

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VYRIPHARM ENTERPRISES, INC.,
Petitioner,

v.

METRC LLC,
Patent Owner.

IPR2021-01015
Patent 9,959,438 B2

Before KARL D. EASTHOM, JULIA HEANEY, and AMBER L. HAGY,
Administrative Patent Judges.

HAGY, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Vyripharm Enterprises, Inc. (“Petitioner”) filed a Petition under 35 U.S.C. § 311 requesting *inter partes* review of claims 1–18 (“the challenged claims”) of U.S. Patent No. 9,959,438 B2 (“the ’438 patent”). Paper 2 (“Pet.”). Metrc LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Section 314(a) does not authorize institution of review unless Petitioner demonstrates a reasonable likelihood that it will prevail with respect to at least one challenged claim. 35 U.S.C. § 314(a). Having considered the arguments and evidence presented by Petitioner and Patent Owner, and applying that standard on behalf of the Director (37 C.F.R. § 42.4(a)), we do not institute the petitioned review.

II. BACKGROUND

A. *Real Parties in Interest and Related Proceedings*

Petitioner identifies the following entities as real parties in interest: Vyripharm Enterprises, Inc.; VpH, Inc.; Vyripharm Biopharmaceuticals, Inc.; Vyripharm International, Inc.; Vyripharm Technologies, Inc.; Vyripharm Enterprises LLC; VpH LLC; Vyripharm Biopharmaceuticals LLC; Vyripharm Technologies LLC; and Vyripharm International LLC. Pet. 3.

Patent Owner identifies itself as the real party-in-interest. Paper 3, 1.

Both parties represent that there are no related proceedings. Pet. 3; Paper 3, 1.

B. '438 Patent

The '438 patent is entitled “Method and Apparatus for Tracking One or More Plants and/or Plant Based Products and/or Tracking the Sale of Products Derived from the Same, Utilizing RFID Technology,” and issued on May 1, 2018. Ex. 1001, codes (54), (45). The '438 patent issued from U.S. Patent Application No. 14/764,904, which claims priority to Provisional Application No. 62/011,463, filed on June 12, 2014. *Id.* at codes (21), (60).

The '438 patent is directed to a system “for tracking plants, plant based raw material, and/or plant based products.” Ex. 1001, 3:6–8. Specifically, the '438 patent discloses a radio-frequency identification (“RFID”) tag assembly “that incorporates a strap to position an RFID label relative to a plant.” *Id.* at 3:12–14, 4:34–37. “[T]he strap can be used for attachment to the plant, the plant’s pot, and/or other structures,” and the RFID label “can be read by [an] RFID reader.” *Id.* at 5:38–42. Figure 1, reproduced below, depicts a strap according to the '438 patent:

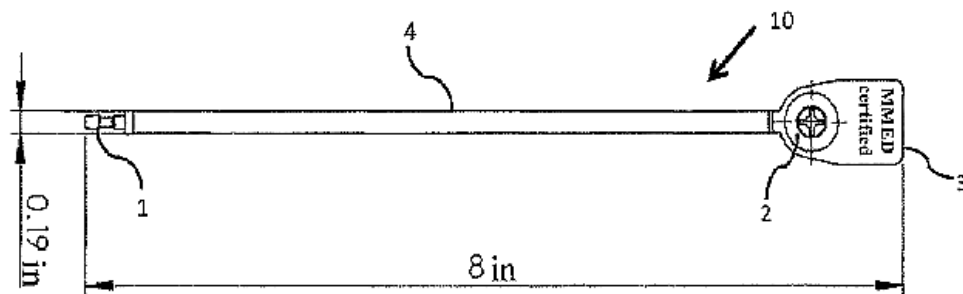


FIG. 1

Figure 1 depicts a front view of a strap. *Id.* at 4:63.

Strap 10 comprises “tooth 1” and “passage 2,” where the tooth can be inserted into the passage “to create a tamper proof locking position.” *Id.* at

Fig. 1, 6:14–19.¹

As shown in Figure 4, reproduced below, the RFID label comprises label body 20 that has RFID inlay 8, wherein RFID inlay 8 has an RFID antenna and RFID circuit chip. *Id.* at 7:7–9.

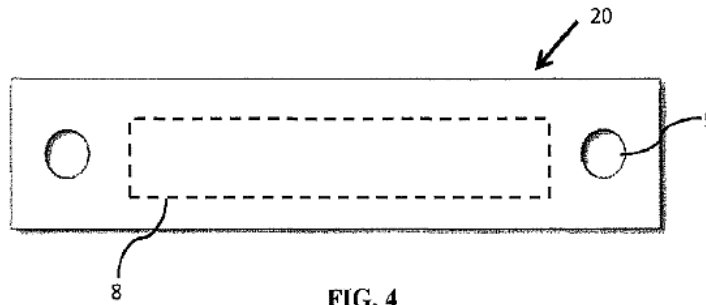


Figure 4 depicts “a front view of an RFID label.” *Id.* at 4:1–2.

The RFID label has two “openings 9,” which allow the strap to pass through. *Id.* at Fig. 4, 7:48–50. Figures 6 and 8, reproduced below, illustrate an RFID tag and a strap in two configurations. *Id.* at Figs. 6, 8, 10:40–42, 11:13–16.

¹ All bolding of reference numbers in quoted material has been omitted herein.

