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Paper 79
Entered: November 21, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CORNING OPTICAL COMMUNICATIONS RF, LLC,
Petitioner,

v.

PPC BROADBAND, INC.,
Patent Owner.

Case IPR2013-00340
Patent 8,323,060 B2

Before JAMESON LEE, JOSIAH C. COCKS, and MICHAEL R. ZECHER, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

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

I. BACKGROUND

Petitioner, Corning Optical Communications RF, LLC[1] ("Corning"), filed an amended Petition requesting an *inter partes* review of claims 1–9 of U.S. Patent No. 8,323,060 B2 (Ex. 1001, "the '060 patent"). Paper 5 ("Pet."). Patent Owner, PPC Broadband, Inc. ("PPC"), did not file a Preliminary Response. The Board determined that the information presented in the Petition demonstrated that there was a reasonable likelihood that Corning would prevail in challenging claims 1–9 as unpatentable under 35 U.S.C. § 103(a). Pursuant to 35 U.S.C. § 314, the Board instituted this proceeding on November 26, 2013, on the ground that these claims are unpatentable under 35 U.S.C. § 103(a) over the combination of Matthews[2] and Tatsuzuki.[3] Paper 18 ("Dec.").

During the course of this proceeding, PPC timely filed unredacted and redacted versions of a Patent Owner Response (Papers 32 and 33, "PO Resp."), a Revised Motion to Seal and proposed Protective Order (Paper 42), and three additional Motions to Seal (Papers 45, 61, 71), each of which is subject to the same proposed Protective Order. Corning timely filed a Response to PPC's Revised Motion to Seal (Paper 43), its own Motion to Seal (Paper 47), and a Substitute Reply to the Patent Owner Response (Paper 54, "Pet. Reply").

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[1] During the course of this proceeding, Petitioner filed an updated mandatory notice indicating that Corning Gilbert Inc., the original Petitioner in this proceeding, changed its name to Corning Optical Communications RF, LLC. Paper 26, 1.

[2] Matthews, US 2006/0110977 A1, published May 25, 2006 (Ex. 1004).

[3] Tatsuzuki, JP 2002-015823, published Jan. 18, 2002 (Ex. 1033) (English translation Ex. 1002).

PPC filed a Motion to Exclude seeking to exclude portions of a Declaration and deposition testimony of Mr. Donald Burris, Development and IP Manager at Corning, that were relied upon by Corning in its Substitute Reply to the Patent Owner Response. Paper 57, "Mot. to Exclude." Corning filed an Opposition to PPC's Motion to Exclude. Paper 63, "Exclude Opp." PPC filed a Reply to Corning's Opposition. Paper 67, "Exclude Reply."

A consolidated oral hearing was held on July 24 and 25, 2014, in relation to this proceeding and the following four other related proceedings involving the same parties: (1) IPR2013-00342; (2) IPR2013-00345; (3) IPR2013-00346; and (4) IPR2013-00347. Transcripts of the entire consolidated oral hearing are included in the record. Papers 76–78. In particular, Paper 77 ("Tr.") corresponds to the transcript from the first session of the consolidated oral hearing, held the morning of July 24, 2014, and pertains to this proceeding and IPR2013-00345.

We have jurisdiction under 35 U.S.C. § 6(c). This decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of claims 1–9 of the '060 patent. For the reasons discussed below, Corning has demonstrated by a preponderance of the evidence that these claims are unpatentable under 35 U.S.C. § 103(a). PPC's Motion to Exclude is denied.

A. Related Matters

Corning indicates that PPC asserted the '060 patent against it in *PPC Broadband, Inc. v. Corning Gilbert Inc.*, 5:12-cv-0911-GLS-DEP, which was filed in the United States District Court for the Northern District of New York. Pet. 1. In addition, Corning filed five other petitions seeking *inter*

partes review of the following patents owned by PPC: (1) the ’060 patent (IPR2013-00342); (2) U.S. Patent No. 8,313,353 B2 (“the ’353 patent”) (IPR2013-00343 and IPR2013-00345); and (3) U.S. Patent No. 8,287,320 B2 (IPR2013-00346 and IPR2013-00347). *Id*. at 1–2.

On April 15, 2014, we granted PPC’s request in IPR2013-00343 to cancel claims 1–6 of the ’353 patent, i.e., all claims at issue in that proceeding, as well as PPC’s request for entry of adverse judgment against it in that case. IPR2013-00343, Paper 27.

B. The’060 Patent

The’060 patent generally relates to coaxial cable connectors having electrical continuity members that extend continuity of an electromagnetic interference shield from a cable through the connector. Ex. 1001, 1:18–22. Figure 1 of the ’060 patent, reproduced below, illustrates a cut-away view of the elements of coaxial cable connector 100 having electrical continuity member 70. *Id*. at 2:53–56, 5:66–6:1.

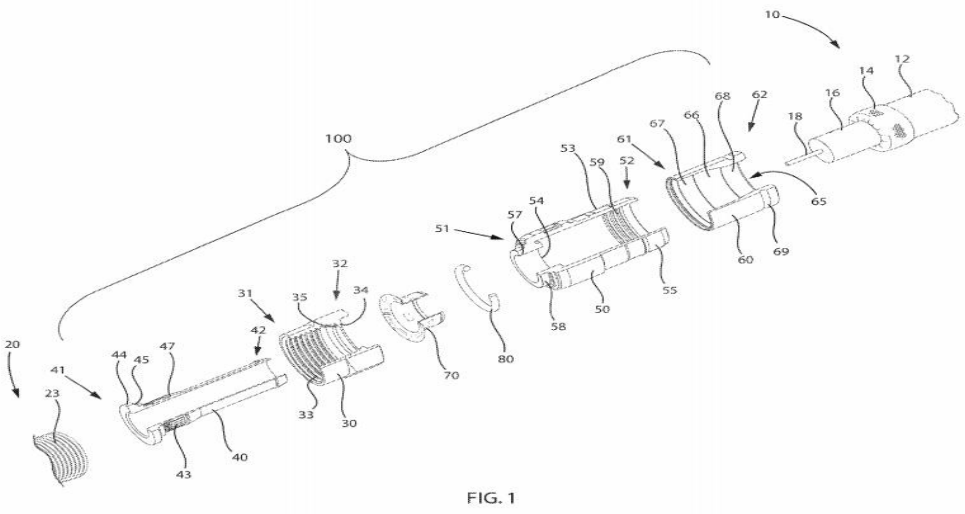


FIG. 1

As shown in Figure 1 of the ’060 patent, coaxial cable connector 100 may be affixed, or functionally attached, to coaxial cable 10 that includes

protective outer jacket 12, conductive grounding shield 14, interior dielectric 16, and center conductor 18. Ex. 1001, 6:1–5. Coaxial cable connector 100 also may include threaded nut 30, post 40, connector body 50, fastener member 60, continuity member 70 formed of conductive material, and connector body sealing member 80, e.g., a body O-ring configured to fit around a portion of connector body 50. *Id*. at 7:10–16.

The '060 patent discloses that post 40 includes first forward end 41, opposing second rearward end 42, and flange 44 located at first forward end 41. Ex. 1001, 8:5–10. Post 40 also may include surface feature 47, such as a lip or protrusion, which engages a portion of connector body 50 to secure axial movement of post 40 relative to connector body 50. *Id*. at 8:17–21. Connector body 50 includes first end 51, opposing second end 52, and post mounting portion 57 proximate or otherwise near first end 51 that is configured to locate securely connector body 50 relative to a portion of the outer surface of post 40. *Id*. at 8:66–9:9. The internal surface of post mounting portion 57 includes an engagement feature, which facilitates the secure location of continuity member 70 with respect to connector body 50 and/or post 40, by engaging physically continuity member 70 when assembled within coaxial cable connector 100. *Id*. at 9:9–14.

The '060 patent further discloses that threaded nut 30 includes first forward end 31, opposing second rearward end 32, and internal lip 34, e.g., an annular protrusion, located proximate to second rearward end 32. Ex. 1001, 7:17–26. In one embodiment, continuity member 70 includes first end 71, axially opposing second end 72, and post contact portion 77. *Id*. at 11:4–8. When coaxial cable connector 100 is assembled, post contact portion 77 makes physical and electrical contact with post 40, which, in turn,

helps facilitate the extension of electrical ground continuity through post 40. *Id*. at 11:8–11.

C. Illustrative Claim

Of the challenged claims, claim 1 is the only independent claim. Claims 2–9 directly or indirectly depend from independent claim 1. Independent claim 1 is illustrative of the '060 patent and reproduced below:

> 1. A connector for coupling an end of a coaxial cable, the coaxial cable having a center conductor surrounded by a dielectric, the dielectric being surrounded by a conductive grounding shield, the conductive grounding shield being surrounded by a protective outer jacket, the connector comprising:
>
> a post including a forward post end, a rearward post end, and a flange having a forward facing flange surface, a rearward facing flange surface, a lip surface extending from the rearward facing flange surface, and a continuity post engaging surface extending from the lip surface, wherein the rearward post end is configured to be inserted into an end of the coaxial cable around the dielectric and under at least a portion of the conductive grounding shield thereof to make electrical contact with the conductive grounding shield of the coaxial cable;
>
> a connector body having a forward body end, a rearward body end, and a continuity body engaging surface configured to fit the continuity post engaging surface of the flange of the post when the connector body is positioned around a portion of the post;
>
> a coupler configured to rotate relative to the post and the connector body, the coupler including a forward coupler end configured for fastening to an interface port and to move between a partially tightened coupler position on the interface port and a fully tightened coupler position on the interface port, a rearward coupler end, and an internal lip having a forward facing lip surface facing the forward coupler end and configured to rotate relative to the rearward facing flange surface of the post and allow the post to pivot relative to the coupler, a rearward facing lip surface facing the rearward

> coupler end, and an intermediate surface between the forward facing lip surface and the rearward facing lip surface, the intermediate surface configured to fit the lip surface of the flange of the post that extends from the rearward facing flange surface of the flange of the post; and
>
> a continuity member disposed only rearward of the forward facing lip surface of the internal lip of the coupler, the continuity member having a continuity based portion extending between the continuity post engaging surface of the post and the continuity body engaging surface of the connector body, and a continuity contact surface configured to be biased against the rearward facing lip surface of the internal lip of the coupler so as to maintain electrical continuity between the coupler and the post when the coupler is in the partially tightened position on the interface port, even when the coupler is in the fully tightened position on the interface port, and even when the post moves relative to the coupler.

Ex. 1001, 20:57–21:39.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe a claim by applying the broadest reasonable interpretation in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

1. "pivot" (claim 1)

In its Petition, Corning contends that the claim term "pivot" should be construed as "the rotational movement of the post relative to the coupler about the longitudinal axis of the connector." Pet. 6 (citing Ex. 1001, 8:2–4). In the Decision to Institute, we disagreed with Corning's overly narrow claim construction of the claim term "pivot," and instead construed this claim term as "including rotating." Dec. 7–9 (citing Ex. 1001, 8:2–4, 16:12–

15, 18:1–3; Ex. 1009, 43). PPC does not propose an alternative claim construction for this claim term in its Patent Owner Response, nor does Corning challenge our claim construction in its Reply. We discern no reason to alter our claim construction for this Final Written Decision.

