

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TRISTAR PRODUCTS, INC.,
Petitioner,

v.

CHOON'S DESIGN, LLC,
Patent Owner.

Case IPR2015-01883
Patent 8,684,420 B2

Before GRACE KARAFFA OBERMANN, *Vice Chief Administrative
Patent Judge*, JEREMY M. PLENZLER and
JENNIFER MEYER CHAGNON, *Administrative Patent Judges*.

CHAGNON, *Administrative Patent Judge*.

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

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, we determine that Petitioner has not shown, by a preponderance of the evidence, that claim 3 of U.S. Patent No. 8,684,420 B2 (Ex. 1001, “the ’420 patent”) is unpatentable.

A. Procedural History

Tristar Products, Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1, 3, and 6 of the ’420 patent. Paper 1 (“Pet.”). Petitioner provided a Declaration of Youjiang Wang, Ph.D., P.E. (Ex. 1015) to support its positions. Choon’s Design, LLC (“Patent Owner”) filed a Preliminary Response. Paper 5 (“Prelim. Resp.”). Prior to institution, Patent Owner disclaimed claims 1 and 6 of the ’420 patent. *See* Prelim. Resp. 11; Ex. 2018.

Pursuant to 35 U.S.C. § 314(a), on March 9, 2016, we instituted *inter partes* review to determine whether claim 3 is unpatentable under 35 U.S.C. § 102 as anticipated by La Croix¹; and whether claim 3 is unpatentable under 35 U.S.C. § 103 as obvious in view of La Croix. Paper 6 (“Inst. Dec.”). Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 10 (“PO Resp.”)), along with a Declaration of Mr. Cheong Choon Ng (Ex. 2026) to support its positions.² Petitioner filed a Reply

¹ U.S. Patent No. 1,776,561, issued Sept. 23, 1930 (Ex. 1012).

² We note that the Patent Owner Response includes wholesale citations to several paragraphs of Mr. Ng’s Declaration without corresponding discussion in the Response itself. *See, e.g.*, PO Resp. 7–9. This amounts to an improper incorporation by reference under 37 C.F.R. § 42.6(a)(3). The Patent Owner Response and Mr. Ng’s Declaration, however, combine to less

(Paper 11 (“Pet. Reply”)) to the Patent Owner Response. An oral hearing was held on December 6, 2016. A transcript of the hearing is included in the record. Paper 14 (“Tr.”).

B. Related Proceedings

The parties identify several district court proceedings involving the ’420 patent. Pet. 2–3; Paper 4, 2. The ’420 patent has been asserted against Petitioner in one of those pending district court proceedings—namely, *Choon’s Design LLC v. Tristar Products, Inc.*, Case No. 2:14-cv-10848 (E.D. Mich.). Pet. 1. The ’420 patent was the subject of a previously filed post-grant review proceeding—*LaRose Indus., LLC v. Choon’s Design Inc.*, Case PGR2014-00008—which was terminated prior to institution in response to a Joint Motion to Terminate filed by the parties. *Id.* at 3; Paper 4, 2. The ’420 patent also was challenged in *IdeaVillage Products, Corp. v. Choon’s Design, LLC*, in which institution was denied. Case IPR2015-01143 (PTAB Nov. 9, 2015) (Paper 6); Pet. 3; Paper 4, 1.

Related U.S. Patent No. 8,485,565 B2 (“the ’565 patent”) also was the subject of four previous *inter partes* review proceedings, including: *LaRose Indus., LLC v. Choon’s Design, LLC*, Case IPR2014-00218 (all challenged claims disclaimed after institution; Joint Motion for Adverse Judgment granted); *LaRose Indus., LLC v. Choon’s Design Inc.*, Case IPR2014-01353

than 33 pages in total. Thus, in the interest of justice and based on the particular facts and circumstances of this proceeding we waive 37 C.F.R. § 42.6(a)(3) with respect to the Patent Owner Response, and consider the portions of Mr. Ng’s Declaration cited in the Patent Owner Response to also be included therein. See 37 C.F.R. § 42.5(b) (“The Board may waive or suspend a requirement of parts 1, 41, and 42 and may place conditions on the waiver or suspension.”).

(all challenged claims disclaimed prior to institution; institution denied); *Tristar Products, Inc. v. Choon's Design Inc.*, Case IPR2015-00838 (institution denied under 35 U.S.C. § 315(b)); and *IdeaVillage Products, Corp. v. Choon's Design, LLC*, Case IPR2015-01139 (institution denied). Pet. 3–4; Paper 4, 1.

C. The '420 Patent

The '420 patent is titled “Brunnian Link Making Device and Kit” and relates to a kit and method for creating a linked item formed from a series of links, such as “Brunnian” links. Ex. 1001, 1:1, 1:31–38, 2:33–35.

“A Brunnian link is a link formed from a closed loop doubled over itself to capture another closed loop to form a chain.” *Id.* at 1:31–33. The '420 patent provides examples of linked items such as “bracelets, necklaces[,] and other wearable or decorative items.” *Id.* at 2:34–35, Fig. 2. The '420 patent discloses that kits for making uniquely colored bracelets and necklaces have always been popular, but that “such kits usually just include the raw materials such as different colored threads and beads and rely on the individual’s skill and talent to construct a usable a desirable item.” *Id.* at 1:18–23. Thus, according to the '420 patent, “there is a need and desire for a kit that . . . simplifies construction to make it easy for people of many skill and artistic levels to successfully create a desirable and durable wearable item.” *Id.* at 1:23–27.

Figures 4, 5A, and 5B of the '420 patent illustrate the basic components of the kit and are reproduced below.

