

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FREE-FLOW PACKAGING INTERNATIONAL, INC.,
Petitioner,

v.

AUTOMATED PACKAGING SYSTEMS, INC.,
Patent Owner.

Case IPR2016-00444
Patent 7,897,220

Before CHRISTOPHER L. CRUMBLEY, JON B. TORNQUIST, and
CHRISTOPHER M. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

INTRODUCTION

A. Background

Free-Flow Packaging International, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1, 2, and 5 of U.S. Patent No. 7,897,220 (Ex. 1001, “the ’220 patent”). Automated Packaging Systems, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition and the Preliminary Response, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that any of the claims it challenges are unpatentable. Accordingly, we do not institute *inter partes* review.

B. Related Matters

The parties have identified *Automated Packaging Systems, Inc. v. Free-Flow Packaging International, Inc.*, No. 5:14-cv-02022 (N.D. Ohio), as a related matter. Pet. 2; Paper 6, 2. In addition, the parties note that related patents are being challenged in IPR2016-00445 (challenging U.S. Patent No. 8,425,994), IPR2016-00446 (challenging U.S. Patent No. 7,757,459), and IPR2016-00447 (challenging U.S. Patent No. 8,357,439). Pet. 2; Paper 6, 2–3.

C. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1, 2, and 5 of the '220 patent are unpatentable under 35 U.S.C. § 103 based on the following grounds (Pet. 38–60):¹

Statutory Ground	Basis	Challenged Claims
§ 103	Peper ² and Titchenal ³	1, 2, and 5
§ 103	Sperry, ⁴ Peper, and Titchenal	1, 2, and 5

D. The '220 Patent

The '220 patent relates to fluid-filled dunnage units. Ex. 1001, 1:18–26. Specifically, the '220 patent describes “plastic webs of interconnected pouches and processes of converting interconnected pouches to at least one row of dunnage units.” *Id.* at 1:39–41. It also describes “a gap [that] develops between each pair of adjacent fluid filled pouches” “upon inflation.” *Id.* at 1:42–43. The '220 patent describes this gap as “run[ning] between an inflation edge line of perforations and a spaced apart opposite edge line of perforations,” with the gap “mak[ing] separating the dunnage units much simpler and easier than separating dunnage units that are connected by a continuous line of un-ruptured perforations.” *Id.* at 1:54–63.

¹ Petitioner also provides a declaration from Dr. Robert M. Kimmel. Ex. 1004 (“the Kimmel Declaration” or “Kimmel Decl.”).

² Peper et al., US 2003/0094395 A1, published May 22, 2003 (Ex. 1006, “Peper”).

³ Titchenal et al., U.S. Patent No. 3,791,573, issued Feb. 12, 1974 (Ex. 1007, “Titchenal”).

⁴ Sperry et al., US 2002/0108352 A1, published Aug. 15, 2002 (Ex. 1008, “Sperry”).

E. Illustrative Claim

Of the challenged claims in the '220 patent, claim 1 is independent and illustrative. It recites:

1. A web for forming dunnage units, comprising:
 - a first elongated layer;
 - a second elongated layer superposed over the first elongated layer, the first and second layers connected together at an inflation edge and an opposite edge;
 - a plurality of transverse seals extending from the opposite edge to within a first predetermined distance from the inflation edge, wherein said opposite edge and said transverse seals form a plurality of inflatable adjacent pouches;
 - a plurality of inflation edge lines of perforations through the first and second elongated layers that extend inward from the inflation edge;
 - a plurality of opposite edge lines of perforations through the first and second elongated layers that extend inward from the opposite edge; and
 - a plurality of gap forming lines extending between the inflation edge lines of perforations and the opposite edge lines of perforations, wherein the gap forming lines are configured such that inflation of the pouches causes said web to separate along the gap forming lines such that adjacent pouches move away from one another in the area of the gap forming lines and wherein said inflation edge lines of perforations are configured such that inflation of the pouches leaves the inflation edge perforations intact.

Ex. 1001, 7:35–60.

ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the

specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. ___, No. 15-446, slip op. at 13 (June 20, 2016). Claim terms also are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Neither party identifies any terms as requiring construction in order to resolve this matter. We agree with the parties that there are no terms that must be construed expressly in order to resolve the present dispute. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”).