2. "the body" (claim 3)

In its Petition, Corning contends that there is a lack of antecedent basis for "the body," as recited in dependent claim 3. Pet. 6. Claim 3 directly depends from independent claim 1, which recites "a connector body." Ex. 1001, 21:6. Therefore, Corning proposes that the claim term "the body" should be construed to mean "the connector body." Pet. 6. In the Decision to Institute, we adopted Corning's claim construction for dependent claim 3 because "a connector body," as recited in independent claim 1, provides sufficient antecedent basis for "the connector body." Dec. 9. PPC does not propose an alternative claim construction for this claim term in its Patent Owner Response. We discern no reason to alter our claim construction for this Final Written Decision.

3. "the continuity member having a continuity base portion extending between the continuity post engaging surface of the post and the continuity body engaging surface of the connector body and a continuity contact surface configured to be biased against the rearward facing lip surface of the internal lip of the coupler so as to maintain electrical continuity between the coupler and the post" (claim 1)

In its Patent Owner Response, PPC contends that the aforementioned claim limitation should be construed to require that "the continuity member makes ***consistent contact*** with the coupler/nut and the post to maintain a ***continuous electrical connection*** between the coupler/nut and the post." PO Resp. 18. To support its claim construction, PPC directs us to various

portions of the Specification of the ’060 patent, a dictionary definition of “continuity,” and the testimony of its expert, Dr. Charles A. Eldering. *Id*. at 17–18 (citing Ex. 1001, 13:15–20, 13:46–51, 14:25–35, 15:9–15, 16:10–22, 18:58–65, 19:1–4, 19:21–26, 20:31–35, Fig. 50; Ex. 2071, 6; Ex. 2074 ¶¶ 75–78).

In response, Corning contends that independent claim 1 does not require “consistent contact” and a “continuous electrical connection.” Pet. Reply 6 (citing Ex. 1001, 20:57–21:39). Corning argues that PPC’s proposed claim construction improperly imports limitations from the specification into the claims. *Id*. at 6–7. Corning also argues that, when applying the broadest reasonable construction standard, the claim term “continuity” does not require some undefined level of consistency, reliability, or robustness of an electrical connection over some undefined period of time. *Id*. at 8.

We agree with Corning in both respects. We must be careful not to read limitations from a particular embodiment appearing in the specification into the claim if the claim language is broader than that embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). If a feature in the disclosure is not necessary to give meaning to what the inventor means by a claim term, it would be “extraneous” and should not be read into the claim. *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co*., 849 F.2d 1430, 1433 (Fed. Cir. 1988).

PPC does not allege that the inventors of the ’060 patent acted as their own lexicographer and provided a special definition in the Specification of the ’060 patent for the claim term “continuity member” that is different from

its recognized meaning to one of ordinary skill in the art. Absent a special definition set forth in the Specification in the '060 patent, we decline to import limitations into the disputed claim limitation that would require the "continuity member" to make "consistent contact" with the coupler/nut and the post such that it maintains a "continuous electrical connection" between these components. Indeed, the claimed "continuity member" does not cease to be a continuity member, as would be understood by one of ordinary skill in the art, simply because the contact made between the coupler/nut and post may not be consistent to maintain a continuous electrical connection between these components.

We agree with Corning that the term "continuity" does not require some undefined level of consistency, reliability, or robustness of an electrical connection between the coupler/nut and post over some undefined period of time. PPC does not direct us to a well-defined or otherwise recognizable standard for making an objective determination as to how long a continuity member must make "consistent contact" with a coupler/nut and post to maintain "continuous electrical connection" between these components. If we were to read the requirements of "consistent contact" and a "continuous electrical connection" into the disputed claim limitation, that would interject ambiguity into the determination of claim scope because of the uncertainty arising from the meaning of "consistent" and "continuous."

Applying the broadest reasonable interpretation standard, we construe the disputed claim limitation to require that the continuity member need only make contact with the coupler/nut and the post to establish an electrical connection there-between.

4. "configured to fit" (claim 1)

In its Patent Owner Response, PPC contends that a surface "configured to fit" another surface should be construed as requiring that one surface "has a complementary size and shape as, and faces" the other surface. PO Resp. 23 (citing Ex. 2071, 8; Ex. 2074 ¶¶ 92–95). During oral argument counsel for PPC elaborated that, in requiring components that "face" one another, "configured to fit" excludes surfaces that are strictly perpendicular to one another, i.e., arranged at a right angle or 90 degree angle to one another. *E.g.*, Tr. 60–64. Counsel for PPC further represented that "configured to fit" does not require surfaces that are "perfectly parallel" (*id.* at 71), but, in response to queries from the panel, was unable to convey the extent of variation from parallel that is encompassed or permitted such that surfaces remain "configured to fit" one another, yet not parallel (*id.* at 66–72).

In response, Corning challenges PPC's proposed claim construction for the claim phrase "configured to fit." To that end, pointing in-part to the cross-examination testimony of its expert, Dr. Robert S. Mroczkowski, Corning contends that this disputed claim phrase "encompasses both (1) perpendicular surfaces that abut each other, and (2) parallel surfaces that face each other." Pet. Reply 9 (citing Ex. 1036, 159:7–8).

We note that the term "configured to fit" does not appear in the Specification of the '060 patent outside of independent claim 1. Although, as noted by both parties, the Specification of the '060 patent describes embodiments of the disclosed invention in which particular portions of a coaxial cable connector include "opposing complimentary surfaces," (e.g., Ex. 1001, 12:56–59, 17:20–23, 19:49–52, Fig. 50), contrary to PPC's

argument (PO Resp. 23), the Specification of the '060 patent does not associate such a configuration with the characteristic of being "configured to fit." PPC points us to a dictionary definition of "fit" as meaning to be a "proper size and shape for: *These shoes fit me*." *Id*. (citing Ex. 2071, 8). Both PPC's expert, Dr. Eldering, and Corning's expert, Dr. Mroczkowski, also explain that surfaces shaped to fit one another "need to be dimensioned to abut each other." Ex. 1036, 158:20–159:12; Ex. 2074 ¶ 93.

In that vein, we understand that surfaces are "configured to fit" one another if the surfaces are of an appropriate size and shape with respect to each other, and are dimensioned to abut one another. As noted above, the parties have differing views as to what extent surfaces, in being sized appropriately and dimensioned to abut, also must be recognized as facing each another. In that regard, the dispute centers on whether the surfaces, in being configured to fit each other, must "face" one another in a manner that excludes abutment of surfaces that are perpendicular.

It is not apparent to us that surfaces that abut one another, yet are perpendicular, do not "face" each other to some extent. To that end, surfaces that abut and touch, but are arranged at a 90-degree angle, while not directly opposed from one another, are nevertheless in a configuration in which the faces of the surfaces are exposed to one another. Put another way, surfaces that are perpendicular to one another are not separated by an obtuse angle so as to be regarded as diverging from one another. As noted above, although the Specification of the '060 patent depicts embodiments of the invention in which surfaces corresponding to those of the claims appear parallel to one another, it does not use the phrase "configured to fit" or

otherwise intrinsically associate such an arrangement as the sole configuration that constitutes surfaces that "fit" one another. That the Specification of the '060 patent depicts embodiments in which portions of a post and body are arranged parallel to one another does not, by itself, mandate that singular arrangement as the sole configuration presenting surfaces that are "configured to fit." The broadest reasonable construction of the term includes various positional interrelationships of the surfaces. As noted above, although PPC maintains that perpendicular surfaces are excluded from fitting one another, during oral argument, PPC's counsel was unable to express cogently how "configured to fit" encompasses surfaces arranged in a manner that deviates from parallel, but necessarily excludes perpendicular surfaces.

In considering the totality of the record before us, we conclude that components or surfaces that are "configured to fit" one another are sized and dimensioned to abut one another, but that such meaning does not categorically exclude an arrangement of the components in which they are situated perpendicularly with respect to one another.

5. "configured to arch away" (claim 8); and "arched above" (claim 9)

In its Patent Owner Response, PPC contends that the claim phrases "configured to arch away" and "arched above" each require a "smooth, continuous curve." PO Resp. 34. To support its claim construction, PPC directs us to the Specification of the '060 patent, the cross-examination testimony of Dr. Mroczkowski, the dictionary definition of "arch," the dictionary definition of "curve," and the testimony of Dr. Eldering. *Id*. at 17–18 (citing Ex. 1001, 18:45–65, Figs. 43–47, 51, 52; Ex. 1037, 309:8–16,

310:9–16, 316:21–317:6, 409:13–410:14; Ex. 1035; Ex. 2071, 7; Ex. 2074 ¶¶ 101–105).

In response, Corning contends that these claim phrases should be construed as "extend[ing] from [a] plane in the shape of an arch, and hav[ing] arched portions above the plane," however, this configuration does not preclude a "straight line." Pet. Reply 14–15. To support its claim construction, Corning directs us to the cross-examination testimony of Dr. Mroczkowski, the dictionary definition of "arch," and the cross-examination testimony of Dr. Eldering. *Id*. (citing Ex. 1037, 317:14–16, 411:8–13; Ex. 1035; Ex. 1056; Ex. 2077, 301:5–303:6).

Although the Specification of the '060 patent describes embodiments where a continuity member includes at least one flexibly raised portion "arched above" or "arch[ed] away from" the disc-like portion of the continuity member, e.g., Ex. 1001, 18:45–65, Figs. 43–47, 51, 52, there is no indication that the inventors of the '060 acted as their own lexicographer and provide a special definition for the claim phrases "configured to arch away" and "arched above" that are different from their recognized meanings to one of ordinary skill in the art. Therefore, we refer to its 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). Because the claim term "arch" is a commonly understood word, we will rely on a general purpose dictionary in ascertaining its meaning. *See Agfa Corp. v. Creo Prods., Inc.*, 451 F.3d 1366, 1376 (Fed. Cir. 2006).

THE RANDOM HOUSE COLLEGE DICTIONARY 69 (Revised ed. 1988) entered into the record by Corning, and referred to by Dr. Mroczkowski in

his re-direct testimony, defines "arch" as "something bowed or curved; or any bowlike part." Ex. 1035. We recognize, however, that a structure that is "bowed or curved," or has "any bowlike part," does not preclude the structure from also including some straight portions because the shape of structure, as whole, still would be considered bowed or curved.

Consequently, we construe the claim phrases "configured to arch away" and "arched above" to cover an elongated structure that includes "a bowed or curved portion" or "any bowlike part." We observe that such a structure may still include some straight portions. This claim construction is consistent with the ordinary and customary meaning of "arch," as would be understood by one with ordinary skill in the art in light of the '060 patent.