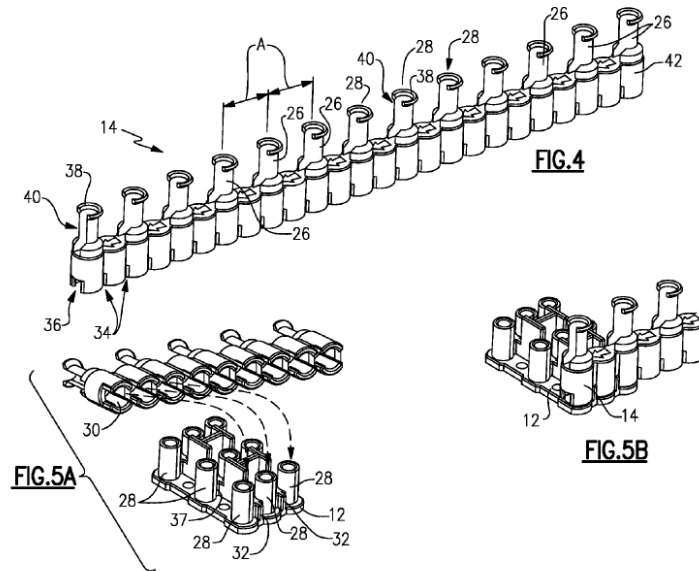


Figure 4 is a perspective view of an example pin bar. *Id.* at 1:65. Figure 5A is a perspective view of interfacing surfaces of an example base and the example pin bar. *Id.* at 1:66–67. Figure 5B is a perspective view of a pin bar mounted to an example base. *Id.* at 2:1–2.

The kit includes base 12 that forms a support for pin bars 14. *Id.* at 2:47–48. One or more pin bars 14 can be mounted to one or more bases 12 to provide a desired configuration. *Id.* at 2:51–54, 2:59–62. Each base 12 includes tabs (keys) 32, and each pin bar 14 includes slots 34 that receive tabs 32 to maintain pin bars 14 on base 12 in a desired orientation. *Id.* at 3:1–5. Pin bars 14 each include a plurality of pins 26. *Id.* at 2:48.

Figure 6 of the '420 patent, reproduced below, illustrates pin 26.

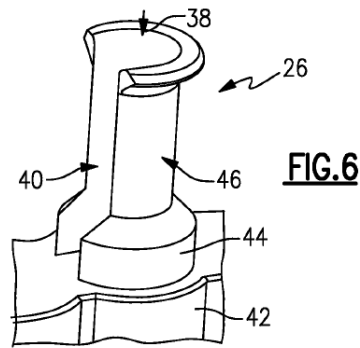
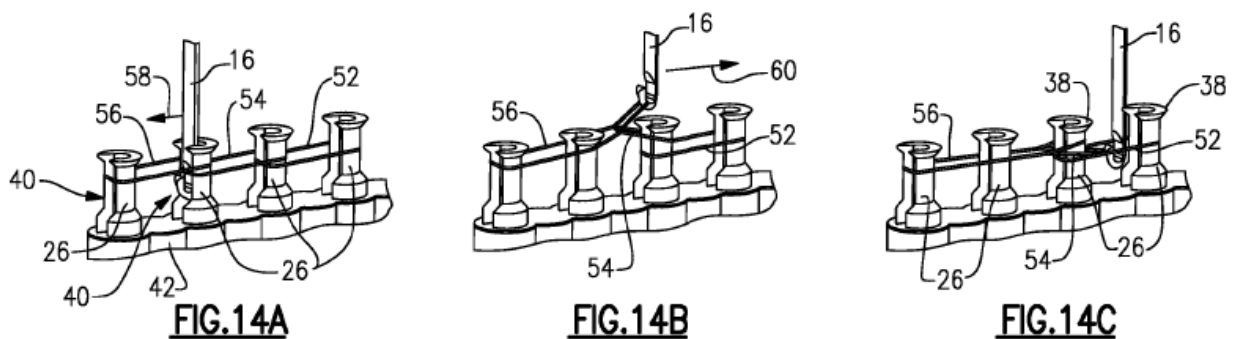


Figure 6 is a perspective view of one pin, illustrating the portions of pin 26.

Id. at 2:3–4. Pin 26 includes flanged top 38, mid portion 46, bottom portion 44, and front access groove 40. *Id.* at 3:12–13, 3:26–27. Flanged top 38 and bottom portion 44 are each flared outward relative to mid portion 46.

Pins 26 hold links, such as rubber bands 52, 54, 56, in a desired position during assembly of the linked item, as illustrated in Figures 14A–14C, reproduced below.



Figures 14A–14C are perspective views of assembly steps for creating a Brunnian linked article, illustrating a portion of bar 42 and pins 26, and a process of making a chain of linked items from elastic bands 52, 54, 56, using hook tool 16. *Id.* at 2:17–18, 4:3–36.

The '420 patent explains that top and bottom flared portions 38, 44 center rubber bands 52, 54, 56 on mid portion 46, and top flared portion 38 prevents errant release of rubber bands 52, 54, 56 during creation of the links. *Id.* at 3:16–18, 3:29–31. It is important to maintain rubber bands 52, 54, 56 on pins 26 during creation of a Brunnian link chain because “[e]ach link [of the chain] depends on the previous and subsequent links to maintain the desired shape and integrity” of the chain. *Id.* at 2:43–45. “Removing one link 20 results in all of the links becoming loose from each other.” *Id.* at 2:45–46.

As seen above, ends of adjacent rubber bands (e.g., 56, 54) are disposed on a common pin 26. *Id.* at 4:7–12. Hook 16 is inserted into access groove 40 of common pin 26 to grasp the end of rubber band 54 and pull rubber band 54 onto subsequent pin 26, thereby linking rubber bands 54 and 56. *Id.* at 4:17–28. The process is repeated for subsequent rubber bands (52, etc.) until a desired linked item is created. *Id.* at 4:19–30. Free ends of the linked item are then secured by a clip. *Id.* at 4:37–41, Figs. 15, 16.