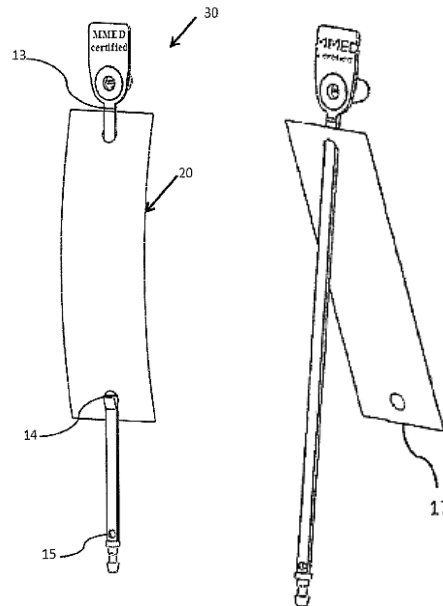


FIG. 6

FIG. 8

Figures 6 and 8 depict assemblies of a tag incorporating a strap and an RFID label. Ex. 1001, 4:4–7, 4:12–13.

As shown in Figures 6 and 8, the '438 patent describes embodiments in which the strap may be inserted into the soil of a plant, with multiple configurations for the RFID tag. Figure 6 shows one configuration in which the strap passes through two holes of the RFID label. Figure 8 illustrates another configuration where one end of the RFID label is interconnected with the strap so that the strap can be wrapped around one of the main branches of a plant with one end of the RFID label released, which enables the RFID label to be straight, and tending to vertical, when the tag is attached to a branch of the plant. *Id.* at Fig. 8, 11:15–26.

The '438 patent describes the strap as having a rigidity or stiffness such that when the strap has an RFID label 20 in accordance with an embodiment of the invention interconnected with the strap to form an RFID tag 30, and the RFID tag 30 combination is inserted into a pot, such as into the soil in the pot, or clipped or otherwise attached to the pot, *the strap carries the weight of the*

RFID label and the strap itself, so that the RFID tag will still stand upright.

Id. at 6:56–64 (emphasis added); *see also id.* at 8:8–10. The '438 patent describes that this configuration (positioning the label on an upright-standing strap) enables the label portion to avoid contacting the “dirt/moisture” of the potting soil. *Id.* at 10:59–60.

C. Challenged Claims

Claims 1–18 are challenged. Claim 1 is the sole independent claim, and is reproduced below with the key limitation at issue herein italicized:

1. An RFID tag assembly, comprising:

a strap,

wherein the strap comprises:

a strap body having a strap body proximal end and a strap body distal end;

a first strap connecting portion attached to the strap body proximate to the strap body distal end; and

a second strap connecting portion attached to the strap body proximate to the strap body proximal end,

wherein the first strap connecting portion and the second strap connecting portion are configured such that when the first strap connecting portion is connected to the second strap connecting portion in a locked position, the first strap connecting portion and second strap connecting portion are in locked connection such that the strap body distal end is in locked connection with the strap body proximal end; and

an RFID label,

wherein the RFID label comprises:

an RFID label body having an RFID label body proximal end and an RFID label body distal end;

an RFID circuit,

wherein the RFID circuit is attached to the RFID label body;
an RFID antenna,

wherein the RFID antenna is connected to the RFID circuit,
wherein the RFID antenna is attached to the RFID label
body, and

wherein the RFID label and the strap are configured to:

- (i) interconnect in a first configuration, such that when the first strap connecting portion and the second strap connecting portion are in locked connection, the RFID label does not separate from the strap and an orientation of the RFID label is dependent on an orientation of the strap, and
- (ii) interconnect in a second configuration, such that when the first strap connecting portion and the second strap connecting portion are in locked connection the RFID label does not separate from the strap and the orientation of the RFID label is adjust able independently from the orientation of the strap,

wherein the RFID label body has a first opening and a second opening,

wherein the first opening and the second opening allow the strap body distal end to pass through,

wherein, when the RFID label and the strap are interconnected in the first configuration, the strap body distal end extends through the first opening and through the second opening, such that the RFID label does not rotate about an axis perpendicular to a longitudinal axis of the strap body,

wherein, when the RFID label and the strap are interconnected in the second configuration, the strap body distal end extends through the first opening and does not extend through the second opening,

wherein the strap body has a rigidity or stiffness, such that when the RFID label and the strap are interconnected in the first configuration or the second configuration, and the strap body distal end is inserted into soil, the tag assembly can

stand so as to prevent the label body from touching the soil.

Ex. 1001, 31:40–32:35 (emphasis added).

D. Asserted Grounds of Unpatentability and Evidence

Petitioner asserts that the challenged claims are unpatentable based on the following grounds (Pet. 16):

Claim(s) Challenged	35 U.S.C. §	References
1–4, 6–18	103	Debrody, ² Mosher, ³ Nakajima ⁴
5	103	Debrody, Mosher, Nakajima, Mears ⁵

As further support, Petitioner relies on the Declaration of Rodney T. Fernandez, Ph.D. Ex. 1002. Patent Owner relies on the Declaration of Robert G. Hardin IV, Ph.D. Ex. 2001.

² Debrody et al., U.S. Patent No. 6,981,725 B2, issued January 3, 2006 (Ex. 1005, “Debrody”).