B. 35 U.S.C. § 103(a) Ground of Unpatentability Based on the Combination of Matthews and Tatsuzuki

In its Petition, Corning contends that claims 1–9 are unpatentable under 35 U.S.C. § 103(a) over the combination of Matthews and Tatsuzuki. Pet. 38–57. In support of this asserted ground of unpatentability, Corning relies upon claim charts to explain how the proffered combination teaches the claimed subject matter recited in each of these challenged claims, as well as the Declaration of Dr. Mroczkowski (Ex. 1007 ¶¶ 70–125) to support its positions. *Id.*

In its Patent Owner Response, PPC presents the following arguments: (1) the combination of Matthews and Tatsuzuki does not teach that the continuity member makes consistent contact with the coupler/nut and the post to maintain a continuous electrical connection between the coupler/nut and the post, as required by independent claim 1; (2) the combination of Matthews and Tatsuzuki does not teach that the continuity body engaging

surface of the connector body is configured to fit the continuity post engaging surface of the flange of the post when the connector body is positioned around a portion of the post, as required by independent claim 1; (3) Corning's expert, Dr. Mroczkowski, engaged in impermissible hindsight reconstruction when combining the teachings of Matthews and Tatsuzuki; (4) the combination of Matthews and Tatsuzuki does not teach that the continuity member includes a flexible portion configured to arch away or above the disc, as required by dependent claims 8 and 9; and (5) evidence of secondary considerations, on balance, outweighs the evidence supporting Corning's asserted grounds of unpatentability based on Matthews and Tatsuzuki. PO Resp. 16–60.

We begin our analysis with the principles of law that generally apply to a ground of unpatentability based on obviousness, followed by our determination regarding the knowledge level of a person with ordinary skill in the art, as well as brief discussions of Matthews and Tatsuzuki, and then we address each of PPC's arguments in turn.

1. Principles of Law

A claim is unpatentable under § 103(a) 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 skill in the art; and (4) where in evidence, so-called secondary considerations.

Graham v. John Deere Co., 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)). We analyze the ground of unpatentability based on the combination of Matthews and Tatsuzuki with the principles identified above in mind.

2. Level of Skill in the Art

In determining the level of skill in the art, various factors may be considered, including "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)).

There is evidence in the record before us that reflects the knowledge level of a person with ordinary skill in the art. Corning's expert, Dr. Mroczkowski, attests that a person with ordinary skill in the art would be an individual who possesses a bachelor's degree in engineering and several years of experience in the cable and telecommunications industry relating to the design and manufacture of coaxial cable connectors. Ex. 1007 ¶ 11. Dr. Mroczkowski also attests that ten or more years of experience in the art could be a substitute for a bachelor's degree in engineering. *Id*. PPC's expert, Dr. Eldering, generally agrees with Dr. Mroczkowski's assessment of the knowledge level of a person with ordinary skill in the art. Ex. 2074 ¶ 10. In addition, the prior art of record in this proceeding also is indicative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350,

1355 (Fed. Cir. 2001); *GPAC*, 57 F.3d at 1579; *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

3. Matthews

Matthews generally relates to a coaxial cable connector that includes at least one conductive member. Ex. 1004 ¶ 1. Figure 1 of Matthews, reproduced below, illustrates a sectional side view of coaxial cable connector 100. *Id*. ¶¶ 16, 26.

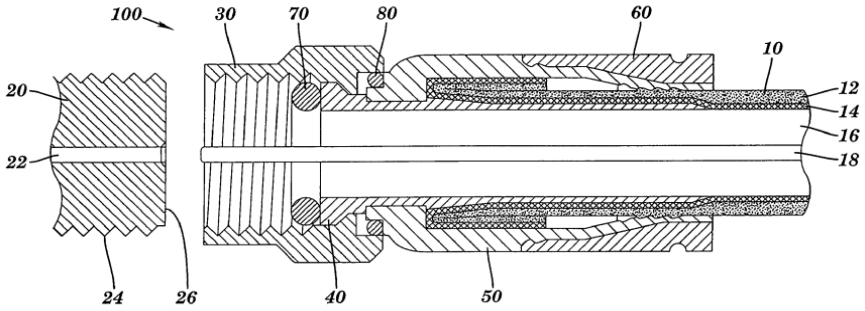


FIG. 1

As shown in Figure 1 of Matthews, coaxial cable connector 100 includes coaxial cable 10 that has protective outer jacket 12, conductive grounding shield 14, interior dielectric 16, and center conductor 18. Ex. 1004 ¶ 26. Coaxial cable connector 100 also may include threaded nut 30, post 40, connector body 50, fastener member 60, mating edge conductive member, e.g., O-ring 70, a connector body conductive member, e.g., O-ring 80, and a means for sealing and coupling connector body 50 and threaded nut 30. *Id*. ¶ 28.

Figure 3 of Matthews, reproduced below, illustrates a sectional side view of post 40. Ex. 1004 ¶¶ 18, 30.

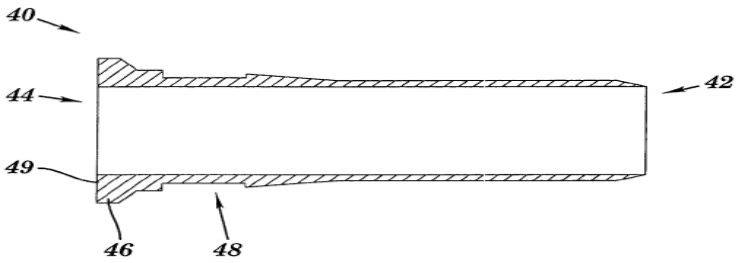


FIG. 3

As shown in Figure 3 of Matthews, post 40 includes first end 42, opposing second end 44, and flange 46 configured to contact internal lip 36 of threaded nut 30 (illustrated in Figure 2), thereby facilitating the prevention of axial movement of post 40 beyond contacted internal lip 36. Ex. 1004 ¶ 30. Post 40 also includes surface feature 48, e.g., a shallow recess, detent, cut, slot, or trough, and mating edge 49 configured to make physical and/or electrical contact with interface port 20 or mating edge member, e.g., O-ring 70 (illustrated in Figure 1). *Id*. In one embodiment, post 40 may be inserted into an end of coaxial cable 10, around interior dielectric 16 and under protective outer jacket 12 and conductive grounding shield 14. *Id*. Accordingly, substantial physical and/or electrical contact with conductive grounding shield 14 may be accomplished, thereby facilitating grounding through post 40. *Id*.

Figure 4 of Matthews, reproduced below, illustrates a sectional side view of connector body 50. Ex. 1004 ¶¶ 19, 31.

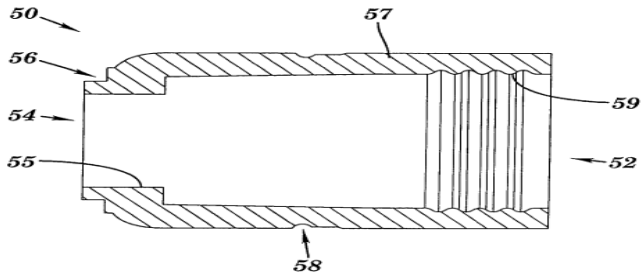


FIG. 4

As shown in Figure 4 of Matthews, connector body 50 includes first end 52, opposing second end 54, and internal annular lip 55 configured to engage surface feature 48 of post 40. Ex. 1004 ¶ 31.

Figure 2 of Matthews, reproduced below, illustrates a sectional side view of threaded nut 30. Ex. 1004 ¶¶ 17, 29.

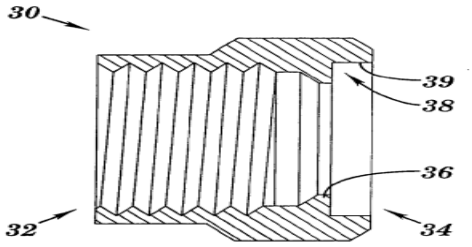


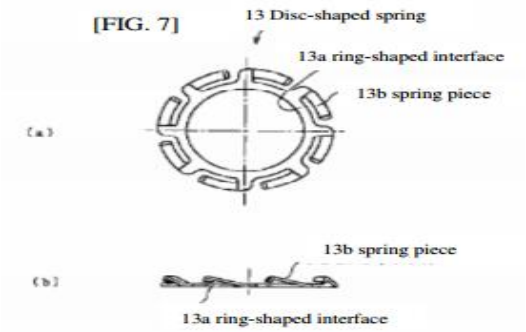
FIG. 2

As shown in Figure 2 of Matthews, threaded nut 30 includes first end 32, opposing second end 34, and internal lip 36 located proximate to second end 34 that is configured to hinder the axial movement of post 40. Ex. 1004 ¶ 29. Threaded nut 30 may be formed of conductive materials, thereby facilitating grounding through threaded nut 30. *Id.*

4. Tatsuzuki

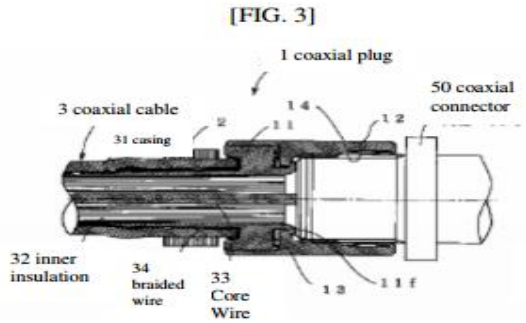
Tatsuzuki generally relates to a coaxial plug installed at the tip of a coaxial cable. Ex. 1002 ¶ 1. Tatsuzuki discloses installing a coaxial cable connector in reception devices, such as television satellite broadcasting tuners. *Id.* ¶ 2. Reception signals are inputted into these reception devices by fixing a coaxial plug installed at the tip of a coaxial cable to the coaxial cable connector. *Id.*

Figures 7(a) and 7(b) of Tatsuzuki, reproduced below, illustrate disc-shaped spring 13, and related side-view diagram, respectively. Ex. 1002 ¶ 17.



As shown in Figures 7(a) and 7(b) of Tatsuzuki, disc-shaped spring 13 is formed by stamp cutout processing of a thin metal plate possessing elasticity, e.g., phosphor bronze. Ex. 1002 ¶ 17. Disc-shaped spring 13 includes spring piece 13b and ring-shaped joining part 13a. *Id*. Spring piece 13b includes eight bent spring pieces, which are formed integrally by ring-shaped joining part 13a. *Id*.

Figure 3 of Tatsuzuki, reproduced below, illustrates a cross-section view of coaxial plug 1 securely installed in coaxial cable connector 50. Ex. 1002 ¶ 12.



As shown in Figure 3 of Tatsuzuki, coaxial plug 1 includes plug body 11 and rotary mounting element 12, which is fixed in a rotatable manner to plug body 11. Ex. 1002 ¶ 13. The electrical connection between ring-

shaped part 11c of plug body 11 and rotary mounting element 12 is facilitated by disc-shaped spring 13 interposed there between. *Id*. ¶ 17. Disc-shaped spring 13 is located within housing channel 11e (illustrated in Figure 2) and, therefore, is not pressed to the point of becoming flat, i.e., it does not lose its spring operation. *Id*.

5. The Combination of Matthews and Tatsuzuki Collectively Teaches That the Claimed Continuity Member Makes Contact with the Coupler/Nut and the Post to Maintain an Electrical Connection There-Between

Independent claim 1 recites, in relevant part:

> the continuity member having a continuity base portion extending between the continuity post engaging surface of the post and the continuity body engaging surface of the connector body and a continuity contact surface configured to be biased against the rearward facing lip surface of the internal lip of the coupler so as to maintain electrical continuity between the coupler and the post.

Ex. 1001, 21:29–35.