B. Asserted Obviousness over Peper and Titchenal

Petitioner argues that claims 1, 2, and 5 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combination of Peper and Titchenal. Pet. 38–48. Relying on the testimony of Dr. Kimmel, Petitioner explains how these references allegedly teach all the limitations of these claims and argues that a person of ordinary skill in the art would have combined these references. *Id.*

1. Peper

Peper is directed to an “inflatable packaging system comprised of [sic] an inflation channel that feeds a plurality of inflatable cells [that] prevents buckling of the inflation header as the inflatable cells inflate by relieving stress along a seal line that separates the inflation header from the inflatable cells.” Ex. 1006, at [57]. The system of Peper “is formed from two film layers.” *Id.* ¶ 43. Figure 12 of Peper is reproduced below:

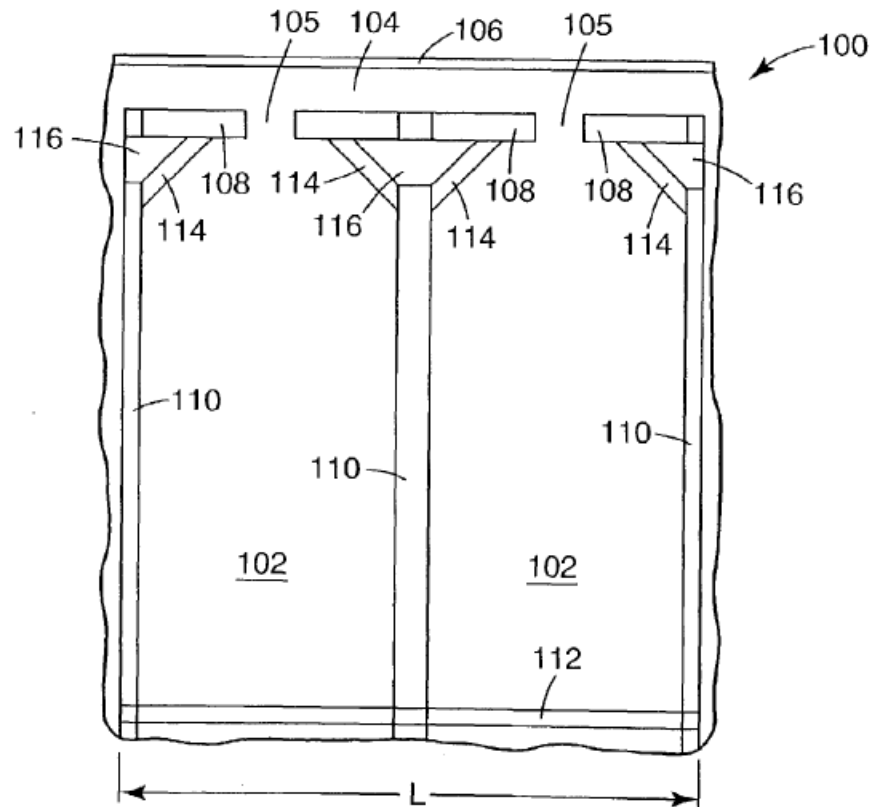


Fig. 12

Figure 12 of Peper depicts two inflatable cells 102 formed from two joined film layers. *Id.* Cells 102 are formed by heat seals 108, 110, and 112. *Id.* ¶ 44. Cells 102 are inflated using header 104, which communicates with the interior of cells 102 via inlets 105, which are gaps in heat seal 108. *Id.* ¶¶ 43–44. A separate embodiment of Peper is depicted in Figure 14, reproduced below:

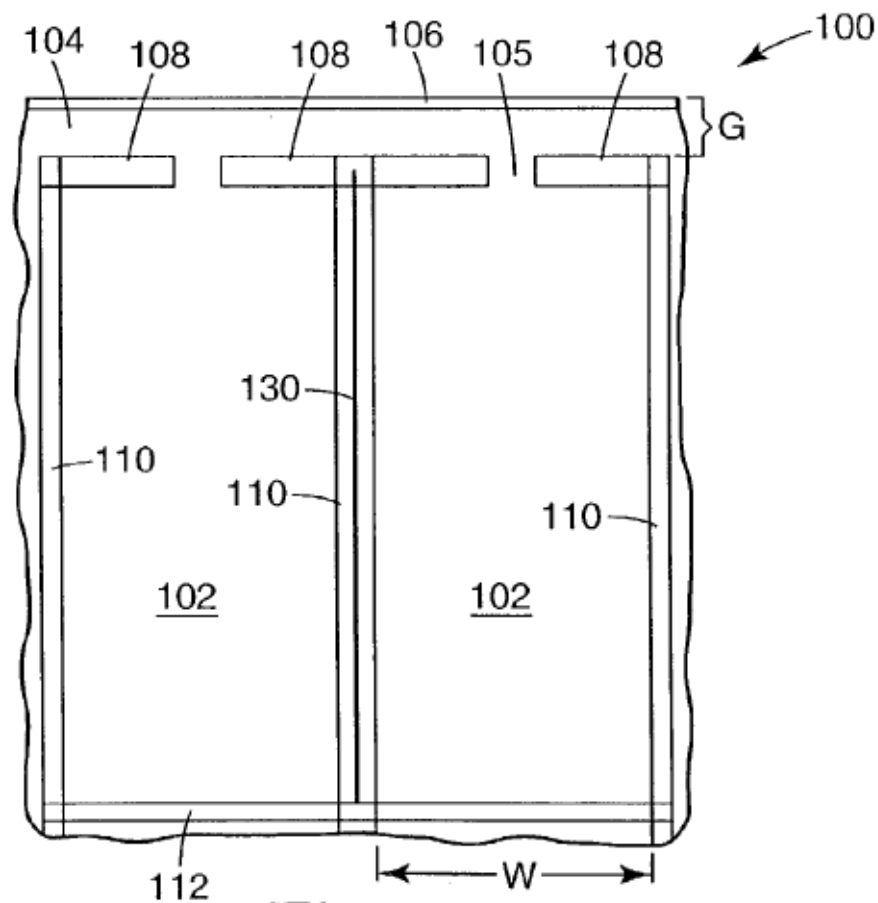


Fig. 14

Figure 14 of Peper depicts two inflatable cells 102, constructed similarly to inflatable cells 102 in Figure 12. *Id.* ¶ 47. As in Figure 12, cells 102 in Figure 14 are formed by heat seals 108, 110, and 112, and cells 102 are inflated via header 104, which communicates with the interior of cells 102 via inlets 105. *Id.* ¶¶ 43–44, 47. In Figure 14,

[e]ach heat seal 110 that separates adjacent cells 102 is provided with a central cut 130 that extends between seal 108 and seal 112. This central cut 130 permits each cell 102 to individually reduce in width W as cells 102 are inflated, such that a gap between adjacent cells 102 forms along cut 130.

Id. ¶ 47.

2. Titchenal

Titchenal is directed “to bag constructions wherein distortion of the bag accompanying filling [of the bag] is controlled to provide a wrinkle-free region for placement of a closure seal.” Ex. 1007, 1:9–12. Figure 1 of Titchenal is reproduced below:

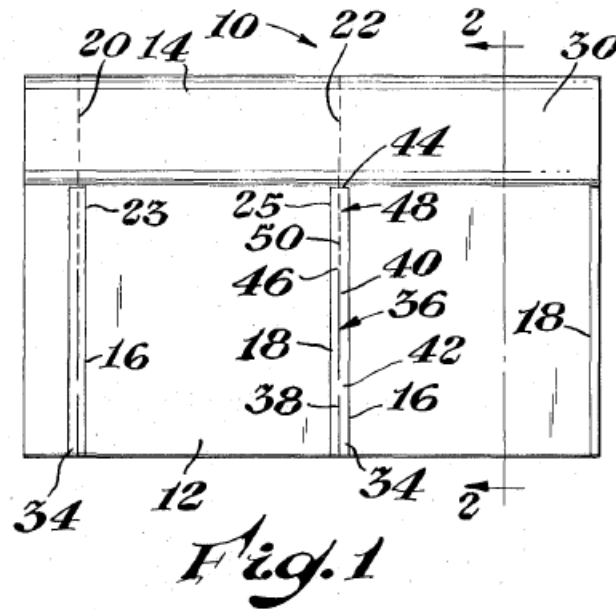


Figure 1 of Titchenal depicts “a chain of connected bag elements 10.” *Id.* at 2:36–37. Each bag element has sides 16 and 18, which “are closed except at their uppermost extents or their upper regions 20 and 22.” *Id.* at 2:38–40. This closure is accomplished “by cross-sealing a length of tubular film or material at regularly spaced intervals . . . by strip seals 34.” *Id.* at 2:53–55. Sides 16 and 18 each include lines of weakness 36, which, “at their lower extents comprise at least one slit or cut and preferably two slits 38 and 40 interrupted or separated by a land or joined region 42.” *Id.* at 3:6–9. “The upper extremity 46 of each slit 40 terminates at a point below the upper end 44 of seams 34.” *Id.* at 3:9–10. From upper extremity 46 to the upper edge of bag elements 10, perforations or serrations 50 are provided,

with these perforations not weakening the connection between adjacent bag elements as much as slits 38 and 40 do. *Id.* at 3:19–25. When bag elements 10 are filled with product, they “move or distort inwardly along . . . sides 16 and 18.” *Id.* at 4:34. “Such side movement is readily permitted by means of slits 38 and 40 usually accompanied by breaking of lands 42.” *Id.* at 4:37–39. “[A] connection between the bags 10 is maintained for a distance below terminating ends 44 of seams 34 subsequent to filling,” *id.* at 4:45–47, which eliminates or minimizes distortion at the upper ends of the bags during subsequent sealing of the bags, *id.* at 4:49–53.

3. *Analysis of Obviousness of Claims 1, 2, and 5*

Petitioner asserts that each of the limitations of claim 1 is taught or suggested by at least one of the Peper and Titchenal references. Pet. 38–46. In particular, Petitioner argues that Titchenal teaches or suggests both the “inflation edge lines of perforations” and the “opposite edge lines of perforations” recited in claim 1. *Id.* at 42–43. Among other arguments, Patent Owner disputes this assertion, arguing that Titchenal teaches only the recited “inflation edge lines of perforations.” Prelim. Resp. 10.

On the current record, and based on the arguments presented to date by both parties, we are not persuaded that Petitioner has made an adequate showing that Titchenal teaches or suggests the recited “opposite edge lines of perforations.” Treating Titchenal’s fill side as the “inflation edge,” Titchenal clearly teaches perforations “that extend inward from the inflation edge.” Ex. 1007, 3:19–25, Fig. 1. Petitioner argues that this same disclosure teaches or suggests the recited “opposite edge lines of perforations . . . that extend inward from the opposite edge.” Pet. 42–43. But Titchenal does not show perforations extending inward from the edge opposite its fill side. Ex.

1007, Fig. 1. Slit 38, slit 40, and the land between them cannot be the claimed “line[] of perforations,” because Petitioner relies on slit 40 to be the claimed “continuous gap” that “space[s] apart” the inflation-edge and opposite-edge lines of perforations. Without slit 40 as part of the “line[] of perforations,” Titchenal shows, at best, a single perforation in slit 38, and a single perforation does not constitute a “line[] of perforations.” And Petitioner does not offer any explanation for why a person of ordinary skill in the art would interpret Titchenal’s single line of perforations extending inward from one side as suggesting two lines of perforations, each extending inward from opposite sides. Pet. 42–43. The only evidence to which Petitioner directs us with respect to this point is paragraph 91 of Dr. Kimmel’s declaration, which does nothing more than parrot the language of the Petition word for word, without providing any analysis or underlying facts to support the opinion. *Compare* Ex. 1004 ¶ 91, *with* Pet. 42–43. “Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” 37 C.F.R. § 42.65(a). And “[m]erely repeating an argument from the Petition in the declaration of a proposed expert does not give that argument enhanced probative value.” *Kinetic Techs., Inc. v. Skyworks Solutions, Inc.*, Case IPR2014-00529, slip op. at 15 (PTAB Sep. 23, 2014) (Paper 8).

Because Petitioner has not made an adequate showing that the limitations of claim 1 are taught or suggested by the combination of Peper and Titchenal, we cannot conclude that Petitioner has demonstrated “a reasonable likelihood that the petitioner would prevail with respect to” claim 1. 35 U.S.C. § 314(b). Accordingly, we do not institute *inter partes* review of claim 1 on this ground. Because claims 2 and 5 both depend from claim 1, we also do not institute *inter partes* review of those claims on this ground.

