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Paper No. 57
Entered: October 12, 2016

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 IPR2013-00342
Patent 8,323,060 B2

Before JAMESON LEE, MICHAEL R. ZECHER, and JACQUELINE WRIGHT BONILLA, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge.*

DECISION ON REMAND
35 U.S.C. § 144 and 37 C.F.R. § 42.5(a)

I. BACKGROUND

We address this case on remand after a decision by the U.S. Court of Appeals for the Federal Circuit in *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747 (Fed. Circ. 2016) ("PPC Broadband").

As background, Petitioner, Corning Optical Communications RF, LLC[1] ("Corning"), filed an amended Petition requesting an *inter partes* review of claims 10–25 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. We determined that the information presented in the Petition demonstrated that there was a reasonable likelihood that Corning would prevail in challenging claims 10–25 as unpatentable under 35 U.S.C. § 103(a). Pursuant to 35 U.S.C. § 314, we instituted this proceeding on November 26, 2013, on the ground that claims 10–25 are unpatentable under § 103(a) over the combination of Matthews[2] and Tatsuzuki.[3] Paper 14 ("Dec. on Inst.").

During the course of trial, PPC filed a Patent Owner Response (Paper 27, "PO Resp."), and Corning filed a Reply to the Patent Owner Response (Paper 32, "Pet. Reply"). A consolidated oral hearing was held on July 24 and 25, 2014, in relation to this proceeding and the following four

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[1] Petitioner filed an updated mandatory notice indicating that Corning Gilbert Inc., the original Petitioner entity in this proceeding, changed its name to Corning Optical Communications RF, LLC. Paper 22, 1.

[2] Matthews, U.S. Patent App. Pub. No. 2006/0110977 A1, published May 25, 2006 (Ex. 1004).

[3] Tatsuzuki, JP Patent App. Pub. No. 2002-015823, published Jan. 18, 2002 (Ex. 1032) (English translation Ex. 1002).

other related proceedings involving the same parties: (1) Case IPR2013-00340; (2) Case IPR2013-00345; (3) Case IPR2013-00346; and (4) Case IPR2013-00347. Transcripts of the entire consolidated oral hearing are included in the record. Papers 46–48. In particular, Paper 48 ("Tr.") corresponds to the transcript from the third session of the consolidated oral hearing, held the afternoon of July 25, 2014, and pertains only to this proceeding.

On November 21, 2014, we issued a Final Written Decision in this proceeding in accordance with 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Paper 49 ("Final Dec."). We concluded that Corning had demonstrated by a preponderance of the evidence that claims 10–25 of the '060 patent are unpatentable under § 103(a) over the combination of Matthews and Tatsuzuki. Final Dec. 31. PPC appealed the Final Written Decision to the Federal Circuit. Paper 50.

The Federal Circuit determined that we erred in construing the claim phrase "reside around." *PPC Broadband*, 815 F.3d at 751–56. Consequently, the Federal Circuit vacated our determination of obviousness as to claims 10–25 of the '060 patent and remanded this case back to us for further proceedings. *Id.* at 757. The Federal Circuit's mandate issued on April 15, 2016. Paper 56.

On May 20, 2016, we issued an Order instructing the parties to meet and confer to determine what matters should be reconsidered or reassessed on remand, and to determine whether additional briefing or submission of new evidence was needed for such matters. Paper 51, 2. If the parties were unable to reach an agreement on these issues, we authorized them to file separate papers outlining their respective positions. *Id.* at 3. In accordance

with this Order, the parties filed separate papers setting forth their responses to the issues identified above. Papers 53, 54. Upon considering the separate papers filed by the parties, and taking into account that neither party indicated that further briefing regarding the *patentability* issue must be submitted and considered, we issued an Order denying the parties' requests for further briefing. Paper 55, 4.

We have reconsidered the record developed during trial anew by reviewing the parties' positions in light of the Federal Circuit's construction of the claim phrase "reside around." For the reasons that follow, we conclude that Corning has not demonstrated by a preponderance of the evidence that claims 10–25 of the '060 patent are unpatentable under § 103(a) over the combination of Matthews and Tatsuzuki.