In its Petition, Corning contends that Matthews and Tatsuzuki collectively teach "a continuity member," as recited in independent claim 1. Pet. 44–45 (citing Ex. 1004 ¶¶ 28, 34–36, Figs. 1, 7; Ex. 1002 ¶¶ 1, 2, 16, Figs. 3, 7; Ex. 1007 ¶¶ 84–87, 94, 95). In particular, Corning acknowledges that, although Matthews discloses that connector 100 includes connector body conductive member 80, Matthews does not indicate that connector body conductive member 80 directly contacts post 40 so as to extend electrical grounding through post 40 and nut 30. *See, e.g.*, *id*. at 44 (citing Ex. 1004 ¶ 28, Fig. 1). Corning then relies upon Tatsuzuki's disc-shaped

spring 13 that promotes electrical connection between components of connector 50. *Id*. at 44–45 (citing Ex. 1002, Fig. 7).

Based on these cited disclosures, Corning asserts that both Matthews's connector body conductive member 80 and Tatsuzuki's disc-shaped spring 13 are positioned rearward of the forward facing lip surface of the internal lip of the nut. Pet. 50 (citing Ex. 1007 ¶ 88). Corning further asserts that both Matthews's connector body conductive member 80 and Tatsuzuki's disc-shaped spring 13 maintain conductivity between components of a connector. *Id*. Therefore, Corning contends that, because Matthews's connector body conductive member 80 and Tatsuzuki's disc-shaped spring 13 are positioned in the same general location to perform the same function (*id*.), it would have been obvious to one with ordinary skill in the art to modify Matthews's connector 100 by incorporating Tatsuzuki's disc-shaped spring 13 (Pet. 51 (citing Ex. 1004, Figs. 1, 7; Ex. 1007 ¶ 91)).

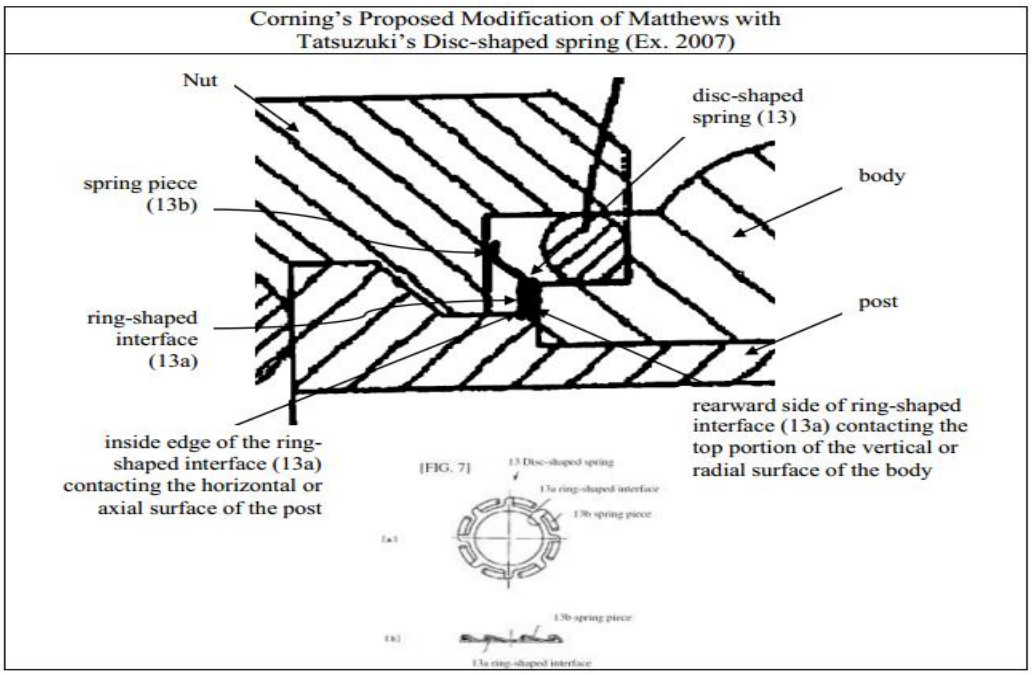
In its Patent Owner Response, PPC contends this disputed claim limitation should be construed to require that "'the continuity member makes ***consistent contact*** with the coupler/nut and the post to maintain a ***continuous electrical connection*** between the coupler/nut and the post.'" PO Resp. 18. PPC directs us to the cross-examination testimony of Dr. Mroczkowski, as well as the testimony of Dr. Eldering, to support its argument that Tatsuzuki's disc-shaped spring 13 only intermittently contacts Matthews's post 40 and, therefore, does not teach the "continuity post engaging surface," as recited in independent claim 1. *Id*. at 18–19 (citing Ex. 1036, 73:25–74:11, 76:6–11, 76:12–77:4, 96:10–25, 119:25–120:5, 123:11–17, 128:22–131:10; Ex. 2007; Ex. 2074 ¶¶ 80–83).

In its Reply, Corning contends that when the proper claim construction is applied, Matthews and Tatsuzuki collectively teach the disputed claim limitation. Pet. Reply. 10. Corning argues that Figure 3 of Tatsuzuki illustrates that disc-shaped spring 13 is disposed only rearward of the forward facing lip surface of the internal lip of the coupler/nut. *Id*. (citing Ex. 1007 ¶¶ 87, 88). Corning further argues that, for example, Tatsuzuki's disc-shaped spring 13 arranged in Matthews's connector 100 includes a portion of Tatsuzuki's disc-shaped spring 13 "'contact[ing] the rearward facing surface H2 of the internal lip 36 of the coupler 30 and also extends between the continuity post engaging surface of the post 40 and the continuity body engaging surface of the body 50.'" *Id*. at 10–11 (quoting Ex. 1007 ¶ 92; citing Ex. 2007; Ex. 2077, 268:2–12). Corning asserts that Dr. Eldering admitted that the aforementioned embodiment described by Dr. Mroczkowski satisfies this disputed claim limitation. *Id*. at 11 (citing Ex. 1034; Ex. 2077, 356:5–359:2).

As discussed previously, we are not persuaded that PPC's proposed claim construction of the claim limitation reproduced above constitutes the broadest reasonable interpretation. In particular, we are not persuaded that the independent claim 1 requires a continuity member that makes contact between the coupler/nut and the post in a manner that is "consistent" and facilitating only electrical connection that is "continuous," to the exclusion of other contact implementations. As we explained previously, applying the broadest reasonable interpretation standard, we conclude that the continuity member need only make contact with the coupler/nut and the post to establish an electrical connection there-between.

We note that Tatsuzuki discloses a coaxial connector that includes disc-shaped spring 13, which is purposed specifically to provide "electrical connection" between plug body 11 and rotary mounting element 12 of the connector. Ex. 1002, Abstract, ¶ 17. Tatsuzuki further characterizes the overall "object" of its disclosed invention as being "to provide a coaxial plug without deterioration of insertion loss characteristics and reflection loss characteristics even in the state when the coaxial plug is loosened." *Id*. ¶ 7. Corning explains that Tatsuzuki's disc-shaped spring 13 constitutes a continuity member because it promotes electrical connection between components of coaxial plug 1, particularly plug body 11 and mounting element 12. Pet. 50. That explanation is echoed by Dr. Mroczkowski. Ex. 1007 ¶ 86.

During the course of this proceeding, Dr. Mroczkowski explained possible approaches, from the perspective of one of ordinary skill in the art, in combining the teachings of the prior art so as to incorporate Tatsuzuki's disc-shaped spring 13 into Matthews's connector 100 in order to harness the electrical connection benefits of the disc-shaped spring. One such approach has received extensive evaluation by PPC, and is encompassed by a sketch provided by Dr. Mroczkowski during depositions taken in connection with this proceeding. An illustration of this sketch is reproduced below as it has been presented in the Patent Owner Response.



PO Resp. 12 (PPC presents an annotated version of Ex. 2007), 19 (PPC presents a clean version of Ex. 2007 with no annotations).

As offered by PPC, this illustration reproduced above depicts an opinion of Dr. Mroczkowski as to an implementation of Tatsuzuki's disc-shaped spring 13 positioned with respect to coupler/nut 30 and post 40 of Matthews's connector 100. *Id*. at 18–19. In considering the proposed incorporation of Tatsuzuki's disc-shaped spring 13 into Matthews's connector 100 shown in the illustration reproduced above, we are satisfied that it establishes a continuity member positioned to make contact with surfaces of Matthews's coupler/nut 30 and post 40 in the manner required by independent claim 1. In that regard, we conclude that Tatsuzuki's disc-shaped spring 13, when positioned in the manner depicted, would extend between, and facilitate electrical connection among, surfaces of a coupler/nut and a post of a coaxial cable connector. Furthermore, we also

credit Dr. Mroczkowski's testimony to that effect. *See, e.g.*, Ex. 1007, ¶¶ 92, 93.[4]

6. Matthews Teaches the Claimed Connector Body Having a Continuity Body Engaging Surface Configured to Fit the Continuity Post Engaging Surface of the Flange of the Post

Independent claim 1 recites, in relevant part, "a connector body having . . . a continuity body engaging surface configured to fit the continuity post engaging surface of the flange of the post when the connector body is positioned around a portion of the post." Ex. 1001, 21:6–10.

In its Petition, Corning contends that Matthews teaches this disputed claim limitation. Pet. 41 (citing Ex. 1004, figs, 1, 4, 7; Ex. 1007 ¶¶ 77, 78). In particular, Corning argues that Figure 7 of Matthews illustrates that connector body 50 includes a continuity body engaging surface. *Id*. Corning further argues that Figure 7 of Matthews also illustrates that the continuity body engaging surface of connector body 50 is configured to fit the continuity post engaging surface of flange 46 of post 40 when connector body 50 is positioned around a portion of post 40. *Id*.

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[4] We are not persuaded by PPC's argument that Dr. Mroczkowski's opinions should be accorded "little to no weight" because Dr. Mroczkowski has indicated that his experience is not directed specifically to the design and operation of the particular connectors associated in some respect to PPC's patents. PO Resp. 10–11. The record reflects that Dr. Mroczkowski has considerable background and experience relevant to the coaxial cable connector industry. Ex. 1007 ¶¶ 1–4; Ex. 1008. There is no requirement that a witness must have personal familiarity with a particular product to provide meaningful testimony as to the perspective of one of ordinary skill in a particular art or technological field. *See, e.g.*, *SEB S.A. v. Montgomery Ward & Co.*, Inc. 594 F.3d 1360, 1373 (Fed. Cir. 2010).