D. Challenged Claim

Claim 3, the only challenged claim, depends from independent claim 1. Claims 1 and 3 are reproduced below:

1. A device for creating an item consisting of a series of links, the device comprising:
 - a base; and
 - a plurality of pins supported on the base, wherein each of the plurality of pins includes a top portion for holding a link in a desired orientation and an opening on at least one side of each of the plurality of pins,
 - wherein the plurality of pins comprises rows of offset pins spaced apart and extending upward from the base.

Ex. 1001, 5:18–26 (additional formatting added).

3. The device as recited in claim 1, wherein the top portion comprises a flared portion for holding a link in place on at least one of the plurality of pins.

Id. at 5:30–32.

II. ANALYSIS

A. Principles of Law – Anticipation and Obviousness

To prevail in its challenges to the patentability of the claims, a petitioner must establish facts supporting its challenges by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “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 never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Although the elements must be arranged or combined in the same way as in the claim, “the reference need not satisfy an *ipsissimis verbis* test,” i.e., identity of terminology is not required. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009); *accord In re Bond*, 910 F.2d 831, 832 (Fed.

Cir. 1990). Further, to be anticipating, a prior art reference must be enabling and must describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1346 (Fed. Cir. 2000); *In re Paulsen*, 30 F.3d 1475, 1479 (Fed. Cir. 1994).

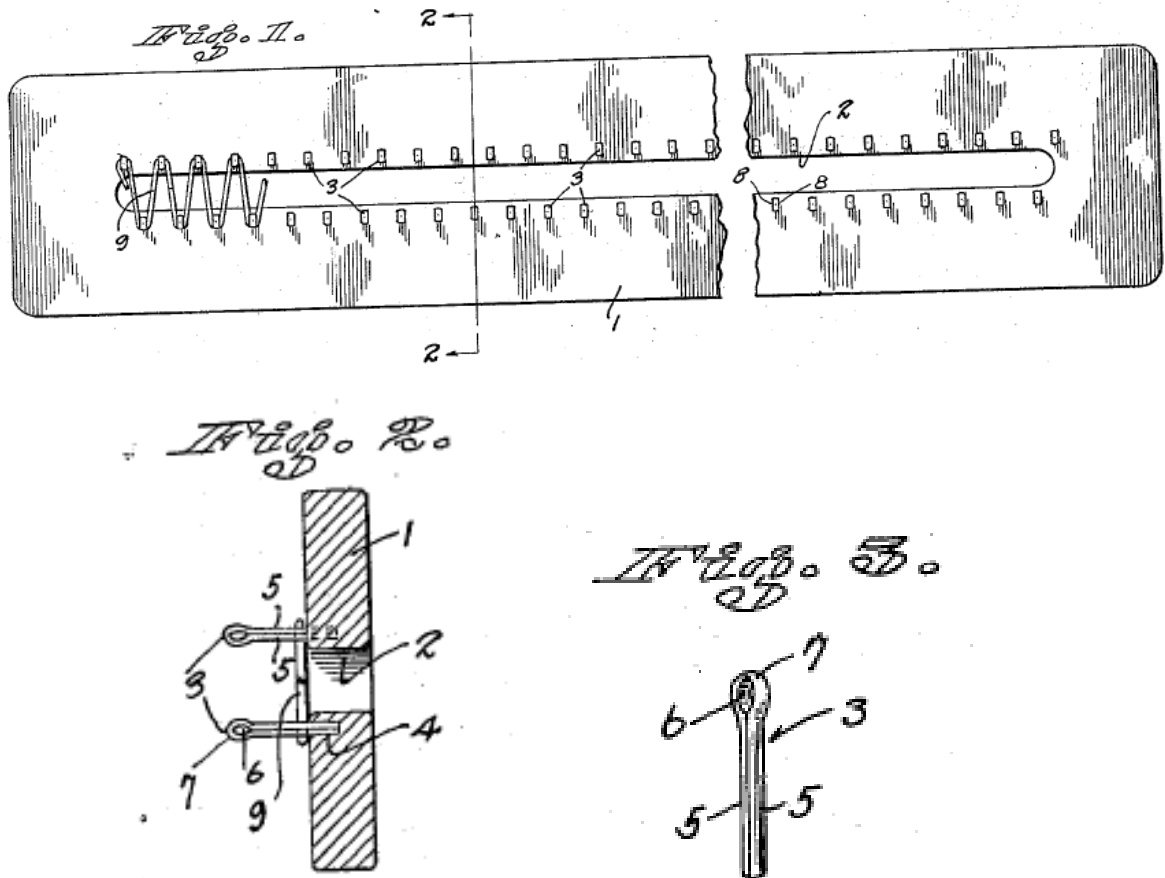
A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See 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 art³; and (4) objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). In an *inter partes* review, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Thus, to prevail Petitioner must explain how the prior art would have rendered the challenged claim unpatentable.

³ Neither party provides an express definition of the level of ordinary skill in the art in its briefing. *See Pet. generally*; *PO Resp. generally*; *but see Ex. 1015 ¶ 8* (Dr. Wang testifying as to the level of ordinary skill). We determine that no express finding is necessary to resolve the parties’ dispute. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of ordinary skill in the art).

At this final stage, we determine whether a preponderance of the evidence of the record shows that the challenged claim is anticipated by and/or would have been obvious in view of the asserted prior art. We analyze the asserted grounds of unpatentability in accordance with those principles.

B. Summary of La Croix

Each of the grounds upon which trial was instituted relies on La Croix. La Croix relates to a knitting board. Ex. 1012, 1:1–4. Figures 1–3 of La Croix are reproduced below.