³ Mosher Jr., et al., U.S. Patent Pub. No. US 2007/008138 A1, published January 11, 2007 (Ex. 1006, “Mosher”).

⁴ Nakajima, et al., Japanese Unexamined Patent Application Pub. 2006-101739 A, published April 20, 2006. Petitioner’s proffered English translation is submitted as Exhibit 1007. Patent Owner’s proffered certified English translation is submitted as Exhibit 2004. The untranslated Japanese application is Exhibit 1008. Herein, we will refer to Nakajima by specific exhibit numbers as appropriate.

⁵ Mears, U.S. Patent No. 5,901,416 (Ex. 1009, “Mears”).

III. ANALYSIS

A. *Principles of Law*

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A patent claim “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. An obviousness determination requires finding “both ‘that a skilled artisan would have been motivated to combine the teachings of the

prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418 (explaining that, for an obviousness analysis, “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does”).

Although the *KSR* test is flexible, “the Board ‘must still be careful not to allow hindsight reconstruction of references . . . without any explanation as to *how* or *why* the references would be combined to produce the claimed invention.’” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016) (citation omitted). Further, an assertion of obviousness “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *accord In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (stating that “conclusory statements” amount to an “insufficient articulation[] of motivation to combine”; “instead, the finding must be supported by a ‘reasoned explanation’” (citation omitted)); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

B. Level of Ordinary Skill in the Art

Relying on the testimony of Dr. Fernandez, Petitioner describes the level of ordinary skill as follows:

[A] person of ordinary skill in the art (“POSA”) is a person with knowledge of both horticulture and RFID tracking systems obtained through education and/or work experience. While there are many variations of education and work experience that a POSA could to achieve the requisite level of knowledge, one example of a POSA is a person having at least a Bachelor’s degree in Horticulture or related discipline and at least two years of experience working in a position that involves RFID plant inventory management.

Pet. 15–16 (citing Ex. 1002 ¶ 23).

Patent Owner does not offer a different assessment, but states: “[Patent Owner] does not acquiesce to, and reserves the right to address, [Petitioner’s] definition of a POSA. The Petition fails to meet the requirements for institution under any definition of a POSA.” Prelim. Resp. 3, n.3.

To the extent necessary, and for purposes of this Decision, we accept the assessment offered by Petitioner as it is consistent with the ’438 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (recognizing that the prior art itself may reflect an appropriate level of skill in the art).

C. Claim Construction

We apply the same claim construction standard used in district court actions under 35 U.S.C. § 282(b), namely that articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b) (2020).

In applying that standard, we generally give claim terms their ordinary and customary meaning as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. In so doing, “we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Neither party proposes an explicit claim construction for any term. *See* Pet. 20 (“Petitioners respectfully submit that the Board need not expressly construe any term.”); *see generally* Prelim. Resp. On this record and for purposes of this decision, we determine that no claim terms require express construction.

D. Ground A: Obviousness of Claims 1–4 and 6–18 Based on Debrody, Mosher, and Nakajima

In Ground A, Petitioner asserts that claims 1–4 and 6–18 are unpatentable as obvious over Debrody in combination with Mosher and Nakajima. Pet. 5. In particular, Petitioner alleges:

It would have been obvious to a POSA at the time of the alleged invention of the ’438 Patent to combine *the stiff lockable strap disclosed in Debrody* with the RFID label disclosed in Mosher in order to track plants, particularly marijuana plants, using RFID in a manner taught by the horticultural management system disclosed in Nakajima. . . . As discussed below, *Debrody’s stiff lockable strap provided the benefit of a strap that can both stand upright in soil or be attached to a plant body* while Mosher’s RFID tag provided the benefit of multiple attachment configurations to improve the readability of the RFID tag.

Pet. 23–24 (emphases added).

Patent Owner asserts that Petitioner's combination of references fails to show (1) "an RFID tag assembly wherein the RFID label and the strap are configured to interconnect in the second configuration" as recited in claim 1; and (2) "the rigidity or stiffness of the strap," as also recited in claim 1.

Prelim. Resp. 2–3. Patent Owner also contends:

[Petitioner] fails to show that a person of ordinary skill in the art ("POSA") would have combined the cited references and made each of the purported modifications to arrive at the invention of Claim 1. [Petitioner's] purported motivations to combine and to modify the cited reference appear nowhere in the prior art. Instead, [Petitioner's] motivations are premised on, among other things, an incorrect English translation of the cited Japanese patent application Nakajima; misinterpretations of the disclosures of Debrody, Mosher, and Nakajima; unsubstantiated assertions of purported "common" or "well-known" practices; and improper hindsight based on the disclosure of the '438 patent. Furthermore, [Petitioner] has failed to establish a reasonable expectation of success in arriving at the claimed invention.

Id. at 3 (footnote omitted).

For reasons discussed below, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of independent claim 1 (and the claims dependent thereon) as obvious over Debrody, Mosher, and Nakajima.

1. Asserted Prior Art

a. Debrody

Debrody was filed on January 29, 2004 and issued on January 3, 2006 as U.S. Patent No. 6,981,725. Ex. 1005, codes (10), (22), (45). Petitioner asserts Debrody is prior art under 35 U.S.C. § 102. Pet. 17. Patent Owner does not dispute the prior-art status of Debrody.