C. Asserted Obviousness over Sperry, Peper, and Titchenal

Petitioner argues that claims 1, 2, and 5 are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combination of Sperry, Peper, and Titchenal. Pet. 49–60. Relying on the testimony of Dr. Kimmel, Petitioner explains how these references allegedly teach all the limitations of these claims and argues that a person of ordinary skill in the art would have combined these references. *Id.*

1. Sperry

Sperry is directed to an “apparatus for forming inflated containers.” Ex. 1008, at [57]. Figure 4 of Sperry is reproduced below:

FIG. 4

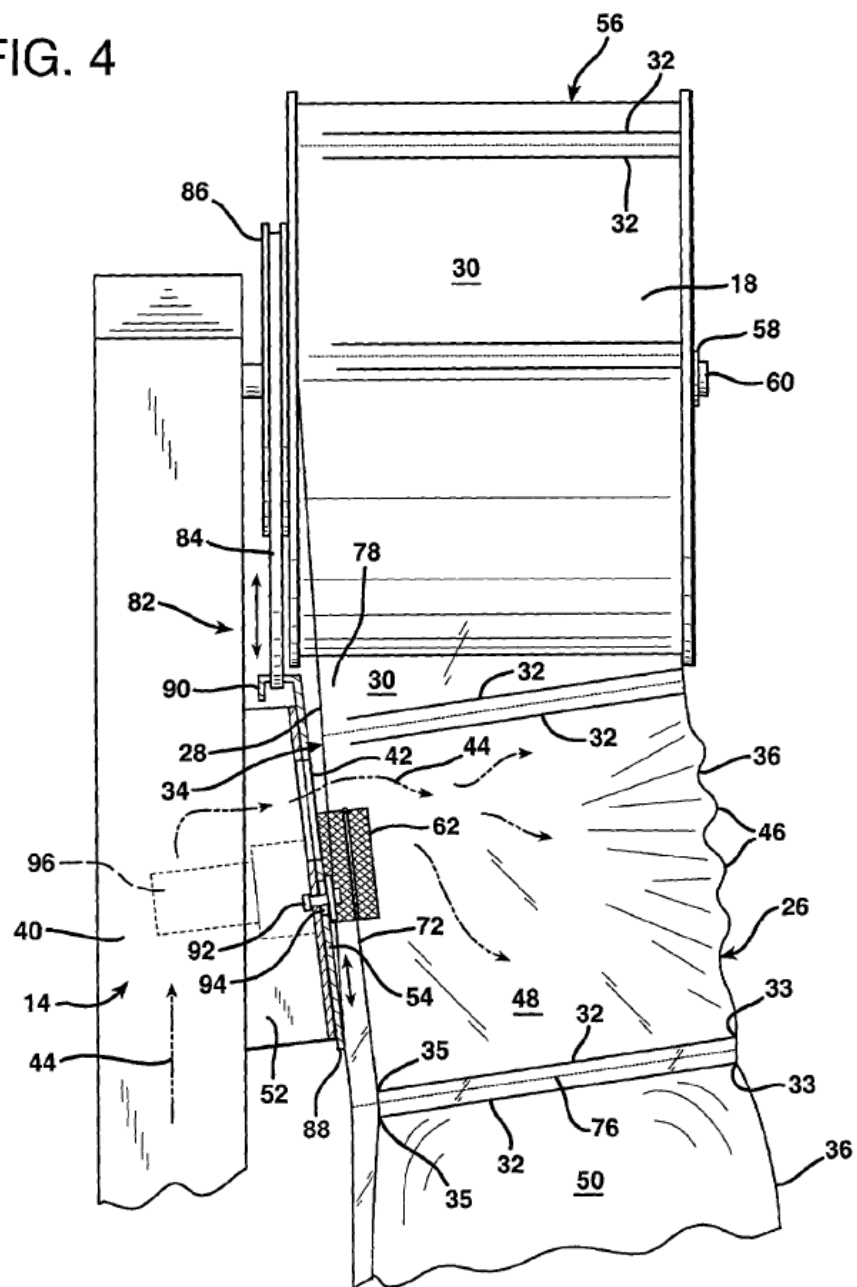


Figure 4 of Sperry depicts a sectional side-elevation view of an apparatus for inflating and sealing a container. *Id.* ¶ 33. Preformed flexible containers 30 are separated by transverse seals 32, each of which extends from closed longitudinal edge 26 and terminates a predetermined distance from open longitudinal edge 28. *Id.* ¶ 48. Containers 30 make up film web 18, which includes two separate film layers. *Id.* ¶¶ 46, 48. Transverse lines of weakness 76 extend from closed edge 26 to open edge 28 between transverse heat seals 32 of adjacent preformed containers 30. *Id.* ¶ 74.