A. 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.

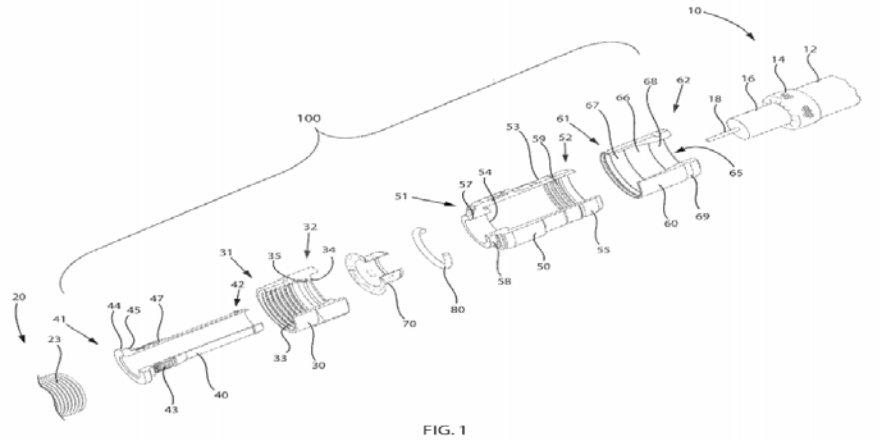

FIG. 1

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.

B. Illustrative Claim

Of the challenged claims, claim 10 is the only independent claim. Claims 11–25 directly or indirectly depend from independent claim 10. Independent claim 10 is illustrative of the challenged claims and reproduced below:

> 10. A coaxial cable 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 connector body having a forward end and an opposing rearward end, the rearward end configured to receive a portion of the coaxial cable;
>
> a post, configured to engage the connector body, the post having a forward end including an external annular protrusion and a rearward end, the rearward end 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 nut, rotatable relative to the post and the connector body, the nut including a forward nut end portion configured for coupling to an interface port, a rearward nut end portion, and an internal lip, the internal lip having a forward lip surface facing the forward end portion of the nut and a rearward lip surface facing the rearward end portion of the nut; and
>
> *a continuity member* having a nut contact portion positioned to electrically contact the nut and *positioned to reside around an external portion of the connector body* when the

> connector is assembled, wherein the continuity member helps facilitate electrical grounding continuity through the body and the nut and helps extend electromagnetic shielding from the coaxial cable through the connector to help prevent [radio frequency] ingress into the connector.

Ex. 1001, 22:5–36 (emphases added).

II. ANALYSIS

A. Final Written Decision

In the Final Written Decision, we began our analysis by addressing the parties' arguments regarding claim construction. Final Dec. 6–10. Of particular importance to this Decision on Remand, we addressed the alternative constructions proposed by each party for the claim phrase "reside around." *Id.* at 7–10.

After summarizing the parties' positions in this regard, we noted that the claim phrase "reside around" does not appear in the specification of the '060 patent outside of independent claim 10. Final Dec. 8. We then acknowledged that the dispute between the parties centered on the scope and meaning of the claim term "around," which, in our view, turned on the competing dictionary definitions of this claim term provided by the parties. *Id.* at 9. Rather than simply selecting the broadest dictionary definition, we noted that there was at least one additional consideration that supported adopting Corning's proposed construction that the claim phrase "reside around" means "in the immediate vicinity of; near." *Id.* at 9–10. Relying on the claim construction canon that generally assumes different claim terms should be given different meanings, we explained that the use of the claim

term "surrounded" three times in the preamble of independent claim 10[4] strongly suggested that the inventors of the '060 patent indeed were aware of the meaning of this claim term, yet they chose to use the claim phrase "reside around" in the body of independent claim 10. *Id.* at 10. We, therefore, adopted Corning's proposed construction of the claim phrase "reside around" as "in the immediate vicinity of; near"—rather than "encircle or surround," as advocated by PPC—primarily because we presumed that the claim phrase "reside around" recited in the body of independent claim 10 had a different meaning than the claim term "surrounded" recited in the preamble of independent claim 10. *See id.*