Debrody is generally directed to bidirectional locking security seals. Ex. 1005, 1:4. Debrody describes such lockable seals as being used for preventing “unauthorized entry or access into a secured container,” such as “shipping containers, mail pouches, shipping bags,” as well as “valves, meters or storage areas.” *Id.* at 1:13–17.

Debrody describes a lockable seal device made of thermoplastic material that includes a “flexible shackle” having a plurality of locking elements, which is molded as a single piece, as illustrated in Figure 7 of Debrody reproduced below. Ex. 1005, 4:18–20, 7:33–40, 8:9–25, Fig. 7.

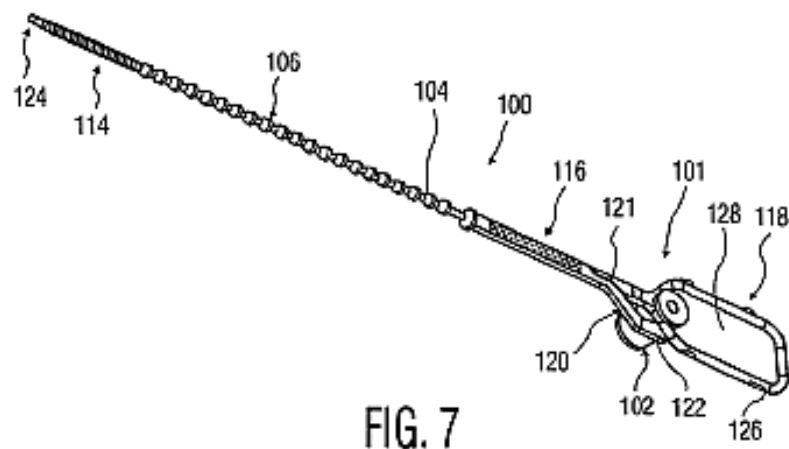


Figure 7 of Debrody depicts an “isometric view of a preferred locking seal device.” Ex. 1005, 7:33–34.

As shown in Figure 7, Debrody’s locking seal device 100 comprises socket 102 with a locking insert (not shown in Figure 7; shown in Figure 3 as item 10). *Id.* at 9:58–60. Shackle 104 extends from socket 102, and has locking elements 106 that are frusto-conical. *Id.* at 9:61–62. Free end 124 of shackle 104 has ridged portion 114. *Id.* at 9:65–66. Opposite free end 124 of shackle 104 is flag structure 118. *Id.* at 10:9–10. To form a locking

seal, free end 124 of shackle 104 is inserted through socket chamber 102, which receives shackle 104 and engages locking elements 106. *Id.* at 4:20–27.

b. Mosher

Mosher published on January 11, 2007 as U.S. Publication No. 2007/0008138. Ex. 1006, codes (10), (43). Petitioner contends Mosher is prior art under 35 U.S.C. § 102. Pet. 20. Patent Owner does not contest the prior-art status of Mosher.

Mosher discloses a band or strap that interconnects with an RFID label to facilitate reliable and secure identification and tracking of items. Ex. 1006 ¶¶ 44, 52, Fig. 12. In particular, Mosher discloses wristbands, badges, stickers, labels, cards or any combinations thereof, which include an RFID inlet for insertion of an RFID tag. *Id.* ¶ 57. Figures 12 and 13 of Mosher, reproduced below, illustrate a wristband with an RFID tag:

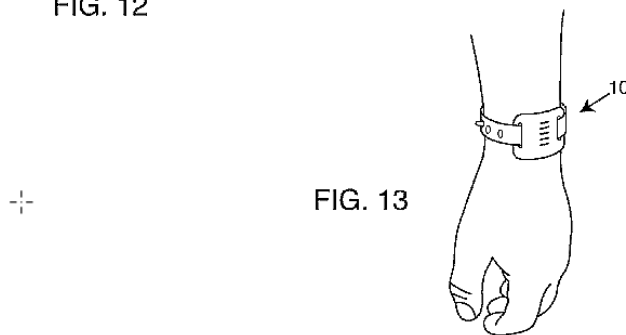
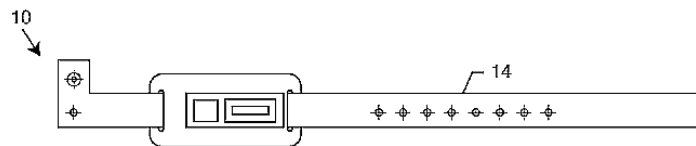


Figure 12 depicts a wristband with an RFID tag, and Figure 13 depicts the wristband as worn on a wrist. Ex. 1006 ¶¶ 39, 40.

Mosher describes that the RFID tags store information relating to the item to which the RFID tag is attached, and an RFID reader reads this

information. *Id.* ¶ 57. A computer comprising a database stores the information obtained from the RFID reader. *Id.* ¶¶ 55, 57.

c. Nakajima

Nakajima was published as JP2006101739A on April 20, 2006. Ex. 1008, code (43). Petitioner contends Nakajima is prior art under 35 U.S.C. §102. Pet. 21. Petitioner provides, as Exhibit 1007, what Petitioner characterizes as “an English Translation of the document . . . as well as an affidavit attesting to the accuracy of the translation,” which Petitioner states is “in accordance with 37 C.F.R. §42.63(b).” *Id.*; Ex. 1007.