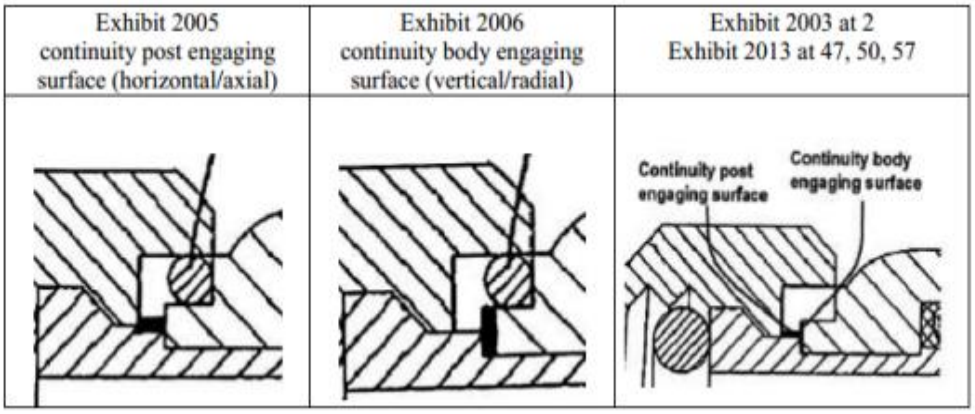
In its Patent Owner Response, PPC contends that a surface "configured to fit" another surface should be construed as requiring that one surface "has a complementary size and shape as, and faces" the other surface. PO Resp. 23. PPC then directs us to Dr. Mroczkowski's cross examination testimony, as well as the testimony of Dr. Eldering, to support its argument that Matthews's continuity post engaging surface and the continuity body engaging surface are perpendicular to, and do not face, each other. *Id*. at 24 (citing Ex. 1036, 111:11–112:21, 115:13–116:25, 163:2–6, 165:17–23; Ex. 2003, 2; Ex. 2005; Ex. 2006; Ex. 2013, 47, 50, 57; Ex. 2074 ¶ 96, 97). PPC asserts that Dr. Mroczkowski's testimony during cross-examination, which includes the sketches he produced during the course of his testimony that represent possible approaches for combining the teachings of Matthews and Tatsuzuki, confirms that Matthews's continuity post engaging surface does not have a complementary size and shape as, and does not face, the continuity body engaging surface. *Id*. at 24–25 (citing Ex. 2003, 2; Ex. 2006).

In its Reply, Corning disagrees with PPC's proposed claim construction, and instead construes the claim phrase "configured to fit" as "encompass[ing] both (1) perpendicular surfaces that abut each other, and (2) parallel surfaces that face each other." Pet. Reply 11. Corning then argues that two possible approaches taken by Dr. Mroczkowski during his cross-examination satisfy its proposed claim construction. *Id*. at 11–12 (citing Exs. 2005–2007 (illustrating perpendicular surfaces that abut each other); Exs. 1034, 1039, 2008 (illustrating parallel surfaces that face each other)). Corning asserts that Tatsuzuki's disc-shaped spring 13 is configured to extend "'between the continuity post engaging surface of [Matthews's]

post 40 and the continuity body engaging surface of [Matthews's] body 50.'" *Id*. at 12 (citing Ex. 1007 ¶ 92).

As discussed previously, we are not persuaded that PPC's proposed claim construction of the claim phrase "configured to fit." In particular, we disagree with PPC's proposed claim construction because it excludes categorically surfaces that are configured in a perpendicular relationship. Instead, we conclude that components or surfaces that are "configured to fit" one another are properly sized and dimensioned to abut one another.

As we mentioned previously, during the course of this proceeding, Dr. Mroczkowski explained possible approaches, from the perspective of one of ordinary skill in the art, in combining the teachings of the prior art so as to incorporate Tatsuzuki's disc-shaped spring 13 into Matthews's connector 100 in order to harness the electrical connection benefits of the disc-shaped spring. Some of these possible approaches are encompassed by sketches provided by Dr. Mroczkowski during depositions taken in connection with this proceeding. Illustrations of those sketches are reproduced below as they have been presented in the Patent Owner Response.



PO Resp. 24.

As offered by PPC, the illustrations reproduced above depict Dr. Mroczkowski's possible approaches as to horizontal and vertical surfaces of Matthews's flange 46 of post 40 and connector body 50 in connector 100. *Id*. at 23–24. In considering the proposed incorporation of Tatsuzuki's disc-shaped spring 13 into Matthews's connector 100 shown in the illustrations above, we are satisfied that Matthews's flange 46 of post 40 and connector body 50 are properly sized and dimensioned to abut one another in the manner required by independent claim 1. In that regard, we conclude that the particular horizontal and vertical surfaces marked on Matthews's flange 46 of post 40 and connector body 50 are understood reasonably as constituting surfaces that are configured to fit one another.

7. Corning Provides a Sufficient Rationale to Combine the Teachings of Matthews and Tatsuzuki

In the Petition, Corning contends that modifying Matthews's connector 100 by incorporating Tatsuzuki's disc-shaped spring 13 would create an arrangement that promotes electrical continuity by providing an alternative ground path directly between Matthews's coupler/nut 30 and post 40 so that connector body 50 may be made of non-conductive material. Pet. 52–54. Corning relies upon the testimony of Dr. Mroczkowski to support its argument that a person with ordinary skill in the art at the time of the invention would have recognized this benefit and, therefore, would have been motivated to make this modification. *Id*. at 53–54 (citing Ex. 1007 ¶¶ 93, 95, 96).

In its Patent Owner Response, PPC relies upon the cross-examination testimony of Dr. Mroczkowski, including the sketches he produced during the course of his testimony that represent possible approaches for combining

the teachings of Matthews and Tatsuzuki, to support its argument that Dr. Mroczkowski engaged in impermissible hindsight reconstruction when assessing whether the challenged claims are unpatentable over the cited prior art. PO Resp. 25–33 (citing Ex. 1034; Ex. 2005; Ex. 2007; Ex. 2008).

In its Reply, Corning relies upon Dr. Mroczkowski's testimony to support its argument that one of ordinary skill in the art would have recognized that there are multiple ways to incorporate Tatsuzuki's disc-shaped spring 13 into Matthews's connector 100. Pet. Reply 2 (citing Ex. 1007 ¶¶ 91–93. Corning argues that, in one approach, Tatsuzuki's disc-shaped spring 13 may be positioned on the outer surface of Matthews's post 40. *Id*. (citing Exs. 2005–2007). Corning argues that, in a second approach, Tatsuzuki's disc-shaped spring 13 may be sandwiched between Matthews's post 40 and connector body 50. *Id*. (citing Ex. 1034; Ex. 1039; Ex. 2008). With respect to the second approach, Corning directs our attention to another prior art reference directed to coaxial cable connectors that was introduced into the record by PPC—namely, U.S. Patent No. 7,114,990 ("Bence '990 patent").[5] *Id*. at 4. Corning asserts that, upon being questioned about Bence during cross-examination, Dr. Eldering admits that sandwiching a continuity member between a post and a body is a well-known technique for incorporating a continuity member into a connector. *Id*. (citing Ex. 2076, 190:10–21).

[5] When PPC filed its Patent Owner Response, it entered the Bence '990 patent into the record as Exhibit 2024. Paper 31. When Corning filed its initial Reply to the Patent Owner Response, it also entered the Bence '990 patent into the record as Exhibit 1038. Paper 48.

We understand PPC's argument to be that our obviousness evaluation here requires that we consider only a single approach for combining the teachings of Matthews and Tatsuzuki that was presented by Dr. Mroczkowski—namely the approach illustrated in Ex. 2007 reproduced above—without recourse to any other assessment of the viewpoint of one of ordinary skill in the art in so combining the teachings. *See* PO Resp. 25–33. A person of ordinary skill in the art is a person of ordinary creativity, not an automaton. *KSR*, 550 U.S. at 421. A person of ordinary skill and creativity would have recognized that combining the teachings of Matthews and Tatsuzuki does not mandate a singular approach for combining those references that precludes consideration of other such approaches. Indeed, the evidence of record reflects that a person of ordinary skill in the art would have known of other approaches for positioning a continuity member between a body and post of a coaxial cable connector. For instance, as we explained above, upon being questioned about the Bence '990 patent during cross-examination, PPC's own expert witness, Dr. Eldering, testified that it was known in the art that a continuity member may be "sandwiched" between the body and post. Ex. 2076, 190:16–21.

Although the Bence '990 patent is not a reference that has been offered by Corning as the basis of its asserted ground of unpatentability instituted in this proceeding, it is a reference providing evidence of the level of ordinary skill in the art. "The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art." *GPAC*, 57 F.3d at 1579 (citing *Custom Accessories, Inc.*, 807 F.2d at 962). As noted above, the level of ordinary skill in the art is reflected by the prior art of record. What is described by the Bence '990 patent is indicative of the

level of ordinary skill in the art. Moreover, "the knowledge of such an artisan is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious." *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013).

According to the Supreme Court, "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." *KSR*, 550 U.S. at 421. In this case, there is a design need to solve a problem, i.e., Tatsuzuki provides evidence that its disc-shaped spring 13 operates to establish electrical connection between components in a coaxial cable connector, and that such an arrangement is intended to address "deterioration of insertion loss characteristics and reflection loss characteristics even in the state when the coaxial plug is loosened." Ex. 1002 ¶ 7. There also is a finite number of identified, predictable solutions, i.e., Matthews, Tatsuzuki, and the Bence '990 patent provide evidence that one of ordinary skill in the art would have known that there is not a sole location recognized for positioning a continuity member in a coaxial cable connector; however, there are a limited number of possible positions for such a continuity member. Exs. 1002, 1004, 1038, 2024. As such, an ordinarily skilled artisan would have had reason to pursue known options within his or her technical grasp when contemplating where, and how, to position Tatsuzuki's disc-shaped spring 13 in Matthews's connector 100.

In considering the entirety of the record, we are persuaded that Tatsuzuki's disc-shaped spring 13 forms a continuity member as required by independent claim 1. We also are satisfied that one of ordinary skill in the

art would have appreciated that Tatsuzuki's disc-shaped spring 13 may be arranged in Matthews's connector 100 so as to form a continuity member positioned in the manner required by independent claim 1. In that respect, instead of presenting reasoning that is based on impermissible hindsight reconstruction as is urged by PPC, Corning has articulated reasoning with rational underpinnings in urging that an ordinarily skilled artisan would have incorporated Tatsuzuki's disc-shaped spring 13 into connector 100 so as to harness the electrical connectivity benefits attributed to this arrangement.

8. Tatsuzuki Teaches a Continuity Member with a Flexible Portion that Arches Away or Above the Disc

Dependent claim 8 recites "the continuity member includes a disc-like portion and a resilient flexible portion connected to the disc-like portion and *configured to arch away* from a plane of the disc-like portion of the continuity member." Ex. 1001, 21:63–67 (emphasis added). Dependent claim 9 recites "wherein the continuity member includes a plurality of flexible portions, the plurality of flexible portions forming symmetrical portions *each arched above* the general plane of the disc. *Id*. at 22:1–4 (emphasis added).

In its Petition, Corning contends that Tatsuzuki's disc-shaped spring 13 includes ring-shaped surface 13a and spring pieces 13b. Pet. 49, 56–57 (citing Ex. 1002 ¶ 17, Figs. 3, 7; Ex. 1007 ¶¶ 119, 120, 123, 124). Corning argues that Tatsuzuki's spring pieces 13b are connected to ring-shaped surface 13a and are configured to arch away or arched above the plane of the ring-shaped surface. *Id*.