After stating the principles of law that generally apply to a ground of unpatentability based on obviousness, determining the knowledge level of a person of ordinary skill in the art, and providing brief overviews of Matthews and Tatsuzuki, we concluded that Corning had demonstrated by a preponderance of the evidence the unpatentability of claims 10–25 of the '060 patent. Final Dec. 12–31. In particular, consistent with our construction of the claim phrase "reside around," we agreed with Corning

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[4] In its Petition, we note that Corning treated the preamble of independent claim 10 as limiting. Pet. 39–40 (contending that Matthews's coaxial cable 10, center conductor 18, dielectric 16, conductive grounding shield 14, and protective outer jacket 12 teach the "coaxial cable," "center conductor," dielectric," "conductive ground shield," and "protective outer jacket," as recited in the preamble of independent claim 10, respectively). In its Patent Owner Response, PPC did not address separately Corning's contentions in this regard. *See generally* PO Resp. 16–36. Consequently, we determined that there was no need to assess the limiting effect of the preamble of independent claim 10 and its impact on the proper construction of the claim phrase "reside around" in our Final Written Decision because the parties appeared to agree that the preamble indeed was limiting.

that Tatsuzuki's disc-shaped spring 13 may be positioned in the immediate vicinity or near an external portion of Matthews's connector body 50 and, therefore, teaches "a continuity member . . . positioned to reside around an external portion of the connector body," as recited in independent claim 10. *Id.* at 21–23.

B. Federal Circuit Decision

On appeal to the Federal Circuit, PPC argued that our construction of the claim phrase "reside around" as "in the immediate vicinity of; near" is unreasonably broad in light of the '060 patent's claims and specification. *PPC Broadband*, 815 F.3d at 751. According to PPC, the broadest reasonable construction of the claim phrase "reside around" in light of the claims and the specification is "encircle or surround." *Id.* at 751–52. PPC further argued that the continuity member resides around an external portion of the connector body even if it is not completely continuous. *Id.* at 752.

The Federal Circuit agreed that PPC's construction was the broadest reasonable interpretation in light of the claims and specification by reasoning that "[t]he Board . . . arrived at its construction by referencing the dictionaries cited by the parties and simply selecting the broadest definition therein." *Id.* The Federal Circuit stated that, "[w]hile such an approach may result in the broadest definition, it does not necessarily result in the broadest reasonable definition in light of the specification." *Id.* According to the Federal Circuit, "[t]he Board's approach in this case fails to account for how the claims themselves and the specification inform the ordinarily skilled artisan as to precisely which ordinary definition the patentee was using." *Id.*

The Federal Circuit further explained that it did not agree with our analysis comparing PPC's proposed construction with other claim language recited in the preamble of independent claim 10. *Id.* Although the Federal Circuit recognized that we relied upon the claim construction canon that generally assumes different claim terms should be given different meanings, it stated that "[t]his general canon . . . is 'not true for terms in the preamble.'" *Id.* at 753 (citing *Symantec Corp. v. Comput. Assoc. Int'l, Inc.*, 552 F.3d 1279, 1289 (Fed. Circ. 2008)). The Federal Circuit reasoned that "no party argues, and the Board did not conclude, that the preamble of [independent] claim 10 is limiting." *Id.* According to the Federal Circuit, "[w]hen the preamble has this general purpose, and is not being used as a claim limitation itself, the construction canon which presumes that different terms should be given different meanings has less applicability." *Id.*

Turning to the use of the word "around" in the specification of the '060 patent, the Federal Circuit determined that "it provides strong support for [PPC's] interpretation." *Id.* The Federal Circuit acknowledged that, although "[i]t is correct that [PPC's] construction would not cover all disclosed embodiments" in the specification of the '060 patent, "the broadest reasonable construction is [not] always the one which covers the most embodiments." *Id.* at 755. In other words, the Federal Circuit reasoned that "[t]he fact that one construction may cover more embodiments than another does not categorically render that construction reasonable." *Id.* The Federal Circuit then stated that,

> [w]hile there will be some embodiments that do not fall within the broadest reasonable construction of [independent] claim 10, it is clear based on the patentee's use of "around" in the specification to refer to components that encircle or surround that

> the broadest reasonable interpretation is limited to this use of the term.