Figure 5 of Sperry is reproduced below:

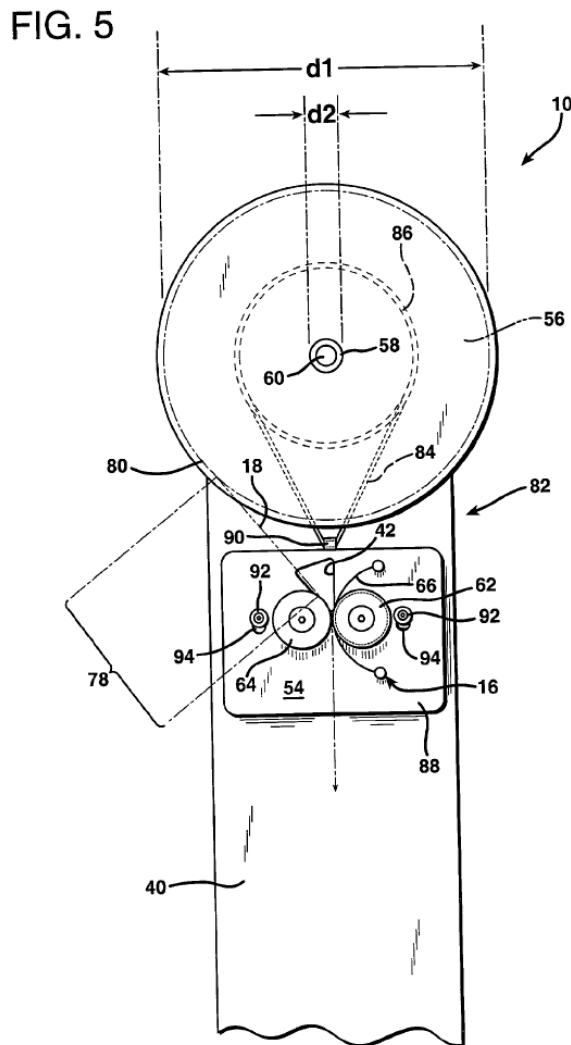


Figure 5 of Sperry is a sectional front-elevation view of the apparatus for inflating and sealing a container that is depicted in Figure 4. *Id.* ¶ 34. Film web 18 is supplied on supply roll 56. *Id.* ¶ 54. Web 18 is conveyed past inflation port 42 by adjacent, counter-rotating cylinders 62 and 64. *Id.* ¶ 55.

Sperry discloses that an “important component of proper cushion inflation is control of the tension in that portion of film web 18 that is conveyed past inflation port 42, i.e., the section of film web 18 that is in motion between supply roll 56 and cylinders 62, 64.” *Id.* ¶ 75. Sperry also discloses that this tension is “at a minimum when the supply roll is full, i.e., has diameter d1” and “gradually increases as the film web supply is depleted, i.e., as the diameter of the supply roll decreases towards d2.” *Id.* ¶ 78. This continuous change in tension can cause inflation difficulties if not properly accounted for. *Id.* ¶ 79.

2. Analysis of Obviousness of Claims 1, 2, and 5

Petitioner asserts that each of the limitations of claims 1, 2, and 5 is taught or suggested by at least one of the Sperry, Peper, and Titchenal references. Pet. 49–60. In addition, Petitioner argues that a person of ordinary skill in the art would have combined the teachings of Sperry with those of Peper and Titchenal. *Id.* at 33–37.

We are not persuaded that Petitioner has made an adequate showing that a person of ordinary skill in the art would have combined Sperry with Peper and Titchenal. Petitioner’s first argument on this point is that one of ordinary skill in the art would have sought to combine Sperry, Peper, and Titchenal because they are each “directed to the same problem—automated, continuous production of inflatable, sealed, separable plastic bag units.” Pet.