Figures 1 and 2 illustrate a top plan view and sectional view, respectively, of the device of La Croix, and Figure 3 illustrates a perspective view of a cotter

pin used with the device. *Id.* at 1:30–35. As described in La Croix, the knitting board includes “means for supporting the yarn, yet permitting different portions of the yarn to be released from the supporting means as the knitting proceeds.” *Id.* at 1:6–11.

In the disclosed embodiment, La Croix describes using cotter pins 3 for supporting the knitted work. *Id.* at 1:20–22. As seen in Figure 3 of La Croix, cotter pins 3 have “two leg portions 5, an eyelet 6, a round head 7 and flat faces.” *Id.* at 1:45–48. Pins 3 are arranged within recesses 4 on board 1 such that yarn 9 may be “passed around the cotter pins 3 in a zig zag fashion.” *Id.* at 1:35–45, 2:52–54. La Croix further describes that cotter pins are “the best type of pin to use for the work, since it has flat sides or faces [] that permit the yarn to be removed over the head 7 without unduly stretching the yarn.” *Id.* at 2:67–71.

C. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Pursuant to that standard, the claim language should be read in light of the specification, as it would be interpreted by one of ordinary skill in the art. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010). Thus, we generally give claim terms their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning ‘is the meaning that the term would have to a person of ordinary

skill in the art in question.’” (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc))).

The claims, however, “should always be read in light of the specification and teachings in the underlying patent,” and “[e]ven under the broadest reasonable interpretation, the Board’s construction ‘cannot be divorced from the specification and the record evidence.’” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citations omitted). In other words, “[u]nder a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016) (citing *Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1362 (Fed. Cir. 2015)). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *See Paulsen*, 30 F.3d at 1480. However, limitations are not to be read from the specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

The parties’ dispute requires construction of the term “link,” as well as the phrase “the top portion comprises a flared portion for holding a link in place.” We discuss each of these in turn.⁴ No other claim terms require construction for purposes of this Decision.⁵

⁴ In its Patent Owner Response, Patent Owner challenges our use of the broadest reasonable interpretation standard for claim construction. *See* PO Resp. 1, 6. After Patent Owner filed its Response, however, the Supreme Court in *Cuozzo*, 136 S. Ct. at 2144–46, found the use of the broadest reasonable interpretation standard to be appropriate in an *inter partes* review. Thus, Patent Owner’s argument on this point lacks merit.

⁵ We previously construed “rows of offset pins,” recited in claim 1, from which claim 3 depends, as requiring the alignment of adjacent rows of pins

link

We did not construe “link” in our Decision on Institution. In its Patent Owner Response, Patent Owner argues that the Decision on Institution should have provided a construction for the term. See PO Resp. 1–2. Patent Owner asserts that a “‘link’ is a relationship between two things” or “a ring or loop, such as the elastic bands” of the ’420 patent. *Id.* at 2 (citing Ex. 1001, 1:31–33, 4:37–39; Ex. 2019). In its Reply, Petitioner argues that the term “link” should be construed as “a plurality of continuous looped structures without forming an actual knot.” Pet. Reply. 3 (citing Ex. 1001, 2:36–39).

As discussed in the ’420 patent, a “Brunnian link is a link formed from a closed loop doubled over itself to capture another closed loop to form a chain.” Ex. 1001, 1:31–33. Figure 3 of the ’420 patent is reproduced below.

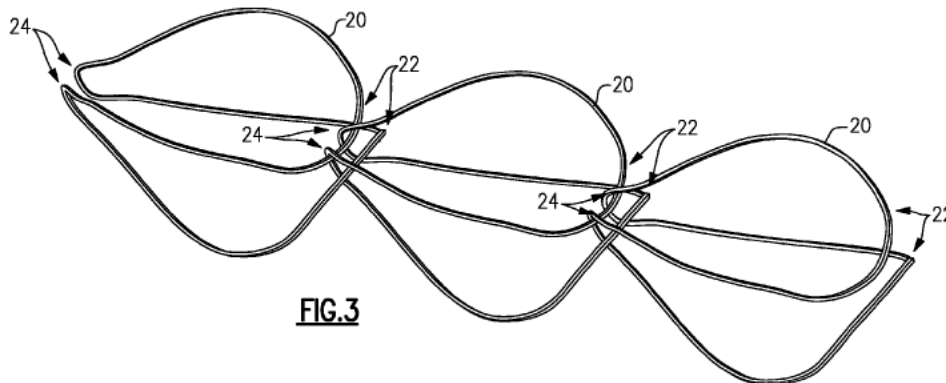


Figure 3 is a schematic view of a series of Brunnian links. *Id.* at 1:64. As seen in Figure 3, “Brunnian link 20 is formed from a continuous looped

be staggered relative to each other. See Inst. Dec. 12–14. The parties do not dispute this construction, and we maintain this construction for purposes of this Final Written Decision.

structure without forming an actual knot.” *Id.* at 2:36–37. As described in the ’420 patent, “[s]everal links are formed in a chain to form a circular structure.” *Id.* at 2:38–39.

Based on the parties’ arguments and the disclosure in the ’420 patent, we construe a “link” as one of a plurality of continuous looped structures (i.e., closed loops) connected without forming a knot.

the top portion comprises a flared portion for holding a link in place

Petitioner asserts, in the Petition, that the phrase “the top portion comprises a flared portion for holding a link in place” should be construed to mean “a portion of a pin located at the top of the pin and expanding outward in shape.” Pet. 10–11 (citing Ex. 1014; Ex. 1001, 3:15–16, Fig. 6; Ex. 1015 ¶¶ 23–24). Petitioner further argues that “[b]ecause the claims do not limit the direction in which the top flared portion expands, . . . the direct[ion] of expansion can be in any direction, including laterally, radially, or axially.” *Id.* at 11.

