retaining forces. Ex. 1004, ¶ [0069]. And Karami '772 shows that a treated 20 gsm nonwoven can have greater retaining forces than a 33.9 gsm untreated nonwoven. Ex. 1003, Table 1. Petitioner, thus, cannot show that nonwovens will necessarily have particular, or even relative, retaining forces based only on their basis weight or that they could necessarily fasten and hold a diaper.

Petitioner cites the Beckert patents to support inherency. Pet., 59-60. Apart from being improper hindsight, the fact that the Beckert patents teach differing

retaining forces is not evidence that differing retaining forces would have been inherent in the modified diaper. To the extent that Petitioner is asserting that the Beckert patents teach that a nonwoven with a higher basis weight always provides greater retaining forces, it is misreading the patents. Ex. 2004, ¶¶ 111-118. The Beckert patents specifically teach how to obtain the claimed retaining forces and the factors that impact them. *Id.*, ¶¶ 112-114; Ex. 1001, 14:47-15:52, 12:62-13:49. The Beckert patents do not say that any conventional nonwoven having a particular basis weight will do so.

Petitioner has not met the high standard for showing the claimed retaining forces are inherent or the requirement that the retaining forces secure the diaper on the wearer are the natural result of the modified Benning diaper.

**C. Petitioner does not establish obviousness based on Stupperich added to Benning-'626**

In Grounds 3, 6, and 13 Petitioner uses Stupperich in the Benning-'626 combination. Pet., 75-84, 94-98. Petitioner adds very little analysis to its arguments based on Benning-'626 and generally refers back to that combination. *Id.* Stupperich, however, does not cure the deficiencies in the Benning-'626 combination. Ex. 2004, ¶¶ 188-194.

Petitioner argues it was obvious to use Stupperich's nonwovens for the wings and underlayer of the modified diaper because Stupperich's nonwovens

engage fasteners and because one of skill “would have sought the advantageous balance between durability and forces of Stupperich’s nonwovens.” Pet., 76-77. Petitioner then argues that two distinct embodiments in Stupperich should be used on the same diaper, placing a higher basis weight nonwoven on the wings and a lower basis weight nonwoven on the underlayer. *Id.*, 77-78.

Stupperich discloses a belt diaper similar to the T-shaped diaper in Karami ’626. Ex. 1009, ¶¶ [0056], [0059]. Thus, for the same reasons discussed above for Karami ’626, one of ordinary skill would not have sought to modify Benning based on Stupperich. *Supra* VII.A.

Because it uses a belt-diaper, Stupperich teaches that fasteners engage the belt formed by the wings to secure the diaper and do not engage the front of the diaper. Ex. 1009, ¶¶ [0058]-[0059]; Ex. 2004, ¶¶ 189-190. Stupperich focuses on using the disclosed nonwoven 28 in the material section that forms the belt (orange), as shown below in annotated Figure 1, because that is the fastener-engaging surface. Ex. 2004, ¶ 190; Ex. 1009, ¶ [0058].

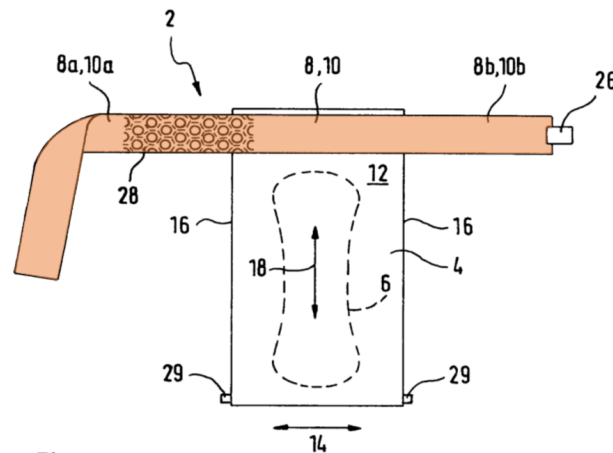


Fig. 1

Stupperich does not teach using different retaining forces—it uses the same nonwoven across the entire fastener-engaging surface—or using nonwovens having different basis weights on the same diaper. Ex. 2004, ¶¶ 190-193. As a result, Stupperich would not have led one of ordinary skill to use a higher basis weight nonwoven on the side flaps than in the underlayer in Benning or to make the proposed changes to Benning for the same reasons discussed for Benning-’626. *Supra* VII.A; Ex. 2004, ¶ 193. Stupperich also does not give one of ordinary skill any reason to contradict Benning’s teaching that the side flaps should be designed for comfort and be more flexible than the underlayer.

Stupperich discloses different example nonwovens and describes them as different embodiments. Ex. 1009, ¶¶ [0060]-[0067]; Ex. 2004, ¶¶ 191-192. Stupperich never suggests using both nonwovens on the same diaper. Ex. 2004, ¶¶ 191-192. Petitioner never explains why one of ordinary skill in the art would have taken distinct nonwoven embodiments from Stupperich and used them in

different parts of a diaper. Pet., 77-79. Simply arguing that Stupperich's nonwovens engage fasteners and balance durability and forces (Pet., 77) are not reasons that one of skill would have used different nonwoven embodiments in the modified Benning diaper, particularly when none of the references teach doing so. Petitioner never acknowledges that Stupperich describes the example nonwovens as different embodiments or discusses whether, how, or why they would have been combined. *See Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1077 (Fed. Cir. 2017 (affirming the Board's finding in an IPR that petitioner improperly combined separate embodiments of the reference to argue a claim limitation met)).

For these reasons and the reasons discussed above for the Benning-'626 combination, the grounds based on Stupperich fail.