33. This argument may be enough to demonstrate that the three references are analogous art, which requires that the references be either “in the field of the [inventor’s] endeavor or . . . reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection.” *In re Kahn*, 441 F.3d 977, 986–87 (Fed. Cir. 2006) (citing *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992)). But this similarity among references is not sufficient to demonstrate that a person of ordinary skill in the art would have sought to combine the teachings of the references. Showing this requires “some articulated reasoning with some rational underpinning” to combine the known elements in the manner required in the claim at issue. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Accordingly, Petitioner’s first argument is insufficient to show that a person of ordinary skill in the art would have combined Sperry with Peper and Titchenal.

Petitioner’s second argument on this point is that Sperry recognizes that inflation difficulties can be caused by improper tension along the inflation edge, and that Peper and Titchenal offer solutions to the problem of improper tension along the inflation edge. Pet. 34–37. This argument is not persuasive for several reasons. First, Petitioner has not directed us to sufficient evidence of record to show that (or offered any argument as to why) a person of ordinary skill in the art would have turned to Peper and Titchenal to solve the tension problem identified in Sperry. On this record, Sperry is concerned only with “tension in that portion of film web 18 that is conveyed past inflation port 42,” Ex. 1008 ¶ 75, which Sperry discloses is caused by changes in the diameter of the roll on which the uninflated containers are provided, *id.* ¶¶ 78–79, and which is solved by the use of a

“tension control device” that opposes the rotation of the supply roll, *id.* ¶¶ 79–80. In contrast, to the extent that Peper and Titchenal address the problem of tension along the inflation edge at all, they are concerned only with tension from another source: the deformation of the pouches as they are inflated. Ex. 1006 ¶ 47; Ex. 1007, 1:41–44. Accordingly, neither Peper nor Titchenal recognizes the problem identified in Sperry, Sperry does not recognize the problem identified in Peper and Titchenal, and Petitioner has not explained why a person of ordinary skill in the art would have considered the solution to one type of tension-related problem relevant to a different type of tension-related problem.

Second, with respect to the combination of Sperry and Peper, Petitioner has not explained why a person of ordinary skill in the art would have thought to make use of Peper’s solution to the problem of buckling in an inflation header when multiple individual cells are inflated simultaneously in the system of Sperry, which contains no inflation header and which inflates its multiple pouches *seriatim*.

Third, with respect to the combination of Sperry and Titchenal, although Petitioner contends that both references address the same problem of tension along the fill edge, Petitioner has not explained sufficiently why, nor directed our attention to evidence to show that, Titchenal is concerned with tension at all. As Petitioner notes, Titchenal identifies one problem as “minimiz[ing] distortion or wrinkling at [the bag’s fill edge] accompanying filling of the bag, whereby a smooth or generally wrinkle-free region is provided for placement of the closure seal.” Pet. 36 (quoting Ex. 1007, 1:41–44). Petitioner has not shown that Titchenal attributes the “distortion or wrinkling” it discloses to improper tension along the fill edge of the bags.

In fact, although Sperry discloses that high tension resulting from not using its solution can cause problems, Titchenal teaches just the opposite, that its solution results in high tension, or “‘tautness’ along the fill line edge that leads to a smooth, wrinkle-free seal.” *Id.* (quoting Ex. 1007, 1:63–2:4).

Because Petitioner has not made an adequate showing that a person of ordinary skill in the art would have had a reason to combine Sperry with Peper and Titchenal,⁵ we cannot conclude that Petitioner has shown that “there is a reasonable likelihood that the petitioner would prevail with respect to” any of claims 1, 2, and 5 on the ground of obviousness over the combination of Sperry, Peper, and Titchenal. 35 U.S.C. § 314(b). Accordingly, we do not institute *inter partes* review of the challenged claims on this ground.

CONCLUSION

Upon consideration of the Petition and the Preliminary Response, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that any of the claims it challenges are unpatentable. Accordingly, we do not institute *inter partes* review of any of the challenged claims on either of the asserted grounds.

⁵ We express no opinion as to whether Petitioner could have made an adequate showing that a person of ordinary skill in the art would have had a reason to combine Sperry with Peper and Titchenal; we determine only that Petitioner did not do so.

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ORDER

It is hereby

ORDERED that the Petition is *denied* as to all challenged claims, and
no trial is instituted.

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Patent 7,897,220

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