In its Patent Owner Response, PPC contends that the claim phrases "configured to arch away" and "arched above" each require a "smooth,

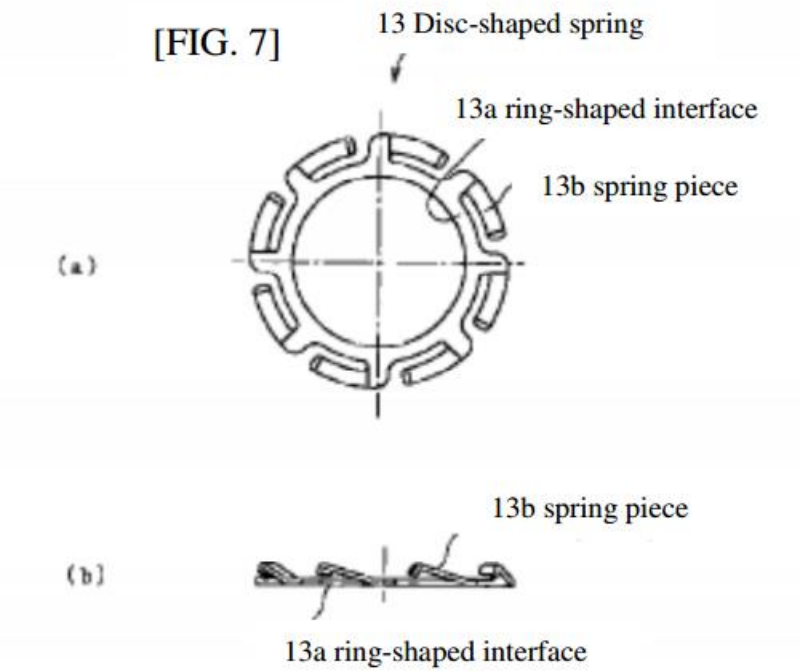
continuous curve." PO Resp. 34. PPC then argues that Tatsuzuki does not teach that its spring pieces 13b are "configured to arch away" or "arch above" ring-shaped surface 13a because the spring pieces extend away from the ring-shaped surface in a straight line and include pieces bent in a sharp angle at their ends. *Id*. at 34–35. To support its argument, PPC directs our attention to Tatsuzuki's specification, which indicates that spring pieces 13b are bent in an L-shape. *Id*. at 35 (citing Ex. 1002 ¶ 17, Fig. 7(b); Ex. 2074 ¶¶ 106–108).

In its Reply, Corning contends that PPC relies upon a side view of Figure 7(b) of Tatsuzuki when these limitations actually are shown in Figure 7A of Tatsuzuki. Pet. Reply. 14. In particular, Corning argues that Figure 7A of Tatsuzuki illustrates that spring pieces 13b extend from the plane of ring-shaped surface 13a in the shape of an arch, and have arched portions above the plane. *Id*. at 14–15 (citing Ex. 1002, Fig. 7(a); Ex. 1037, 317:14–16, 411:8–13; Ex. 1035). Corning further contends that the "arch" limitations do not preclude the flexible portion from including at least some "straight line" portion. *Id*. at 15. In addition, Corning contends that PPC does not provide sufficient or credible evidence that the claimed arch structure is significant. *Id*.

As discussed previously, we are not persuaded that PPC's proposed claim construction of the claim phrases "configured to arch away" and "arched above" constitutes the broadest reasonable interpretation. In particular, we are not persuaded that these claim phrases each require a "smooth, continuous curve." We construe these claim phrases broadly, but reasonably, to cover an elongated structure that includes "a bowed or curved portion" or "any bowlike part." Such a structure may still include some

straight portions. With this claim construction in mind, we turn to the portions of Tatsuzuki relied upon by Corning to teach the arch structure required by dependent claims 8 and 9.

Figures 7(a) and 7(b) of Tatsuzuki illustrates the detailed structure of disc-shaped spring 13. Ex. 1002 ¶ 17. For convenience, each Figure is reproduced again, but enlarged for clarity.



As shown in Tatsuzuki's Figures 7(a) and 7(b), disc-shaped spring 13 includes spring piece 13b and ring-shaped surface 13a. *Id.* Spring piece 13b includes eight bent spring pieces, which are formed integrally by ring-shaped surface 13a. *Id.* The leading end of each spring piece 13b is bent in an L-shape. *Id.* Consistent with our claim construction above, Tatsuzuki's spring piece 13b constitutes a bowlike part because it includes at least one portion that is curved or bowed, i.e., as seen at the bend of the L-shape. In that regard, we conclude that Tatsuzuki's disc-shaped spring 13 includes

spring pieces 13b that are "configured to arch away" or "arched above" ring-shaped surface 13a in the manner required by dependent claims 8 and 9.

Even if we were to assume that Tatsuzuki's disc-shaped spring 13 does not, by itself, teach the arch structure required by dependent claims 8 and 9, we agree with Corning that PPC does not provide sufficient or credible evidence that such a structure is significant. As Corning indicates in its Reply, "[a] change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results." Pet. Reply 15 (quoting *In re Dailey*, 357 F.2d 669, 672–73 (C.C.P.A. 1966)). An important consideration when determining whether the claimed arch structure is significant includes reviewing the specification, in its entirety, and ascertaining if these limitations in question are disclosed as serving any advantage or particular purpose, or whether they solve a stated problem. With this in mind, we turn to the Specification of the '060 patent.

When describing electrical continuity member 1270 illustrated in Figures 43–53, the Specification of the '060 patent discloses that it "has some physical likeness to a disc having a central circular opening and at least one section being flexibly raised above the plane of the disc; for instance, at least one flexible portion 1279 of the continuity member 1270 . . . [is] being arched above the general plane of the disc." Ex. 1001, 18:49–53. The Specification also indicates that "[a]s the flexibly raised portions 1279*a-b* arch away from the more generally disc-like portion of the electrical continuity member 1270, the flexibly raised portions . . . make resilient and consistent physical and electrical contact with a conductive surface of the nut 1230." *Id*. at 18:58–65.

Based on these disclosures in the Specification of the '060 patent, we do not find that there is any criticality associated with flexible portions that are "configured to arch away" or "arch above" the plane of the disc-like portion of the continuity member, nor a reasoned explanation why this structure serves a particular purpose or solves a stated problem. In other words, that fact that one section is "flexibly raised above the plane of the disc" is critical, but the "arch" shaped per se is not. Absent a showing of unexpected results, we are satisfied that Tatsuzuki's disc-shaped spring 13, which includes ring-shaped surface 13a with spring pieces 13b flexibly raised above the plane of the ring-shaped surface, renders obvious the arch structure required by dependent claims 8 and 9.

9. Summary

Based on the record before us, we conclude that Corning has demonstrated by a preponderance of the evidence that independent claim 1, and dependent claims 8 and 9, would have been obvious over the combination of Matthews and Tatsuzuki. In addition, upon reviewing the unchallenged contentions and supporting evidence regarding dependent claims 2–7 that were presented by Corning in its Petition (Pet. 46–49, 54–55; Ex. 1007 ¶¶ 98–117), we are persuaded that Corning presents sufficient evidence to support a finding that the combination of Matthews and Tatsuzuki teaches the claimed subject matter recited in these dependent claims. Therefore, based on the record before us, we conclude that Corning has demonstrated by a preponderance of the evidence that dependent claims 2–7 would have been obvious over the combination of Matthews and Tatsuzuki.

C. Secondary Considerations of Non-Obviousness

In its Patent Owner Response, in addition to the contentions discussed above, PPC argues that secondary considerations, including long-felt but unsolved need (PO Resp. 40–42), failed attempts by Corning (*id*. at 42–47), copying by Corning (*id*. at 38–40, 47–54), and commercial success (*id*. at 54–60), "clearly establish the non-obviousness of the claims at issue." *Id*. at 38. In support of this argument, PPC relies on, *inter alia*, the Declaration and cross-examination testimony of Corning's Mr. Burris (Exs. 2019, 2020), as well as Declarations of Mr. David Jackson, Vice President, General Manager of PPC (Exs. 2072 (unredacted version), 2073 (redacted version)), and its own expert, Dr. Eldering (Ex. 2074), among other evidence.

1. Long-felt But Unsolved Need

PPC contends that the problem addressed by its patents "is that 'often connectors are not properly tightened or otherwise installed to the interface port and proper electrical mating of the connector with the interface port does not occur.'" PO Resp. 41 (quoting Ex. 1001, 1:45–48). PPC contends that it "solved this problem such that continuity was established even if the connector was only loosely connected to the port." *Id*. (citing Ex. 2074 ¶ 112). PPC further contends that Corning's expert, Dr. Mroczkowski acknowledged that the problem existed for decades before 2009, and that Mr. Burris indicated that he spent several years working unsuccessfully on a continuity member design for Corning's UltraRange connector (lacking a continuity member), before he developed Corning's UltraShield connector (including a continuity member) in 2010. *See id*. at 39–42.

Based on the record before us, we are persuaded that coaxial connectors known in the art before 2009 had "solved" PPC's asserted "long-

felt" need for connector continuity "even if the connector was only loosely connected to the port." For example, the Bence '990 patent (Ex. 1038, Ex. 2024), which issued in 2006, disclosed a connector having a "grounding member," i.e., a continuity member, placed between a coupler/nut and post. Ex. 1038, Abstract; Ex. 2076, 190:16–21. As noted by Corning (Pet. Reply 16–17), in relation to such a connector, the Bence '990 patent states that an electrical grounding path is maintained between the coupler and the tubular post "whether or not the coupler is tightly fastened to the appliance." Ex. 1038, Abstract. Likewise, as discussed above, Tatsuzuki, which published in 2002, disclosed a connector that included disc-shaped spring 13, which provided an "electrical connection" between plug body 11 and rotary mounting element 12 of the connector. Ex. 1002, Abstract, ¶ 17; *see* Ex. 1007 ¶ 86. Tatsuzuki states that it provides "a coaxial plug without deterioration of insertion loss characteristics and reflection loss characteristics even in the state when the coaxial plug is loosened." *Id.* ¶ 7.

2. Failed Attempts by Corning

PPC contends that from September 2008 until March 2010, Corning's Mr. Burris attempted, but failed, "to incorporate a continuity member into the UltraRange connector." PO Resp. 42. During this time, according to PPC, Corning developed a number of different concept designs for providing a continuity member in the UltraRange connector, but either Corning did not move forward with such designs, or did not pursue the designs commercially, or the designs "failed" Corning's continuity test. *Id.* at 43–45. PPC contends that prior to March 2010, Mr. Burris was aware of Matthews, his own Bence '990 patent, and the UltraEase continuity member design, but nonetheless "still went through dozens of failed and widely

differing concepts for several years." *Id*. at 46–47. According to PPC, in March 2010, it was "only after seeing PPC's design that Mr. Burris was able to design the copied UltraShield connector." *Id*. at 46.

Corning responds that PPC relies only on Corning's alleged Research and Development efforts, not efforts by any other industry participant. Pet. Reply 17. Corning also contends that it chose not to implement a number of Mr. Burris's designs from 2008 to 2010 for reasons unrelated to a "failure" of design, such as manufacturing costs. *Id*. In addition, Corning argues that a certain number of Mr. Burris's designs "failed" Corning's test (the "Argentina" test), which measured noise, and not necessarily continuity, citing deposition testimony by PPC's expert, Dr. Eldering. *Id*. (citing Ex. 2078, 60:25–61:15).