**D. The claimed retaining force ranges would not have been obvious**

Claims 3-4, 14-16, 25, 31-32, 36-37, 39-40, 44, 50, and 53-54 recite specific ranges of retaining force values, which Petitioner purports to address in Grounds 2 and 3 based on Benning and Karami '626, as well as Stupperich. As it did for those claims and the '772-Benning combination, Petitioner fails to address the actual claim language that retaining forces are determined as over-abdomen retaining forces. *Supra* VI.B. As a result, Petitioner has not met its burden of proving obviousness of those claims for the same reasons. *Id.* Petitioner also because its

arguments are conclusory, based on improper hindsight, and inconsistent with Petitioner's arguments for the same claims and the '772-Benning combination.

Petitioner identifies example nonwovens from the '249 patent—Material Y and Material X. Pet., 64-658 Ex. 1001, 14:50-15:31. The '249 patent provides detailed information about the examples, including among other things: basis weight; fiber thickness; embossing type, pattern, depth; foil used; lamination; ring-rolling; temperature treatment; and other information. Ex. 1001, 14:50-15:31. Relying only on basis weight, Petitioner argues that the modified diaper using the 20 gsm backsheet from Karami '626 must have the claimed retaining forces because material Y also has a basis weight of 20 gsm. Pet., 65-66.

Petitioner alternatively argues that the Material Y fiber size and embossing percentage fall within ranges specified in Karami '626, so the nonwoven on the modified diaper would necessarily yield the claimed retaining force ranges. *Id.*, 66. But Petitioner ignores many other identified properties of Material Y that impact its retaining forces. *See* Ex. 2004, ¶¶ 98-110 (describing factors that impact retaining forces). Indeed, Petitioner argues that Karami '626's preferred fiber size ranges is 1.3-3.0 denier (Pet., 67), but ignores that Karami '626 also says that the "average size of the interstices is at least 644 microns" for that nonwoven (Ex. 1004, ¶ [0063]), meaning that the fibers are significantly smaller than the holes between the fibers, which would make it hard for a hook to engage the fibers. Ex.

2004, ¶ 92. All of the characteristics of the nonwoven impact how and to what extent it will engage a hook, so Petitioner cannot just pick some characteristics and ignore others. *Id.*, ¶¶ 98-110. Petitioner’s arguments for Material X are similarly deficient. *Pet.*, 67-68.

Because Petitioner did not establish that the Karami ’626 nonwoven and Benning’s side flaps included all characteristics of Materials Y and X, it cannot establish that they necessarily would have the claimed retaining force values. Indeed, to show that a skilled artisan could achieve the claimed retaining forces, Petitioner argued in the ’772-Benning combination that the retaining force of nonwovens could be increased by temperature treatment, bonding, water jet treatment, and aperturing. *Pet.*, 37-38; *see also* Ex. 2003, 170:10-172:8. Having argued that those factors impact a nonwoven’s retaining force, Petitioner cannot now argue that basis weight is the determinative factor for retaining forces.

Petitioner argues that the Beckert patents confirm that the “claimed retaining forces are ‘essentially ensured’ by the nonwoven’s basis weight.” *Pet.*, 65. Not so. Ex. 2004, ¶¶ 111-118. The Beckert patents never state that retaining forces are determined solely by basis weight. *Id.* To the contrary, the Beckert patents provide detailed information on how to engineer nonwovens to make them receptive to fasteners. *Id.*



Petitioner's analysis, starting with examples from the '249 patent, is hindsight driven. Pet., 64-69. This is illustrated by its expert's assertion that it would have been obvious to use hook and nonwoven materials that yielded the claimed retaining forces. Ex. 1012, ¶¶ 123-131; Ex. 2004, ¶¶ 185-187. Throughout his discussion, Mr. Jezzi goes through the '249 patent and argues that disclosed fasteners and materials would have been "obvious options for use in," "an obvious option for," "suitable, logical options," "a logical option for," "logical selections for," and "obvious to use" in the Benning-'626 diaper. Ex. 1012, ¶¶ 123-131. Merely saying that everything disclosed in the '249 patent would have been obvious to use in the prior art is a classic case of improper hindsight. *See ADT Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998) ("Determination of obviousness can not be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention."); *In re Gorman*, 933 F.2d, 982, 987 (Fed. Cir. 1991) ("It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using applicant's structure as a template and selective elements from references to fill the gaps.").

Petitioner's conclusory and hindsight driven arguments are not enough to prove the claimed retaining forces would have been obvious.

### **VIII. Grounds 4-13 Do Not Cure the Deficiencies of Grounds 1-3**

In a cursory fashion, Petitioner raises Grounds 4-13, which are all based on Grounds 1-3. When purportedly applying them to the claims, Petitioner largely cites back to Grounds 1-3. Pet., 84-98. Very little analysis is provided for those grounds. *Id.* None of the grounds or the scant analysis cure the deficiencies in Grounds 1-3, and, as a result, Grounds 4-13 also fail.

### **IX. Conclusion**

The Board should find that the challenged claims are not unpatentable.

Respectfully submitted,

Dated: June 2, 2021

By: /Joshua L. Goldberg/  
Joshua L. Goldberg  
Reg. No. 59,369

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), I, Joshua L. Goldberg, certify that **PATENT OWNER'S RESPONSE** contains 13,885 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

Dated: June 2, 2021

By: /Joshua L. Goldberg/  
Joshua L. Goldberg  
Reg. No. 59,369

**CERTIFICATE OF SERVICE**

The undersigned certifies that a copy of the foregoing **PATENT OWNER'S RESPONSE** was served electronically via email on June 2, 2021, in its entirety on the following:

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Petitioner has consented to service by electronic mail.

Dated: June 2, 2021

By: /William Esper/  
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