Id.

The Federal Circuit concluded by stating:

> Given the context of the claims, the specification, and the technology of the '060 patent, we conclude that the Board's construction of "reside around" is unreasonable. The broadest reasonable interpretation of the term "reside around" in light of the claims and the specification is "encircle or surround." We agree with PPC [] that the '060 patent indicates that such encirclement need not be absolute.

Id. at 756.

Lastly, PPC contended on appeal that we erred in finding Tatsuzuki's disc-shaped spring 13 meets the "axially lengthwise contact" limitation recited in dependent claim 13. *Id.* at 756–57. The Federal Circuit disagreed and noted that "substantial evidence supports the Board's finding that the Tatsuzuki spring contacts the post at more than just a point." *Id.* at 757. The Federal Circuit acknowledged that "the Board explained that 'in [its] view, [the Tatsuzuki spring] has a length of contact with the post that is beyond a point.'" *Id.* (citation omitted). According to the Federal Circuit, "Figure 3 of Tatsuzuki supports this finding, as the spring depicted has visible width." *Id.* (citation omitted).

C. Obviousness Over the Combination of Matthews and Tatsuzuki

In its Petition, Corning contends that claims 10–25 are unpatentable under § 103(a) over the combination of Matthews and Tatsuzuki. Pet. 39–59. In support of this asserted ground of unpatentability, Corning relies upon claim charts to explain how the proffered combination purportedly teaches the subject matter of each challenged claim. *Id.* Corning also relies upon the Declaration of Dr. Robert S. Mroczkowski to support its positions.

Ex. 1006 ¶¶ 93–162. In its Patent Owner Response, PPC contends that the combination of Matthews and Tatsuzuki does not teach "a continuity member . . . positioned to reside around an external portion of the connector body," as recited in independent claim 10. PO Resp. 16–22. PPC relies upon the Declaration of Charles A. Eldering, Ph.D. to support its positions. Ex. 2020 ¶¶ 62–72. Upon reviewing the record developed during trial anew, and in light of the Federal Circuit's construction of the claim phrase "reside around," we determine that Corning does not demonstrate that the combination of Matthews and Tatsuzuki teaches the limitation identified above.

We begin our analysis with brief overviews of Matthews and Tatsuzuki, and then we address the parties' arguments as to whether the combination of Matthews and Tatsuzuki teaches "a continuity member . . . positioned to reside around an external portion of the connector body" limitation of independent claim 10, as instructed by the Federal Circuit.

1. Matthews (Ex. 1004)

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.

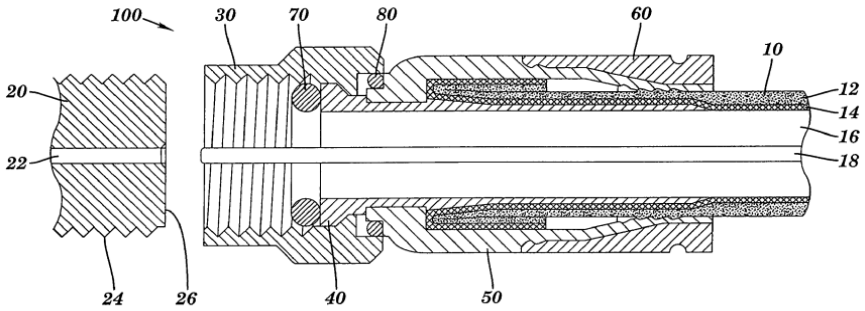


FIG. 1

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.