The record before us indicates that Corning prepared connectors with continuity members that maintained electrical continuity in the September 2008 to March 2010 time frame, even if Corning did not sell such connectors to customers for whatever reason. Although some designs may have "failed" the "Argentina" test, as PPC notes, evidence cited by PPC indicates that other designed connectors passed the test. PO Resp. 43 (referring to Corning's "fifteen different concepts for providing a continuity member in the UltraRange connector," citing Ex. 2036, 2); *see* Ex. 2036, 2 (indicating that some passed and some failed the Argentina test). For example, contrary to PPC's contention that "RC-1350-1 Rev 01" failed (PO Resp. 43–44), the cited "Test Matrix" chart indicated that this design presented "[s]ome impr[ovement] over current prod[uct]" during the test. Ex. 2036, 2. In addition, the same evidence indicates that designs, such as "RC-1350-50 Rev 02," "RC-1350-70," and "RC-1350-80," among others,

passed the Argentina test in 2009. *Id*.; *see also* Ex. 2034, 25 (stating that RC-1350-50 "did well" in the Argentina test in August 2009), 31 (stating that RC-1350-90 "yielded acceptable results" in the Argentina test and that "connector was 'well behaved'" in October 2009), 37 (stating that RC-1350-150 "performed well clear up until it threaded off the mating port" in November 2009).

Thus, although evidence indicates failure of some Corning connector designs that include a continuity member developed before April 2010, some designs did work as connectors, even if Corning did not pursue those designs commercially for reasons such as "production expense" or "difficulty in turning the nut." Pet. Reply 17.

3. Copying by Corning

PPC contends that Mr. Burris copied PPC's product, i.e., PPC's EX Plus SignalTight design, when designing Corning's UltraShield connector. PO Resp. 48–54. In particular, PPC contends that Mr. Burris knew of PPC's design when he developed the UltraShield connector in April-June 2010 time frame. *Id*. at 46. PPC contends that in initial designs, Mr. Burris "placed the continuity member on the forward side of the internal lip of the nut as it had been in the UltraEase connector." *Id*. at 49. Thereafter, when that "continuity member failed," "Mr. Burris claims that he moved the continuity member for the first time to the rearward side of the lip of the nut in the May-June 2010 timeframe as part of the project RC-1350-350." *Id*. at 49–50.

According to PPC, "Mr. Burris admitted that he had seen the PPC EX Plus with Signal Tight design in an email prior to April 2010, directly contradicting his earlier sworn declaration," citing a transcript from a

deposition of Mr. Burris (Ex. 2019, 179:3–180:8, 191:6–192:2), as well as a March 1, 2010, e-mail sent by a Corning sales representative to Corning executive Mr. David J. Johnson and Mr. Burris's co-inventor Mr. William B. Lutz (Ex. 2048). PO Resp. 50. PPC also cites a March 31, 2010, e-mail sent by Mr. Johnson to Mr. Burris and Mr. Lutz attaching a "new ad showing the PPC Continuity Connector" (Ex. 2053). PO Resp. 51. PPC contends that "Mr. Burris agreed" that the ad showed the continuity member as located between the post and body on the rearward side of the internal lip of the nut, as eventually implemented in the Corning UltraShield connector. *Id*. at 51–52 (citing Ex. 2019, 189:16–191:5; Ex. 2053; Ex. 2074 ¶ 114).

According to PPC, Mr. Burris also admitted during cross-examination that he and others at Corning would obtain PPC connector samples, and then test, cross-section, and/or disassemble the connectors to "see how the connector is designed" and "to see what they're doing." PO Resp. 52 (citing Ex. 2019, 25:20–28:8). PPC further contends that on June 1, 2010, Mr. Lutz sent an e-mail to Mr. William McDade, copying Mr. Burris, requesting the testing of PPC EX Plus connector samples obtained by Mr. Lutz. *Id*. (citing Ex. 2054). PPC also contends that in an e-mail dated June 21, 2010, a Corning's salesperson indicated that other PPC EX Plus connectors were being sent overnight to Mr. Lutz. *Id*. at 53 (citing Ex. 2052). Thereafter, on June 25, 2010, according to PPC, "Mr. Burris reported completing the design of the RC-1350-350 design which led to the UltraShield design." *Id*. at 53–54. Based on such evidence, PPC contends that "Mr. Burris admitted that it was likely that he did see samples of the PPC's embodiment of the PPC patents in June 2010," before he designed Corning's UltraShield

connector. *Id*. at 53 (citing Ex. 2019, 194:15–198:13; Ex. 2061, 49:12–24, 51:1–52:15).

Corning responds that PPC does not establish copying because Corning's "UltraShield connector is fundamentally different from [PPC's] SignalTight connector in numerous respects." Pet. Reply 18. In addition, Corning suggests that the evidence fails to establish that Mr. Burris saw the SignalTight connector before he designed the UltraShield connector. *Id*. Corning also contends that, even assuming Mr. Burris saw the PPC advertisement for the EX Plus Signal Tight Connector, PPC's witness, Dr. Eldering, "admitted that '[i]t would be hard to draw an accurate drawing of that continuity member'" from the figure in the advertisement. *Id*. (citing Ex. 2077, 273:5–10; Ex. 2053).

Based on the record before us, we are persuaded that there is sufficient evidence indicating that developers at Corning, including Mr. Burris, saw and studied PPC EX Plus products just before Corning developed its final design, RC-1350-350, in April 2010. There also is sufficient evidence indicating that Corning later sold its final design as the UltraShield connector, which included a continuity member between the post and body on the rearward side of the internal lip of the nut. In considering the entirety of the record, we are persuaded that PPC's contentions and cited evidence provide at least some evidence of objective indicia of non-obviousness, i.e., copying by Corning of PPC's EX Plus SignalTight design, in relation to the challenged claims.

4. Commercial Success

PPC contends that its "flagship Signal Tight series connectors" are commercial embodiments of the coaxial connectors recited in the challenged

claims, citing the Declarations by Mr. Jackson (Ex. 2072) and Dr. Eldering (Ex. 2074). PO Resp. 55–56 (citing Ex. 2072 ¶¶ 12, 13, 26–28; Ex. 2074 ¶ 116). In particular, PPC and its witnesses state that the SignalTight connectors use a continuity member that "(a) makes consistent contact with the post and the nut of the connector while extending between a portion of the post and a portion of the body to maintain or extend electrical continuity between the post and the nut on the rearward side of the internal lip of the nut," and/or "(b) extends between a portion of the post that is configured or shaped to fit the portion of the body and makes consistent contact with the post to maintain or extend electrical continuity between the post and the nut," as required by a number of the challenged claims. *Id*. (citing Ex. 2072 ¶ 27; Ex. 2074 ¶ 116).

In addition, PPC contends that "Corning's UltraShield connectors constitute a copy of PPC's SignalTight connectors in all material respects." PO Resp. 56 (citing Ex. 2072 ¶¶ 22, 23, 26–28; Ex. 2074 ¶ 117). To support this argument, PPC relies on Mr. Jackson's Declaration, which presents photographs of a SignalTight connector and an UltraShield connector, with added arrows pointing to the continuity member in each connector. Ex. 2072 ¶ 22. Thus, as with its own product, PPC infers that Corning's UltraShield connectors use a continuity member that contacts and/or maintains electrical continuity between the post, nut, and body in the manner required by the challenged claims. PO Resp. 56.

Such statements and evidence, even if accurate, however, do not show sufficiently that PPC's SignalTight connectors or Corning's UltraShield connectors meet *all* elements of the challenged claims at issue here. Thus, the evidence cited by PPC fails to show that the relevant marketed products

embody all claimed features at issue. *Brown & Williamson Tobacco Corp. v. Philip Morris Inc*., 229 F. 3d 1120, 1130 (Fed. Cir. 2000) (stating the presumption that commercial success is due to the patented invention applies "if the marketed product embodies the claimed features, and is coextensive with them"); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006). Consequently, we cannot presume nexus between any asserted commercial success and what is recited in the challenged claims. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988) (stating that a "prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent").

In addition, in relation to evidence of commercial sales and market share, PPC discusses sales of PPC's SignalTight, Corning's UltraShield connectors, and PPC's "non-continuity EX connectors." PO Resp. 58–60. In this context, PPC asserts that "[i]n only three years, the percentage of non-continuity EX connectors sold by PPC has decreased steadily and dramatically—93% of PPC's connector sales are now of SignalTight connectors." *Id*. at 58 (referring to $50 million in revenue in 2013). PPC contends that SignalTight's market share has grown from 0% to approximately 67%. *Id*. PPC also contends that SignalTight connectors are sold at a premium, i.e., "have been sold for approximately 16% more than PPC's comparable, non-continuity EX connectors." *Id*. at 59. In addition, PPC contends that the "market share of Corning's UltraShield connectors has similarly grown, and is now approximately 15%." *Id*. Thus, according to PPC, the total market share of "products constituting commercial

embodiments of the PPC patents has gone from zero to 82% in only three years." *Id.*

Even if we were to assume that such statements and comparisons are accurate, we are not persuaded that PPC presents sufficient evidence of the market share of PPC's SignalTight and Corning's UltraShield connectors in relation to all relevant connectors commercially sold in the time frame discussed by PPC. For example, PPC's "SignalTight's Market Share" graph seems to imply that PPC's relevant connector market share before 2009 was zero, i.e., that PPC did not sell a relevant coaxial connector to anyone before 2009. PO Resp. 58–59; Ex. 2072 ¶¶ 18–21. That implication, however, is undermined by evidence cited by PPC. Ex. 2072 ¶ 19 (presenting a chart depicting sales of EX connector units in 2009 as higher than sales of SignalTight connector units in 2013).

Moreover, it is apparent from the record that the relevant "market" includes connectors that do not have a continuity member. Indeed, PPC's own expert, Mr. Jackson, assesses market share by including percentages and product sales for products that do not have a continuity member, i.e., the EX connectors. *See, e.g.*, Ex. 2072 ¶¶ 18–21. In that respect, and as noted above, Mr. Jackson testifies that PPC sold the same, if not more, EX connectors in 2009, before PPC's SignalTight connector was introduced, than the number of SignalTight connectors sold in 2013. *Id.* ¶ 19. Thus, as between EX connectors and SignalTight connectors, PPC's market share either remained the same, or slightly decreased, from 2009 to 2013.

Likewise, when discussing percentage of sales, or how SignalTight connectors "are sold at a premium," PPC only considers a comparison to one product, PPC's own EX connector, which lacks a continuity member. PPC

provides no evidence regarding sale percentages or sales "at a premium" in relation to all coaxial connectors (with or without a continuity member, and regardless of position of the continuity member, if present) purchased by multiple system operators, for example, from 2009 to 2013. The cited evidence does not show adequately a significant market share relative to all competing connectors sold, i.e., the overall relevant market. *In re Applied Materials, Inc*., 692 F.3d 1289, 1300 (Fed. Cir. 2012) ("An important component of the commercial success inquiry in the present case is determining whether Applied had a significant market share relative to *all* competing pads based on the merits of the claimed invention, which Applied did not show"). Moreover, we cannot tell from the record before us whether the asserted "commercial success" of PPC's SignalTight connectors (or Corning's UltraShield connectors) might have been due to a pre-existing market share in the coaxial connector market, providing an advantage when promoting newer products over existing ones.