In our Decision on Institution, we did not expressly construe this phrase, but determined, for purposes of that Decision, that round head 7 of the asserted reference, La Croix, “spreads outward near the top of pin 3, and, thus, is ‘flared,’ as claimed.” Inst. Dec. 23. Based on Petitioner’s argument and evidence at that early stage of the proceeding, we determined that Petitioner had established a reasonable likelihood of showing claim 3 is anticipated by La Croix. *See id.* at 21–23.

In its Patent Owner Response, Patent Owner argues that the Decision on Institution’s finding that La Croix’s cotter pin heads are “flared” “reads the limitation unreasonably broad[ly].” PO Resp. 2. According to Patent Owner, the phrase “a top flared portion for holding a link in a desired

orientation” should be construed to mean “the pins have a portion that projects outward in at least two dimensions near an end spaced from the base, and [is] capable of holding a link in a desired orientation on the pin during creation of a linked item.” *Id.* Further, according to Patent Owner, “[t]o hold a link in a desired orientation, the top flared portion must be sufficiently enlarged that it can capture, and importantly hold, the link as the Brunnian link is created. During manipulation of the bands, a lowermost band is captured and pulled while an uppermost band must remain on the pin.” *Id.* at 3 (citing Ex. 1001, 4:17–30, Figs. 14A–C).

Patent Owner continues that although “[t]he term ‘flared’ is not specifically defined in the specification, . . . as illustrated, it shows a portion projecting outward from the center axis of the pin in at least two dimensions. *Id.* (citing Ex. 1001, Figs. 6, 9). As Patent Owner notes (*id.*), the ’420 patent describes that the top flared portion is intended to “prevent errant release of a rubber band during creation of a link.” Ex. 1001, 3:16–17. Patent Owner further argues that the ’420 patent, when discussing bottom portion 44, “makes clear that ‘flared’ is defined as ‘outward from a diameter of a mid portion 46’” of pin 26. PO Resp. 3 (citing Ex. 1001, 3:26–29).

Patent Owner further points to the dictionary definition submitted by Petitioner (Ex. 1014), which defines “flare” as “[t]o expand or open outward in shape; a skirt that flares from the waist; nostrils that flared with anger.” PO Resp. 4 (citing Ex. 1014, definition 4). Patent Owner argues that “[b]oth a skirt, and nostrils flare *about the circumference* of the center of the flared item.” *Id.* (emphasis added).

Thus, according to Patent Owner, the claimed “flared portion is ‘flared about the center axis of the pin,’ and must be sufficient to hold a

link.” PO Resp. 4; *see also id.* at 6. In particular, Patent Owner argues that the term “flared” requires more than “simply expanding or opening outward,” but further requires particular direction or amount of outward expansion. *Id.* at 4. In other words, Patent Owner argues that the “flared portion” must be sufficiently flared to be capable of holding a link in place, as also recited in the claim.

In its Reply, Petitioner argues that we should “reject Patent Owner’s narrow construction for ‘top flared portion’” “[f]or the same reasons addressed in [the] Decision Denying Patent Owner’s Request for Rehearing.” Pet. Reply 5 (referencing Paper 9 (“Dec. on Reh’g”)). Substantively, Petitioner repeats its argument from the Petition (Pet. 11)—namely, that “[b]ecause the claims do not limit the direction in which the top flared portion expands, . . . the direct[ion] of expansion can be in any direction, including laterally, radially, or axially.” Pet. Reply 5. Further according to Petitioner, the language “for holding a link in a desired orientation”⁶ “does not recite a positive structural limitation and thus should not be accorded patentable weight.” *Id.* at 5–6. Finally, Petitioner argues that the claim “does not require holding bands *while moving bands between the pins.*” *Id.* at 12 n.4.

As instructed by the Federal Circuit, “[e]ven under the broadest reasonable interpretation, [our] construction ‘cannot be divorced from the specification and the record evidence.’” *Microsoft v. Proxyconn*, 789 F.3d at

⁶ We note, the language in claim 3 is “the top portion comprises a flared portion *for holding a link in place*” and not the language from claim 1, argued by Petitioner, namely that the top portion is “for holding the link in a desired orientation.”

1298 (citations omitted). The '420 patent is titled “Brunnian Link Making Device and Kit.” Ex. 1001, at [54]. The entire written description of the '420 patent relates to forming Brunnian linked articles, thus suggesting that the “top portion compris[ing] a flared portion,” as claimed, must be capable of holding a link in place—a capability necessary to forming a Brunnian linked article. On that point, Mr. Ng, Patent Owner’s declarant,⁷ testifies:

Creation of a Brunnian link using a loom device requires grasping a portion of a lower band on a first pin and moving the grasped portion of the lower band through a top band on the same first pin to a second pin. If one of the lower band or the top band comes free from the first pin during movement of the lower band, the entire linked item would come loose and no link would be formed.

Accordingly, creation of Brunnian link requires that the top most band be held on the first pin while the grasped portion of the lower band is moved to the second pin

Ex. 2026 ¶¶ 25–26. This testimony is consistent with the description in the Specification of the '420 patent. *See* Ex. 1001, 2:43–46, 4:3–5, 4:17–30, Figs. 14A–C.

⁷ Petitioner argues that we should give Mr. Ng’s testimony less weight because he is the inventor of the '420 patent. *See* Tr. 12:17–24. Petitioner has not, however, moved to exclude Mr. Ng’s testimony. We have considered Petitioner’s argument, and given Mr. Ng’s testimony appropriate weight in rendering this Decision. Further, as the Federal Circuit has explained, expert testimony is not always necessary in Board proceedings. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1079 (Fed. Cir. 2015) (“Board members, because of expertise, may more often find it easier to understand and soundly explain the teachings and suggestions of prior art without expert assistance.”).

Further according to Mr. Ng,

For a link or rubber band to be held in place according to [the] invention [of the '420 patent], the flared top must expand outwardly at positions other than the sides of the pin.