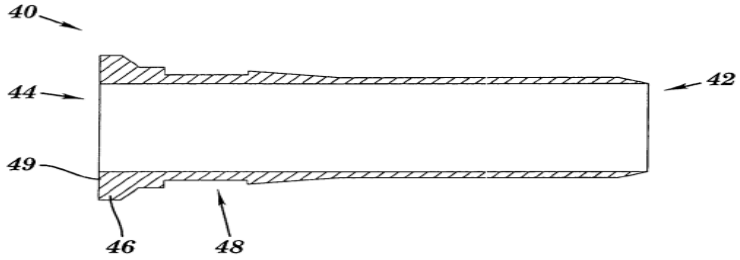


FIG. 3

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.

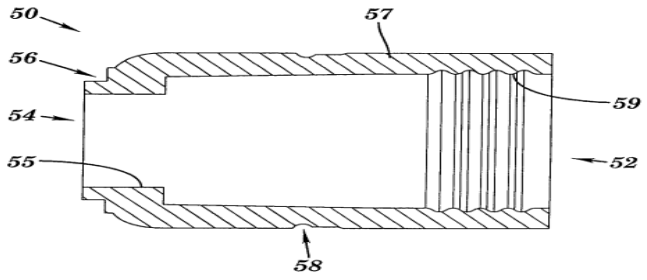


FIG. 4

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.

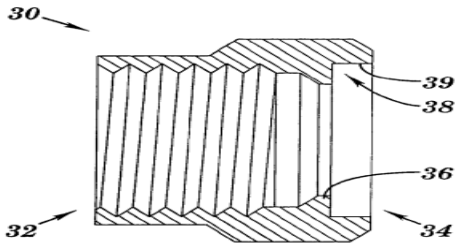


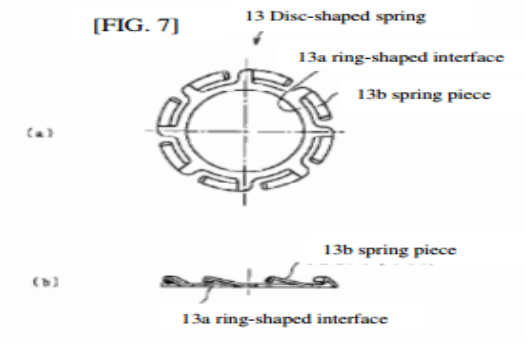
FIG. 2

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*.

2. Tatsuzuki (Ex. 1032) (English Translation Ex. 1002)

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*.

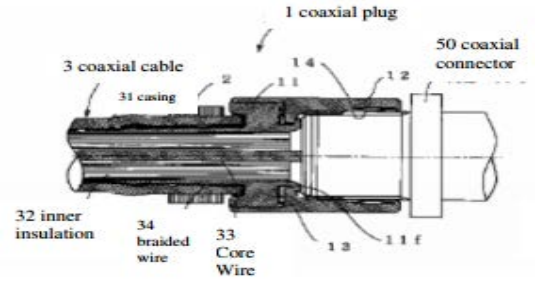
Figures 7(a) and 7(b) of Tatsuzuki, reproduced below, illustrate disc-shaped spring 13, and related side-view diagram, respectively. Ex. 1002 ¶ 17.



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.

[FIG. 3]



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*.

3. Claim 10

In its Petition, Corning presents detailed claim charts, along with supporting evidence, demonstrating how Matthews teaches most of the limitations of independent claim 10. For example, Corning explains how Matthews's coaxial cable connector 100 includes connector body 50, post 40 configured to engage the body, the post having an external annular protrusion (flange 46) and a rearward end (first end 42), and nut 30 including a forward nut end portion (first nut end 32), a rearward nut end (second end 34) and internal lip 36, and that those components correspond to the "connector body," "post," and "nut" features required by independent claim 10. Pet. 39–44. According to Corning, however, one limitation of independent claim 10 directed to the required "continuity member" is not disclosed expressly in Matthews. *Id*. at 43–44. Specifically, as relevant to

this case on remand, independent claim 10 recites, amongst other things, "a continuity member . . . positioned to reside around an external portion of the connector body." Ex. 1001, 22:29–32.