Patent Owner does not challenge the prior-art status of Nakajima, but does challenge the accuracy of the English translation provided by Petitioner. PO Resp. 6–7. Patent Owner provides its own translations in Exhibit 2003 (a translation that Patent Owner represents is “publicly available on the World Intellectual Property Organization website”) and Exhibit 2004 (which Patent Owner represents is a “certified English translation of Nakajima”). *See* PO Resp. 36. To the extent necessary herein, we address below the alleged discrepancies in the translations.

Nakajima discloses a horticultural management system for managing plants using RFID tags. Ex. 1007 ¶ 10; Ex. 2003 ¶ 10. Specifically, Nakajima discloses “a gardening label having an RFID tag, attached to a plant, on which is written gardening information for the plant.” Ex. 1007 ¶ 10; *see also* Ex. 2003 ¶ 10 (describing a “horticultural label that comprises an RFID tag that is attached to a plant and on which is written horticultural information”). Information, such as the name of the plant, information regarding care of the plant, and the like, may be written or recorded on the RFID tag by a reader/writer. Ex. 1007 ¶ 20; *see also* Ex. 2003 ¶ 20.

Nakajima describes that the RFID tag can be “attached to a conventional label,” and the “label may be inserted into the pot, or it may be attached to the plant itself.” Ex. 1007 ¶ 20; *see also* Ex. 2004 ¶ 20.

According to Petitioner’s translation, if the label is attached to the plant, “a hole may be formed in the label to be attached *by a strap*, or the like” to the plant. Pet. 21 (citing Ex. 1007 ¶ 20) (emphasis added). Notably, however, Petitioner’s translation uses the term “scrap” instead of “strap.”

See Ex. 1007 ¶ 20. Petitioner does not acknowledge or explain this discrepancy. Patent Owner’s translation states that the RFID label may be attached to the plant, but uses the term “string” instead of “strap” (or “scrap”). Ex. 2004 ¶ 20.

As addressed further below, we determine that the parties’ dispute over the proper translation of paragraph 20 of Nakajima with regard to the nature of the material that is used to affix an RFID label to a plant (that is, whether it is a string, a strap, or a scrap) is not material to our decision.

2. Analysis

Claim 1 is the sole independent claim. It recites, essentially, an RFID tag assembly, which comprises, among other things, a strap and an RFID label, which are configured to interconnect in a first configuration and a second configuration. Ex. 1001, 31:40–32:29. Claim 1 also requires the strap body to have “a rigidity or stiffness, such that when the RFID label and the strap are interconnected in the first configuration or the second configuration, and the strap body distal end is inserted into soil, the tag assembly can stand so as to prevent the label body from touching the soil.” *Id.* at 32:30–35. Petitioner identifies this as limitation [1.16]. *See* Pet. 51.

As discussed further herein, we find Petitioner has not satisfied its burden to show, sufficiently for institution, that the prior art teaches or suggests a strap body having the requisite rigidity or stiffness. Because we find the “strap body” limitation [1.16] to be dispositive of our decision to deny institution, we focus our analysis on that limitation. We do not express an opinion as to the sufficiency of Petitioner’s showing as to any limitation not discussed herein.

a. Petitioner’s Showing Regarding Limitation [1.16]

Petitioner contends that the ordinarily skilled artisan would have been motivated to attach an RFID label, as described in Mosher, to a plant body using a “stiff strap” as allegedly disclosed in Debrody, in order “to track plants in the manner disclosed in Nakajima.” Pet. 52 (citing Ex. 1002 ¶ 115). Petitioner argues:

In the “horticultural management system” described in Nakajima, the RFID label “may be inserted into the pot or attached to the plant body.” EX1007. A POSA would be motivated to secure the RFID label at a position proximate the plant as required by the Colorado RFP, but also at a sufficient height and distance from the soil for several reasons that would have been obvious to a POSA at the time. EX1002 at ¶116. That is, a POSA would be motivated to (1) position the RFID at a height sufficient that the cultivator could read the printed data on the RFID label with relative ease; (2) position the RFID label so as to avoid obstructions within a grow room negatively affecting the propagation of the RF signals; (3) use the same RFID label attachment assembly from seed to harvest to avoid waste and human error in switching labels or straps; and (4) position the RFID at a height sufficient that the RFID label will be at a distance from the soil to avoid the moisture of the soil negatively affecting the RF signals. EX1002 at ¶¶116–120. *An obvious choice for a POSA at the time would have been to use the stiff strap disclosed in Debrody in place of the “strap, or the like”*

described in Nakajima to attach the RFID label disclosed in Mosher in order to effectively track plants from seed to harvest in the manner described in Nakajima. EX1002 at ¶116.

Id. at 52–53 (emphasis added).⁶

b. Patent Owner’s Arguments and Evidence Regarding Limitation [1.16]

Patent Owner contends “[n]one of the cited references discloses a strap having [the claimed] ‘rigidness or stiffness.’” Prelim. Resp. 14 (citing Ex. 2001 ¶ 66). In particular, Patent Owner disputes Petitioner’s characterization of Debrody as disclosing a “stiff strap.” *Id.* (citing Pet. 52; Ex. 2001 ¶¶ 67–73, 76–81). Patent Owner contends “Debrody does not disclose a shackle that is rigid or stiff,” but instead “only discloses a locking seal device having a ‘flexible shackle.’” *Id.* (citing Ex. 1005, 4:21–23 (“A locking arrangement is in the chamber which arrangement may include an insert . . . and locking a *flexible shackle* thereto.” (emphasis added))); Ex. 2001 ¶¶ 67–73, 76–81).