* * * * *

A top portion, as disclosed in the '420 patent, includes a flange that expands outwardly around the pin and at locations other than the sides to hold the top band in place on the first pin when the lower band is moved.

During movement of the lower most band to the second pin, a portion of the lower band is slide around the sides of the first pin. During this sliding movement, the lower band moves between the flared portion and the top band at the sides of the first pin. The top band is therefore not held on the sides of the flared portion during this time. During this time the top band is held on the first pin by a forward side of the flared portion.

Ex. 2026 ¶¶ 24, 27–28. This testimony also is consistent with the description in the Specification of the '420 patent. *See* Ex. 1001, 2;43–46, 3:13–17, 3:31–33, 4:3–5, 4:17–30, Figs. 6–9, 14A–C.

We recognize that we previously chose to not adopt Patent Owner's proposed construction for the "flared portion." *See* Inst. Dec. 22–23; Dec. on Reh'g, 2–4. At institution, however, "the Board is considering the matter preliminarily without the benefit of a full record." *Trivascular, Inc.*, 812 F.3d at 1068. As the Federal Circuit has recognized, "[t]he Board is free to change its view of the merits after further development of the record, and *should do so* if convinced its initial inclinations were wrong. To conclude otherwise would collapse these two very different analyses into one." *Id.* We stated explicitly in the Decision on Institution that "we [had] not made a final determination with respect to the patentability of any challenged claim or the construction of any claim term." Inst. Dec. 26. Accordingly, both

parties were put on express notice that the claim construction set forth in the Decision on Institution was not final and could change in the Final Written Decision. Both parties were afforded adequate process by which to address any argument supporting their views as to the proper claim construction, in the Patent Owner Response and Petitioner's Reply.

Based on the entire record now before us, we agree with Patent Owner that the claimed “the top portion compris[ing] a flared portion for holding a link in place,” requires the top portion of the pin must flare about the circumference of the pin in such a manner as to be capable of holding a link in place for forming a Brunnian link.⁸ In other words, the flared portion must be sufficient to prevent errant release of a link, thereby to achieve the purpose of the '420 patent, that is, the forming of Brunnian links. We give terms their broadest reasonable interpretation, and given the particular facts presented here, it would be unreasonable to read the claim term that requires “a flared portion for holding a link in place” to embrace a portion incapable of holding a link in place and, thus, incapable of forming Brunnian links.

D. Anticipation by La Croix

Petitioner asserts that claim 3 is anticipated by La Croix. Pet. 44–49. Patent Owner argues that La Croix does not disclose certain features recited in claim 3. PO Resp. 7–9; Ex. 2026 ¶¶ 11–13, 21, 23–41. We have reviewed the entire record before us, including the parties' contentions and

⁸ Unlike in *SAS Institute, Inc. v. ComplementSoft, LLC*, 825 F.3d 1341 (Fed. Cir. 2016), Petitioner in the present proceeding did, in fact, have notice of this construction. See, e.g., PO Resp. 2–4 (arguing our initial construction of this claim phrase was unreasonably broad, and proposing an alternative similar to the construction adopted in this Decision); Pet. Reply 4–7 (responding to Patent Owner's argument on that point).

supporting evidence presented during this trial. For the reasons explained below, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that claim 3 is unpatentable as anticipated by La Croix.

Petitioner relies on board 1 of La Croix as disclosing the base recited in claim 1. Pet. 45–46 (citing Ex. 1012, 1:5–11, 1:35–38, Fig. 1; Ex. 1015 ¶ 59). Petitioner further relies on cotter pins 3 as disclosing the claimed plurality of pins. *Id.* at 44, 46–48 (citing Ex. 1012, 1:44–47, Figs. 1, 2; Ex. 1015 ¶¶ 59–60). According to Petitioner, the cotter pins of La Croix include round head 7, thus disclosing a “top portion for holding a link in a desired orientation,” as recited in claim 1. Pet. 45, 47 (citing Ex. 1012, Fig. 3; Ex. 1015 ¶¶ 59–60). Petitioner further asserts that the enlarged top portion of each cotter pin 3 is “flared,” as recited in claim 3. Pet. 48–49 (citing Ex. 1012, Fig. 3; Ex. 1015 ¶¶ 62–63). Petitioner relies on the two leg portions 5 and eyelet 6 as disclosing the claimed “opening on at least one side” of the pins. Pet. 45, 47–48 (citing Ex. 1012, Fig. 3; Ex. 1015 ¶¶ 59–60). Finally, Petitioner points to Figures 1 and 2 of La Croix as disclosing that cotter pins 3 are arranged in “rows of offset pins spaced apart and extending upward from the base.” Pet. 44–45 (citing Ex. 1012, 1:43–44, Figs. 1, 2).

Patent Owner argues that La Croix is missing several features of claim 3. See PO Resp. 7–9; Ex. 2026 ¶¶ 11–13, 21, 23–41. We focus our discussion on Patent Owner’s assertions regarding the claimed “top portion [of each pin] compris[ing] a flared portion for holding a link in place.” Patent Owner argues that the cotter pins of La Croix are not capable of

“holding a link in place” as recited in the claim. PO Resp. 8; Ex. 2026

¶¶ 23–35. Mr. Ng testifies:

The cotter pins utilized in the La Croix knitting board^[9] do not include a flared portion that expands outwardly around the pin. Instead, the cotter pins used with the La Croix knitting board include an enlarged head that extends along only two (2) sides.