Corning takes the position that Matthews and Tatsuzuki collectively teach the "continuity member" recited in independent claim 10. Pet. 42–44 (citing Ex. 1004 ¶¶ 28, 34–36, Figs. 1, 7; Ex. 1002 ¶¶ 1, 2, 16–20, Fig. 7; Ex. 1006 ¶¶ 100–03, 107). 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 nut 30 and connector body 50. *Id*. at 42, 51 (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 42–43, 51 (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 to contact the nut electrically. Pet. 51 (citing Ex. 1006 ¶ 104). Corning further asserts that both Matthews's connector body conductive member 80 and Tatsuzuki's disc-shaped spring 13 are positioned to reside around an external portion of a connector body when the corresponding connector is assembled. *Id*. Thus, according to Corning, 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 in a coaxial cable connector and, therefore, a person of ordinary skill would have had reason to place Tatsuzuki's disc-shaped spring 13 in the same location in Matthews's connector 100. *Id.* at 51–52.

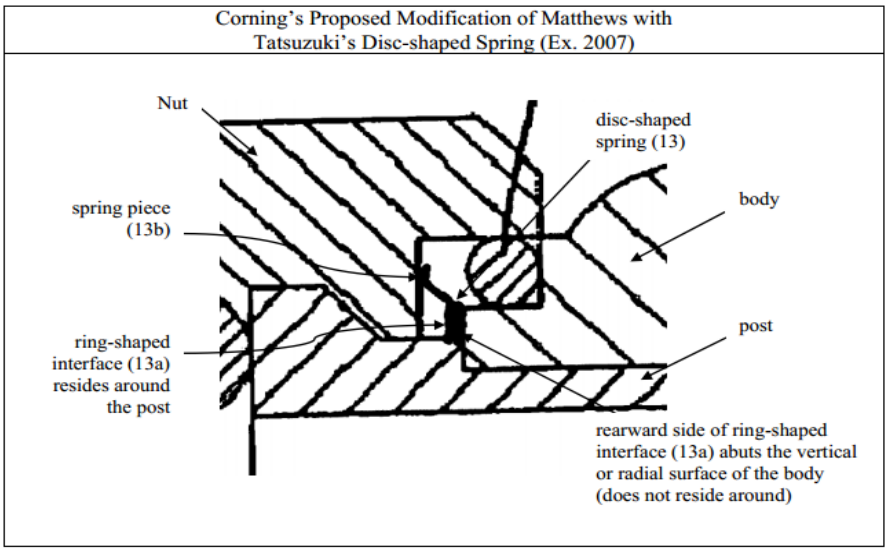
Corning also argues that, by adding Tatsuzuki's disc-shaped spring 13 to Matthews's connector 100, Tatsuzuki's disc-shaped spring 13 "would provide both the original ground path, i.e., between the coupler and the connector body as disclosed by Matthews, as well as an alternate ground path, i.e., directly between the rearward facing surface of the inward lip of the nut and the post via the continuity member." Pet. 52. Thus, according to Corning, 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 in this way. *Id*. at 52 (citing Ex. 1004, Figs. 1, 7; Ex. 1006 ¶ 105).

In its Patent Owner Response, PPC contends that the claim phrase "reside around" should be construed to require that the continuity member "encircle or surround" an external portion of the connector body. PO Resp. 18–19. 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 would not encircle or surround an external portion of Matthews's connector body 50 in the manner required by independent claim 10. *Id*. at 19–22 (citing Ex. 1036, 180:24–181:21, 182:11–16, 184:10–15, 185:18–187:21; Ex. 2007; Ex. 2020 ¶¶ 66–71).

In its Reply, Corning counters that the broadest reasonable interpretation of the claim phrase "reside around" is not limited to "surround or encircle," but instead should be construed to mean "in the immediate vicinity of; near." Pet. Reply 8–10. Corning argues that, when applying the proper claim construction, Matthews and Tatsuzuki collectively teach a continuity member positioned to reside around an external surface of the connector body in the manner required by independent claim 10. *Id*. at 10.