Similarly, PPC does not explain how an e-mail exchange between Corning sales employees and buyers (e.g., Comcast) establishes that Corning's UltraShield connector "was different from and superior to its non-continuity UltraRange connector" for any reason beyond the fact that Corning's UltraShield connector included a continuity member at all, while Corning's pre-existing UltraRange connector lacked one at any location. PO Resp. 57 (citing Ex. 2056). Again, PPC's contentions and cited evidence in this regard do not address adequately commercial sales or market share relative to all competing coaxial connectors sold, i.e., the overall relevant market, as relevant to a product assembled according to methods coextensive with the challenged claims.

In addition, PPC's contentions and cited evidence do not explain sufficiently the nexus between the subject matter of the challenged claims and the asserted commercial success of PPC's SignalTight and Corning's UltraShield connectors. Even assuming such connectors enjoyed commercial success over connectors that lacked a continuity member, PPC does not clarify how that commercial success was due to features recited in the challenged claims (e.g., a continuity member in a specific location) rather than features (e.g., a continuity member) expressly described in the prior art, such as in Matthews, Tatsuzuki, and the '990 Bence patent. "[I]f the commercial success is due to an unclaimed feature of the device," or "if the feature that creates the commercial success was known in the prior art, the success is not pertinent." *Ormco*, 463 F.3d at 1312.

Thus, although we recognize that PPC provides evidence that it and Corning commercially sold SignalTight and UltraShield connectors, respectively, and that sales of such products increased after their introduction to the market in 2009–2010 time frame, we are not persuaded that PPC's contentions and cited evidence of commercial success provide persuasive support of objective indicia of non-obviousness in relation to the challenged claims.

5. Analysis Regarding All Asserted Evidence of Secondary Considerations

For the reasons discussed above, we are not persuaded that PPC's contentions and cited evidence regarding a long-felt but unsolved need, or failed attempts by Corning. Likewise, PPC's contentions and evidence regarding commercial success are less than persuasive. PPC's strongest position regarding secondary considerations pertains to copying by Corning of at least one relevant aspect of PPC's SignalTight connectors. As noted by

the Federal Circuit, however, "a showing of copying is only equivocal evidence of non-obviousness in the absence of more compelling objective indicia of other secondary considerations." *Ecolochem, Inc. v. S. California Edison Co.*, 227 F.3d 1361, 1380 (Fed. Cir. 2000). For the reasons discussed above, we determine the record before us lacks sufficient evidence in relation to other asserted objective indicia of non-obviousness.

We have considered the entirety of the evidence, both Corning's strong evidence of obviousness and PPC's purported evidence of non-obviousness. On balance, we determine that a preponderance of the evidence supports a conclusion that claims 1–9 of the '060 patent would have been obvious over the combination of Matthews and Tatsuzuki.

D. PPC's Motion to Exclude

In its Motion to Exclude, PPC seeks to exclude certain portions of the deposition testimony of Corning's Mr. Burris (Ex. 2019, 180:5–8, 189:22–23, 235:12–16), as well as certain portions of Mr. Burris's Declaration (Ex. 2020 ¶¶ 4, 16), because these statements made by Mr. Burris constitute hearsay, in violation of Federal Rule of Evidence 802. Mot. to Exclude 1. As we indicated previously, Corning opposes PPC's Motion to Exclude, and PPC filed a Reply to Corning's Opposition to its Motion to Exclude.

At the outset, we note that the content that PPC seeks to exclude was introduced into this proceeding by PPC. Paper 41, 4. The fact that PPC introduced and relied on Mr. Burris's deposition testimony means PPC may not bar similar use of that evidence by Corning. In any event, when determining whether Corning copied PPC's EX Plus SignalTight design, i.e., the coaxial cable connector embodied in the challenged claims, we only relied upon Exhibit 2019 to the extent it was asserted by PPC—not by

Corning. With respect to Exhibit 2020, we did not rely upon it when addressing PPC's arguments regarding long-felt but unsolved need, failed attempts by Corning, copying by Corning, and commercial success. Accordingly, we deny PPC's Motion to Exclude.

E. Motions to Seal

On March 26, 2014, PPC filed redacted and unredacted versions of its Patent Owner Response (Papers 32 and 33), along with an initial Motion to Seal (Paper 30). After multiple discussions between the parties and the panel regarding what materials, if any, should be subject to a Motion to Seal, we withdrew PPC's initial Motion to Seal, authorized PPC to file a Revised Motion to Seal, and authorized Corning to file a Response to the Revised Motion to Seal. Paper 38. On April 17, 2014, PPC filed a Revised Motion to Seal (Paper 42) that seeks to seal certain portions of its Patent Owner Response, as well as certain portions of the supporting evidence PPC relied upon in its Patent Owner Response (Exs. 2019, 2020, 2025, 2026, 2030, 2031, 2034–2039, 2042, 2044, 2045, 2047, 2048, 2050–2054, 2056, and 2072). On April 21, 2014, Corning filed a Response to the Revised Motion to Seal that seeks to explain why certain portions of the evidence relied upon by PPC in its Patent Owner Response, and included in the aforementioned Exhibits, contain Corning's confidential information. Paper 43.

On May 16, 2014, PPC filed a Second Motion to Seal that seeks to seal certain portions of Exhibit 2075 and 2079. Paper 45. Exhibit 2079 includes the transcript of Dr. Eldering's deposition taken on April 25, 2014, and Exhibit 2075 includes a timeline of facts that purportedly are undisputed regarding how Corning copied the coaxial cable connector embodied in the claims at issue in this proceeding. Also on May 16, 2014, Corning filed

redacted and unredacted versions of its initial Reply to the Patent Owner Response, along with a Motion to Seal that seeks to seal certain portions of its initial Reply and certain portions of the supporting evidence Corning relied upon in its initial Reply. Paper 47. On June 20, 2014, based on a joint proposal from the parties, we dismissed Corning's Motion to Seal. Paper 51. We expunged the redacted and unredacted versions of its initial Reply, along with the supporting evidence relied upon therein that Corning originally requested to be sealed. *Id*. We also authorized Corning to file a substitute Reply to the Patent Owner Response and substitute exhibits. *Id*.

On July 9, 2014, PPC filed a Third Motion to Seal that seeks to seal Exhibits 2084 and 2085. Paper 61. Exhibits 2084 and 2085 include mechanical drawings of PPC's coaxial cable connector embodied in the patent claims at issue in this proceeding. On July 21, 2014, PPC filed a Fourth Motion to Seal that seeks to seal certain portions of Exhibit 2092. Paper 71. Exhibit 2092 included PPC's demonstrative exhibits that it intended to use at oral argument. On July 23, 2014, we dismissed PPC's Fourth Motion to Seal. Paper 74. We explained that the oral argument in this proceeding is open to the public and, therefore, no confidential information should be included in the demonstrative exhibits filed by either Corning or PPC. *Id*. We expunged Exhibit 2092 and authorized PPC to file a new set of demonstrative exhibits. *Id*.

There is a strong public policy in favor of making information filed in an *inter partes* review open to the public, especially because the proceeding determines the patentability of claims in an issued patent and, therefore, affects the rights of the public. Under 35 U.S.C. § 316(a)(1) and 37 C.F.R. § 42.14, the default rule is that all papers filed in an *inter partes* review are

open and available for access by the public; a party, however, may file a concurrent motion to seal and the information at issue is sealed pending the outcome of the motion. It is, however, only "confidential information" that is protected from disclosure. 35 U.S.C. § 316(a)(7); *see* Trial Practice Guide, 77 Fed. Reg. at 48,760. The standard for granting a motion to seal is "for good cause." 37 C.F.R. § 42.54(a). The party moving to seal bears the burden of proof in showing entitlement to the requested relief, and must explain why the information sought to be sealed constitutes confidential information. 37 C.F.R. § 42.20(c). Before PPC filed its initial Motion to Seal, we reminded the parties that confidential information filed under a motion to seal will become public if identified in this Final Written Decision. Paper 29, 3 (citing Trial Practice Guide, Fed. Reg. 48,761).

We have reviewed the unredacted version of the Patent Owner Response (Paper 33), as well as Exhibits 2019, 2020, 2025, 2026, 2030, 2031, 2034–2039, 2042, 2044, 2045, 2047, 2048, 2050–2054, 2056, 2072, 2075, 2079, 2084, and 2085, and we are persuaded that good cause exists to have some, but not all, of these documents remain under seal. The redacted portions of the Patent Owner Response and the aforementioned Exhibits contain confidential information pertaining to either PPC's business or Corning's business, and are narrowly tailored to redact only confidential information. However, in the Secondary Considerations section above, we discuss Exhibits 2019, 2034, 2036, 2048, 2052–2054, 2056, and 2072. For instance, we substantively rely on Exhibits 2034 and 2036 to refute PPC's contentions regarding failed attempts by others, Exhibits 2019, 2048, and 2052–2054 when favorably considering PPC's contentions regarding

copying by Corning, and Exhibits 2056 and 2072 to refute PPC's contentions regarding commercial success.

Consequently, the unredacted version of the Patent Owner Response and Exhibits 2020, 2025, 2026, 2030, 2031, 2035, 2037–2039, 2042, 2044, 2045, 2047, 2050, 2051, 2075, 2079, 2084, and 2085 will be maintained under seal under the terms of the protective order entered in this proceeding. *See* Paper 42, Appendix A. Consistent with our guidance that confidential information filed under a motion to seal will become public if identified in this Final Written Decision (Paper 29, 3), as well as the public's interest in maintaining a complete and understandable record, Exhibits 2019, 2034, 2036, 2048, 2052–2054, 2056, and 2072 will not be maintained under seal under the terms of the protective order entered in this proceeding.

III. CONCLUSION

Corning has demonstrated by a preponderance of the evidence that claims 1–9 of the '060 patent are unpatentable under 35 U.S.C. § 103(a) over the combination of Matthews and Tatsuzuki.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that Corning has shown by a preponderance of the evidence that claims 1–9 of the '060 patent are unpatentable;

FURTHER ORDERED that PPC's Motion to Exclude is DENIED;

FURTHER ORDERED that PPC's Revised Motion to Seal (Paper 42), Second Motion to Seal (Paper 45), and Third Motion to Seal (Paper 61) are GRANTED-IN-PART. The unredacted version of the Patent Owner

Response and Exhibits 2020, 2025, 2026, 2030, 2031, 2035, 2037–2039, 2042, 2044, 2045, 2047, 2050, 2051, 2075, 2079, 2084, and 2085 will be kept under the terms of the protective order entered in this proceeding (*see* Paper 42, Appendix A). Exhibits 2019, 2034, 2036, 2048, 2052–2054, 2056, and 2072 will not be maintained under seal under the terms of the protective order entered in this proceeding;

FURTHER ORDERED that Corning's Motion to Seal (Paper 47) and PPC's Fourth Motion to Seal (Paper 71) are DISMISSED;

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

Certain documents have been sealed in this proceeding, but have not been relied upon in this Final Written Decision. *See supra* Section II.E. The record will be maintained undisturbed pending the outcome of any appeal taken from this decision. At the conclusion of any appeal proceeding, or if no appeal is taken, the documents will be made public. *See* Trial Practice Guide, 77 Fed. Reg. at 48,760–61. Further, either party may file a motion to expunge the sealed documents from the record pursuant to 37 C.F.R. § 42.56. Any such motion will be decided after the conclusion of any appeal proceeding or the expiration of the time period for appealing.

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