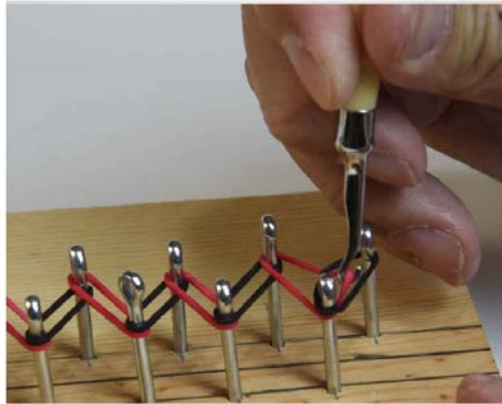
While bands can be placed on the cotter pins of the La Croix knitting board, the cotter pins do not hold the bands in place while moving bands between the pins for forming a Brunnian link

The lack of a top portion that expands outwardly other than on the sides of the cotter pin means that during formation of a Brunnian link, the band is not held in place and comes free.

Ex. 2026 ¶¶ 30–32. As support for the assertion that cotter pins are not capable of “holding a link in place,” Mr. Ng also “included pictures of [his] attempt at making Brunnian links utilizing the cotter pins of the La Croix knitting board.” *Id.* ¶ 32.

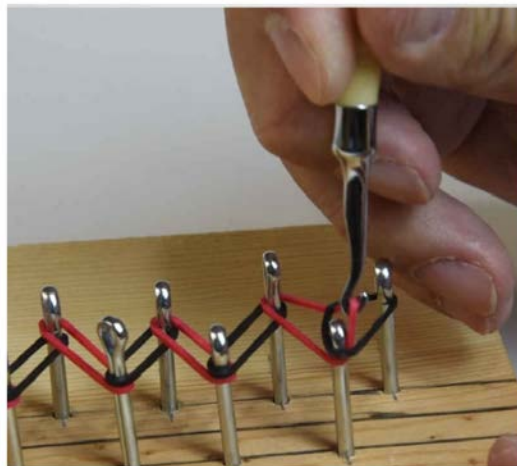
⁹ In his Declaration, Mr. Ng discusses a “mock-up of the knitting board [he] created according to the La Croix disclosures.” Ex. 2026 ¶ 29. We rely on and cite to Mr. Ng’s pictures of this mock-up included at ¶¶ 33–39 of his Declaration merely as illustrative of Patent Owner’s arguments.

A first picture of Mr. Ng's mock-up of La Croix's knitting board is reproduced below (*id.* ¶ 33):



The above picture “shows grasping of the lower band (red rubber band) and the initial pulling of the grasped portion of the lower band through a top band (black rubber band).” *Id.* This corresponds to a step similar to that of Figure 14A of the '420 patent. *See* Ex. 1001, 4:17–22.

The next of Mr. Ng's pictures is reproduced below (Ex. 2026 ¶ 34):

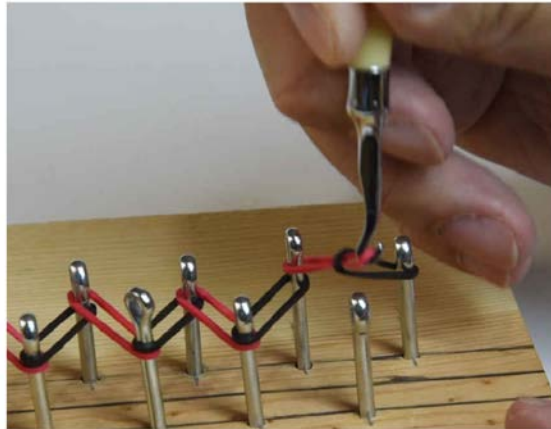


According to Mr. Ng, the above picture “shows the lower red band being pulled up through the top black band.” *Id.* This corresponds to a step similar to that of Figure 14B of the '420 patent. *See* Ex. 1001, 4:22–26. However, in the above picture, different from the '420 patent,

one side of the top black band has already fallen off a side of the cotter pin. The front side of the top black band has also moved off the head of the cotter pin. The remaining side is all that holds the top black band in place and the bottom red band has not yet completed movement.

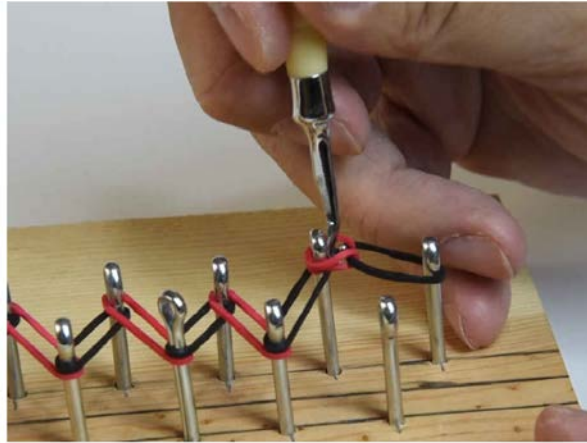
Ex. 2026 ¶ 34

The next of Mr. Ng's pictures is reproduced below (*id.* ¶ 35):



According to Mr. Ng, the above picture “illustrates the moment that the bottom red band was pulled upward from the previous picture and the top black band released from the cotter pin. The cotter pin was not able to hold the top black band in place while the lower red band was moved to the second pin.” *Id.* This release of the black band is in contrast to what is shown in Figure 14C of the ’420 patent, in which band 56 is retained on each of the original pins on which it was placed. See Ex. 1001, Fig. 14C; see also *id.* at 4:31–36 (“The example illustrated in FIGS. 14A, 14B and 14C illustrate[s] a chain formed from a single row of links. The example base template 12 can be arranged to support many pin bars 14 and therefore links can be formed longitudinally and laterally across adjacent pin bar 14 to form a wide variety of link configurations and combinations.”), Figs. 12, 13.