In addition, Corning directs us to two approaches taken by Dr. Mroczkowski during his cross-examination testimony, both of which bear on the reading of this disputed claim limitation. *Id*. (citing Ex. 1034; Ex. 2007). Corning further asserts that, when it cross-examined Dr. Eldering regarding a figure reproduced on page 22 of his Declaration (Ex. 2020)—which is a copy of the approach taken by Dr. Mroczkowski in Exhibit 2007—he agreed that the continuity member resides on the front face of the connector body. *Id*. (citing Ex. 2077, 219:15–16).

As explained above, the Federal Circuit determined that our construction of the claim phrase "reside around" in the Final Written Decision was unreasonable. *See supra* Section II.B. According to the Federal Circuit, the broadest reasonable interpretation of this claim phrase in light of the claims and the specification of the '060 patent is "encircle or surround," albeit not complete or near-complete encirclement. *PPC Broadband*, 815 F.3d at 756. During the course of trial, Corning's expert witness, 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. PPC focused on one such approach, which is encompassed by a sketch provided by Dr. Mroczkowski during depositions taken in connection with this trial. An illustration of this sketch is reproduced below as it has been presented in the Patent Owner Response.



PO Resp. 12, 20.

As offered by PPC, the illustration reproduced above depicts an opinion of Dr. Mroczkowski as to an implementation of Tatsuzuki's disc-shaped spring 13 positioned with respect to Matthews's coupler/nut 30 and connector body 50 of coaxial cable connector 100. PO Resp. 12, 20. In considering this proposed incorporation of Tatsuzuki's disc-shaped spring 13 into Matthews's coaxial cable connector 100 we are satisfied that it establishes a continuity member positioned to make contact with a surface of Matthews's coupler/nut 30. Under the Federal Circuit's construction of the claim phrase "reside around," however, that type of contact is insufficient to meet the relevant limitation recited in independent claim 10. That is, we are not satisfied that Corning establishes sufficiently the presence of a continuity member that, at a minimum, partially encircles or surrounds an external portion of connector body 50 in the manner required by independent claim 10. Although Tatsuzuki's disc-shaped spring 13, when positioned in the manner depicted, would extend between, and facilitate electrical connection among, surfaces of Matthews's coupler/nut 30 and connector body 50 of

coaxial cable connector 100, it does not meet the relevant limitation recited in independent claim 10 because Tatsuzuki's disc-shaped spring 13 does not partially encircle or surround an external portion of Matthews's connector body 50. Consequently, applying the Federal Circuit's construction of the claim phrase "reside around" to the parties' positions advocated during trial, we agree with PPC that the combination of Matthews and Tatsuzuki does not teach "a continuity member . . . positioned to reside around an external portion of the connector body," as recited in independent claim 10. *See* PO Resp. 18–22.

Based on the record developed during trial, and in light of the Federal Circuit's construction of the claim phrase "reside around," Corning has not demonstrated by a preponderance of the evidence that independent claim 10 would have been unpatentable over the combination of Matthews and Tatsuzuki.

4. Claims 11–25

As we explained previously, claims 11–25 directly or indirectly depend from independent claim 10. By virtue of their dependency, each of these dependent claims incorporate the same limitations as their underlying base claim. For the same reasons discussed above with respect to independent claim 10, Corning has not demonstrated by a preponderance of the evidence that dependent claims 11–25 would have been unpatentable over the combination of Matthews and Tatsuzuki.

III. CONCLUSION

Upon reviewing the record developed during trial anew, and in light of the Federal Circuit's construction of the claim phrase "reside around," we

conclude that Corning has not demonstrated by a preponderance of the evidence that claims 10–25 of the ’060 patent are unpatentable under § 103(a) over the combination of Matthews and Tatsuzuki.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 10–25 of the ’060 patent have not been shown to be unpatentable; and

FURTHER ORDERED that, because this Decision on Remand amounts to 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.

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