Patent Owner emphasizes that a locking seal according to Debrody has no need for the “rigidness or stiffness,” as recited in claim 1, that would allow the strap to stand upright while holding an RFID label. *Id.* at 15 (citing Ex. 2001 ¶¶ 70–72). As Patent Owner notes, Debrody discloses locking security seals that “once closed . . . can no longer be opened without being damaged or altered.” *Id.* at 15 (citing Ex. 1005, 1:4–23). As Patent Owner further notes, Debrody describes that “its ‘[l]ockable seals are used

⁶ According to Petitioner, the “Colorado RFP” mentioned here is a Request for Proposal sent out by the State of Colorado to solicit bids from potential marijuana cultivators, which included requirements regarding use of RFID tags to track marijuana plants from seed to harvest. *See* Pet. 7 (citing Exs. 1020, 1021, 1022).

where it is necessary to ensure that there has been no unauthorized entry or access into a secured container,’ such as mail pouches, shipping bags, valves, meters, and storage areas.” *Id.* (citing Ex. 1005, 1:13–19). Thus, according to Patent Owner, Debrody’s teaching of locking devices “designed to flex to create a closed seal for security applications” (securing, e.g., mail pouches), suggests no need for a strap stiff or rigid enough to stand upright. *Id.* (citing Ex. 1005, 4:18–23, 7:33–40, 8:9–25, 9:58–62, 10:64–11:18, Figs. 7–8, 11).

Patent Owner also takes issue with Petitioner’s contentions that the ordinarily skilled artisan “would understand” that “with proper dimensions” the thermoplastic locking seal disclosed in Debrody could be “rigid and stiff enough ‘to stand alone when it is inserted into a small pot.’” Prelim. Resp. 15 (citing Pet. 52–54). Patent Owner points out that not only does Debrody describe the shackle as “flexible,” but Petitioner and its expert, Dr. Fernandez, “fail to identify any evidence” to support their characterization of Debrody’s shackle as a rigid, stiff strap. *Id.* at 16. Patent Owner emphasizes that “[w]ithout such evidence, [Petitioner’s] argument that Debrody’s thermoplastic locking seal device comprising a flexible shackle is rigid or stiff is nothing more than improper speculation.” *Id.* (citing Ex. 2001 ¶¶ 67–73, 76–81). Patent Owner, on the other hand, submits evidence that thermoplastic materials, such as those described by Debrody, “encompass a variety of plastic polymer materials with varying properties,” and thus are not inherently stiff or rigid enough to stand upright “so as to prevent the RFID label from touching the soil,” as required by the ’438 patent claims. *Id.* (citing Ex. 2001 ¶¶ 67–73, 76–81; Ex. 2007).

c. Analysis of Limitation [1.16]

The “strap body” limitation, identified by Petitioner as limitation [1.16], recites:

wherein the strap body has a rigidity or stiffness, such that when the RFID label and the strap are interconnected in the first configuration or the second configuration, and the strap body distal end is inserted into soil, the tag assembly can stand so as to prevent the label body from touching the soil.

Ex. 1001, 32:30–35.

This limitation, on its face, embodies a relatively simple concept of a tag assembly having a strap body that is stiff enough to stand upright (e.g., in potting soil) while supporting an RFID label above the soil. However, Petitioner’s articulated case for this limitation is not premised on persuasive evidence of record, but rather on speculation and assumptions that sound in hindsight.

Petitioner relies on Debrody—in particular, Debrody’s shackle—as disclosing the strap body as recited in limitation [1.16]. *See* Pet. 52–55. But as Patent Owner contends, and we agree, Petitioner fails to cite evidence supporting Petitioner’s characterization of Debrody’s shackle as “rigid” or “stiff” enough to stand under its own weight while additionally supporting an RFID tag. *See* Prelim. Resp. 14–15; *cf.* Pet. 24 (stating “Debrody’s strap is stiff enough to let the strap to stand upright in the soil while also allowing the strap to attach to the plant body.”) (citing Ex. 1002 ¶ 75). Petitioner quotes no portion of Debrody purportedly describing the shackle as rigid or stiff; rather, for this assertion, Petitioner cites the testimony of its designated expert, Dr. Fernandez. *See, e.g.*, Pet. 24 (citing Ex. 1002 ¶ 75); *see also id.* at 27 (citing Ex. 1002 ¶ 79). The cited portions of Dr. Fernandez’s

declaration (as well as related paragraphs), however, contain only unsupported characterizations of Debrody's shackle as a "stiff strap" along with conclusory testimony regarding allegedly known advantages of using a stiff strap. *See, e.g.*, Ex. 1002 ¶¶ 75, 77–79.

Dr. Fernandez does cite, in paragraph 73 of his declaration, a portion of Debrody in support of his statement that "Debrody discloses a stiff, durable strap called a locking seal device that is made from thermoplastic material." Ex. 1002 ¶ 73 (citing Ex. 1005, 8:9–26). That cited portion of Debrody, however, supports only the characterization of the locking seal device as "made from, and molded, preferably, from thermoplastic material." Ex. 1005, 8:21–23. Nothing in the cited portion of Debrody describes the locking seal device (or any portion of such device, including the shackle) as "rigid" or "stiff."