Mr. Ng continues that “[t]he bottom red band was placed on the second pin manually to repeat the attempt to make a Brunnian Link once a first link is made.” Ex. 2026 ¶ 36. Another of Mr. Ng’s pictures is reproduced below (*id.* ¶ 38):

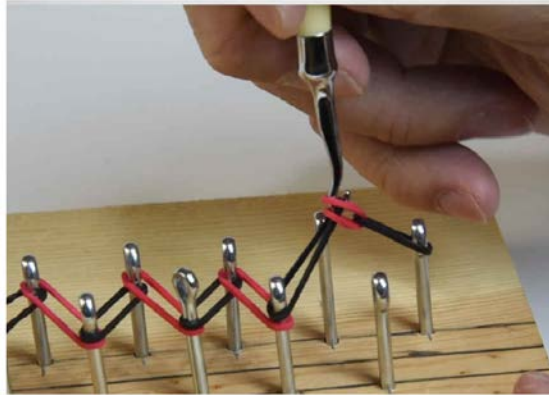


According to Mr. Ng, this picture “shows the beginning movement of the lower black band through the top red band.” *Id.* Mr. Ng continues, “[a]s is shown the top red band is held in place on either side of the cotter pin while the lower black band is just starting to be pulled through the center of the folded over red band.” *Id.* However, according to Mr. Ng,

Once the black band is pulled further upward through the top red band, . . . the sides of the top red band become dislodged due to the lower black band coming around the sides of the cotter pin head inside of the top red band. Because the cotter pin head

is only on the two sides, once those sides are released, nothing is present to hold the band in place and it comes off the cotter pin.

Id. ¶ 39. This is shown in the picture reproduced below (*id.*):



The above picture illustrates the top red band having become dislodged from the pin. *See id.* Mr. Ng concludes:

As evidenced in the above pictures, the head of the cotter pin is not functional to hold the rubber band links in place during an attempt to create a Brunnian link. As shown in the pictures, once the lower band is pulled between the sides of the top band, the top band comes free because there is no flange or flare on a forward part of the pin.

Id. ¶ 40.

In its Reply, Petitioner does not argue or provide evidence against Patent Owner's assertions, as discussed above. Instead, Petitioner argues that "Patent Owner's entire Response . . . rises or falls on the Board narrowly construing" certain terms, including "the top portion comprises a flared portion for holding a link in place." Pet. Reply. 1. We have discussed our construction of "the top portion comprises a flared portion for holding a link in place," above (*see supra* Section II.C). As discussed, based on the entire record now before us, we agree with Patent Owner that the claimed "the top portion compris[ing] a flared portion for holding a link in place," requires the top portion of the pin must flare about the circumference of the

pin in such a manner as to be capable of holding a link in place for forming a Brunnian link.

The arguments in Petitioner’s Reply that La Croix teaches the cotter pins include a “top portion compris[ing] a flared portion for holding a link in place” are premised on its proffered construction (*see* Pet. Reply 11–12), which we do not adopt for purposes of this Decision. It is Petitioner’s burden to prove unpatentability by a preponderance of the evidence, including proving that the cited reference teaches all elements of the claims, as properly construed. *See* 35 U.S.C. § 316(e). As the Federal Circuit has noted,

[i]n an *inter partes* review, the burden of persuasion is on the petitioner to prove “unpatentability by a preponderance of the evidence,” and that burden never shifts to the patentee. “Failure to prove the matter as required by the applicable standard means that the party with the burden of persuasion loses on that point—thus, if the fact trier of the issue is left uncertain, the party with the burden loses.”

Dynamic Drinkware, 800 F.3d at 1378–79 (citations omitted). Other than arguing that Petitioner disagrees with Patent Owner’s proposed construction, Petitioner does not present evidence to rebut Patent Owner’s assertion that the cotter pins of La Croix are not flared about the circumference of the center of the pin in such a manner as to be capable of holding a link in place for forming a Brunnian link.

Based on the evidence of record, and for the reasons discussed, we determine Petitioner has not shown, by a preponderance of the evidence, that La Croix anticipates claim 3.

E. Obviousness in View of La Croix

Petitioner asserts also that claim 3 would have been obvious in view of La Croix. Pet. 51–52. Patent Owner argues that La Croix does not disclose certain features recited in claim 3, and that various secondary considerations provide additional evidence of non-obviousness. See PO Resp. 7–12; Ex. 2026 ¶¶ 11–13, 21, 23–41, 44, 48–59. We have reviewed the entire record before us, including the parties’ contentions and supporting evidence presented during this trial. For the reasons explained below, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that claim 3 is unpatentable as obvious in view of La Croix.

As stated in our Decision on Institution, the determination that Petitioner had established a reasonable likelihood of prevailing in showing that claim 3 would have been obvious in view of La Croix was “not based on anything more than the express disclosure of La Croix asserted by Petitioner in its anticipation challenge based on La Croix (i.e., Petitioner has not established that it would have been obvious to add any feature that is not expressly disclosed in La Croix).” Inst. Dec. 25.

For the same reasons discussed above with respect to Petitioner’s anticipation challenge to claim 3, we are not persuaded that Petitioner has shown that La Croix teaches or suggests pins having “top portion[s] compris[ing] a flared portion for holding a link in place,” as recited in claim 3. Because we are not persuaded that Petitioner has shown that La Croix discloses or suggests all of the elements of claim 3, we need not reach Patent Owner’s evidence of secondary considerations (see PO Resp. 10–12).

Based on the evidence of record, and for the reasons discussed, we determine Petitioner has not shown, by a preponderance of the evidence, that La Croix renders claim 3 obvious.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not demonstrated, by a preponderance of the evidence, that claim 3 is unpatentable under 35 U.S.C. § 102 as anticipated by La Croix, or that claim 3 is unpatentable under 35 U.S.C. § 103 as obvious in view of La Croix.

IV. ORDER

Accordingly, it is:

ORDERED that claim 3 of U.S. Patent No. 8,684,420 B2 has not been shown to be unpatentable by a preponderance of the evidence; and

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

IPR2015-01883
Patent 8,684,420 B2

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