Simply put, Petitioner has no direct evidence that Debrody explicitly discloses a strap (shackle) having the rigidity or stiffness required by the '438 patent claims. Instead, Petitioner relies on conclusory testimony from its designated expert. Our reviewing court has made clear that declarant testimony "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support." *Arendi v. Apple*, 832 F.3d 1355, 1361–62 (Fed. Cir. 2016). Our Consolidated Trial Practice Guide ("CTPG") also cautions, "in an obviousness analysis, conclusory assertions from a third party about general knowledge in the art cannot, without supporting evidence of record, supply a limitation that is not evidently and indisputably within the common knowledge of those skilled in the art." CTPG (Nov. 2019)⁷ 36 (citing *K/S*

⁷ <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf?MURL=>.

Himpp v. Hear-Wear Techs., LLC, 751 F.3d 1362, 1365 (Fed. Cir. 2014)). We, therefore, afford Dr. Fernandez’s unsubstantiated testimony little weight. *See* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

Petitioner also hedges its bets regarding Debrody’s explicit disclosure, and makes assertions regarding what the ordinarily skilled artisan would have understood from Debrody’s disclosure of a shackle made from “thermoplastic material”:

A POSA would understand that a strap *with proper dimensions* made with “thermoplastic material” *can be* rigid and stiff enough “to stand alone when it is inserted into a small pot.” A POSA would therefore understand that the thermoplastic strap disclosed in Debrody therefore has a rigidity or stiffness, such that when the strap body distal end is inserted into soil, the tag assembly can stand so as to prevent the label body from touching the soil.

Pet. 53 (emphases added) (citing Ex. 1002 ¶ 121). Petitioner’s only evidence cited in support of this statement is, again, a portion of the declaration of Dr. Fernandez, which merely parrots the same statement without supporting evidence. *See* Ex. 1002 ¶ 121. As above, we afford such unsubstantiated testimony little weight in our analysis.

Patent Owner, on the other hand, presents persuasive evidence that the ordinarily skilled artisan would *not* have understood that Debrody’s device made from “thermoplastic material” would necessarily be rigid or stiff enough to stand upright while supporting an RFID tag. *See* Prelim. Resp. 15–16. In particular, Patent Owner submits evidence that thermoplastic materials encompass a variety of plastic polymer materials with varying properties. *See* Prelim. Resp. 15 (citing Ex. 2001 ¶¶ 76–77 (testimony of

Dr. Hardin); Ex. 2007, Table C-11 (describing properties of engineering plastics as having, for example, different parameters for elasticity, tensile strength, and compressive strength). Patent Owner also points out that Debrody characterizes the shackle of its locking device as being “flexible.” Prelim. Resp. 14 (citing Ex. 1005, 4:21–23) (“A locking arrangement is in the chamber which arrangement may include an insert . . . and locking a *flexible shackle* thereto.”) (emphasis added). A flexible thermoplastic shackle, such as that disclosed in Debrody as part of its locking-seal devices, may or may not be strong enough to stand upright; without additional evidence, Petitioner’s characterization of Debrody’s thermoplastic locking-seal devices as having the requisite rigidity or stiffness to stand upright is based only on speculation. The inquiry at hand requires evidence, not supposition.

Moreover, any assumptions regarding Debrody’s disclosure of locking-seal devices having the “rigidity or stiffness” required by the ’438 patent claims is undermined by the fact that none of the locking-seal devices described in Debrody are devices that would need to stand under their own weight. As Patent Owner points out, Debrody discloses “locking security seals that ‘once closed . . . can no longer be opened without being damaged or altered.’” Prelim. Resp. 15 (citing Ex. 1005, 1:4–23; Ex. 2001 ¶ 70). Such security seals are described in Debrody as being useful for preventing unauthorized entry or access into secured containers such as mail pouches, meters, or storage areas. Ex. 1005, 1:13–19. Patent Owner’s expert explains (with evidentiary support), that although such security seals may need to be strong, strength does not necessarily imply rigidity or stiffness. See Ex. 2001 ¶¶ 71–72 (citing Ex. 2005, 1 (stating that “a strong object may

not necessarily be stiff, and vice versa”); Ex. 2006, 1 (distinguishing strength of a material from its stiffness)).

Petitioner’s showing regarding limitation [1.16] otherwise consists of cites to Dr. Fernandez’s testimony regarding allegedly well-known and common practices, such as his statement that “tracking plants from seed to harvest using RFID labels (such as described in Mosher) attached to stiff straps (such as described in Debrody) was a well-known and common practice.” Ex. 1002 ¶ 77. Dr. Fernandez’s testimony in that regard, however, contains no evidentiary support for the use of a stiff strap; rather, the only evidence cited in paragraph 77 is Exhibit 1011, which describes use of RFID labels to track plants. *See* Ex. 1011. Exhibit 1011 does not describe or suggest any stiff straps for inserting into the soil and supporting RFID labels above the soil; instead, the RFID tags depicted in Exhibit 1011 are shown affixed directly to plant stems using strap tags that appear to be similar to the wrist straps depicted in Mosher. *See id.* at 2, 3; *cf.* Ex. 1006, Fig. 12. Similarly unsupported are Dr. Fernandez’s many statements regarding the benefits of a stiff strap that allegedly would have been apparent to the ordinarily skilled artisan, such as the following:

[I]t was well known to a POSA at the time that the RFID label needed to remain in close proximity to the plant as the plant grows and matures in unpredictable ways. *It became apparent and also common to a POSA at this time for growers to attach the RFID labels to stiff straps (like the strap disclosed in Debrody) that could be inserted into the soil and stand upright.* A stiff strap that is inserted into the soil and stands upright is useful in positioning the RFID labels to permit the printed data to be read, avoid obstructions that attenuate the RF signals, and avoid the moisture contained in the soil. Soil contains moisture that inhibits the RF signals emitted from the RFID labels, thereby

negatively affecting the user's ability to read the RFID labels. Therefore, stiff straps, like the strap described in Debrody [] could be used by a POSA to hold the RFID labels near the plants and also permit cultivators to read the printed data on the RFID labels, avoid attenuating the RF signals due to obstructions in the grow room, and keep the RFID labels safely away from the soil. *Id.* ¶ 78 (emphasis added). As noted above, we afford Dr. Fernandez's unsubstantiated testimony little weight. *See* 37 C.F.R. § 42.65(a).

Petitioner does not rely on any of the other references in Ground A as teaching or suggesting a stiff strap for supporting an RFID label above the soil. In particular, although Nakajima discloses use of RFID labels for horticultural management, Petitioner tacitly admits that Nakajima does not disclose a stiff strap that would separate the RFID label from the soil. *See* Pet. 52. Rather, Petitioner acknowledges that Nakajima describes an RFID label body that may be inserted *directly into the pot of a plant* being tracked (*e.g.*, Ex. 1007 ¶ 20 (“The label may be inserted into the pot, or it may be attached to the plant itself.”); Ex. 2004 (“The label can be inserted into a pot, but it can also be attached to the plant itself.”)). As such, Nakajima discloses *inserting the RFID label body itself into the soil*, and therefore does not teach or suggest a strap body that separates the label body from the soil, as recited in the '438 patent claims. *See* Ex. 1001, 32:31–35 (reciting a strap body that allows the tag assembly to “stand so as to prevent the label body from touching the soil”). Indeed, Nakajima's teachings of inserting an RFID label body directly into the soil are contrary to Petitioner's arguments and the testimony of Dr. Fernandez that the ordinarily skilled artisan knew, at the time of the '438 patent, to “keep the RFID labels safely away from the soil.” *See* Ex. 1002 ¶ 78; Pet. 52.

Given the lack of any explicit disclosure in Petitioner’s cited references of a “stiff strap” as recited in the ’438 claims, it appears that Petitioner and Dr. Fernandez improperly use the challenged claims and the ’438 patent as a guide to turning Debrody’s flexible thermoplastic shackle into a stiff strap that resembles a portion of the claimed invention. *See Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) (stating that without the necessary reasoning, “we cannot simply assume that ‘an ordinary artisan would be awakened to modify prior art in such a way as to lead to an obviousness rejection.’ It is in such circumstances, moreover, that it is especially important to guard against the dangers of hindsight bias.” (citation omitted)). This analysis, infected with impermissible hindsight, cannot form the basis of an obviousness conclusion. *See KSR*, 550 U.S. at 421 (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.”); *Graham*, 383 U.S. at 36 (warning against a “temptation to read into the prior art the teachings of the invention in issue” and instructing courts to “ ‘guard against slipping into use of hindsight’ ” (citation omitted)).

In sum, we are not persuaded that the Petition shows sufficiently why one of ordinary skill in the art—without resorting to improper hindsight—would have turned Debrody’s flexible thermoplastic shackle into a stiff strap, as recited in the ’438 patent claims, and then combined that strap with an RFID label, as disclosed in Mosher, and used it for horticultural management, as disclosed in Nakajima, as Petitioner argues. *See* Pet. 23–24, 51–55.

The remaining challenged claims, claims 2–4 and 6–18, each depends directly or indirectly from independent claim 1. Petitioner’s arguments

regarding these claims do not cure the defects of the underlying challenge to independent claim 1. *See* Pet. 55–86. Accordingly, Petitioner also has not demonstrated a reasonable likelihood of prevailing in its challenge to claims 2–4 and 6–18.

3. Conclusion

We determine that Petitioner’s arguments and evidence, considered as a whole, do not demonstrate a reasonable likelihood of prevailing on Petitioner’s contention that challenged claims 1–4 and 6–18 are unpatentable as obvious in view of Debrody, Mosher, and Nakajima.

E. Ground B: Obviousness of Claim 5 Based on Debrody, Mosher, Nakajima, and Mears

Petitioner’s challenge to claim 5, which depends from claim 1, is premised on the same analysis as presented for claim 1, with the Mears reference additionally cited for the specific limitations recited in claim 5. Pet. 86–90. Petitioner’s arguments and evidence regarding claim 5 do not cure the defects of the underlying challenge to independent claim 1. *See id.*

We, therefore, determine that Petitioner’s arguments and evidence, considered as a whole, do not demonstrate a reasonable likelihood of prevailing on Petitioner’s contention that challenged claim 5 is unpatentable as obvious in view of Debrody, Mosher, Nakajima, and Mears.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of any of the challenged claims of the '438 patent.

V. ORDER

Accordingly, it is

ORDERED that the Petition is *denied*, and no trial is instituted.

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