

**UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

BIZLINK TECHNOLOGY, INC.,
Petitioner,

v.

ANDERSON POWER PRODUCTS, INC.,
Patent Owner.

Case IPR2024-00687
Patent No. 8,808,017

PATENT OWNER'S RESPONSE

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2001	Declaration of Ronald P. Locati in Support of Patent Owner's Response
2002	Transcript of the February 28, 2025, Deposition of Dr. Charles Eldering
2003	Joint Claim Construction and Prehearing Statement in <i>Anderson Power Products, Inc. v. BizLink Technology, Inc. et al.</i> , Case No. 23-cv-5436 (N.D. Cal.)
2004	Defendants' Responsive Claim Construction Brief in <i>Anderson Power Products, Inc. v. BizLink Technology, Inc. et al.</i> , Case No. 23-cv-5436 (N.D. Cal.)
2005	Plaintiff's Infringement Contentions in <i>Anderson Power Products, Inc. v. BizLink Technology, Inc. et al.</i> , Case No. 23-cv-5436 (N.D. Cal.)
2006	Defendants' Invalidity Contentions in <i>Anderson Power Products, Inc. v. BizLink Technology, Inc. et al.</i> , Case No. 23-cv-5436 (N.D. Cal.)
2007	Merriam-Webster's Unabridged Dictionary, definition of "insulator"
2008	Merriam-Webster's Unabridged Dictionary, definition of "non-conductive"
2009	Merriam-Webster's Unabridged Dictionary, definition of "within"

I. INTRODUCTION

Petitioner BizLink Technology, Inc. (“Petitioner”) has petitioned for *Inter Partes* Review of Claims 1-4 and 7-12 (collectively, the “Challenged Claims”) of U.S. Pat. No. 8,808,017 (“the ‘017 patent”), which is owned by Patent Owner Anderson Power Products, Inc. (“Patent Owner”). The Board should confirm the patentability of the Challenged Claims because Petitioner has failed to meet its burden of proving that the Challenged Claims are unpatentable.

Challenged Claim 1 is the only independent Challenged Claim. Petitioner asserts only two anticipation grounds against Challenged Claim 1:

(i) Ground 1A (Petitioner asserting that Challenged Claims 1-4, 7-12 are anticipated by Winkler); and

(ii) Ground 2A (Petitioner asserting that Challenged Claims 1-4 are anticipated by Kataoka).

The remaining grounds of the Petition (*i.e.*, Grounds 1B-D and Ground 2B) do not address Challenged Claim 1 and relate only to Challenged Claims that depend on Challenged Claim 1.

Petitioner’s two anticipation grounds against Challenged Claim 1 fail because Petitioner misconstrues Challenged Claim 1 and ignores expressly recited claim limitations and the prior art’s actual disclosures and figures. Importantly, despite asserting that Winkler and Kataoka each *disclose* the limitations of Challenged

Claim 1, for several limitations Petitioner relies exclusively on made-up diagrams that are not disclosed in Winkler or Kataoka, were created by Petitioner's counsel solely for the purposes of this proceeding, and are inconsistent with Winkler's and Kataoka's actual disclosures and figures. When Winkler's and Kataoka's actual disclosures and figures are considered, it is evident that Petitioner cannot meet its burden of proving that the prior art anticipates Challenged Claim 1. Accordingly, Patent Owner respectfully requests the Board confirm the patentability of the Challenged Claims of the '017 patent.

II. BACKGROUND

A. The '017 Patent And The Challenged Claims.

The '017 patent, entitled "Electrical Connector with Anti-Arcing Feature," was issued on August 19, 2014, from U.S. Patent Application No. 13/734,025 (filed January 4, 2013). (EX1001 at [21], [22], [45], [54].)

The '017 patent and the Challenged Claims generally relate to "an electrical connector that suppresses arcing if connected or disconnected while current is flowing." (*Id.* at 1:6-8.) According to the '017 patent, "[e]lectrical connectors generally should not be connected or disconnected while the electrical load is turned on." (*Id.* at 1:12-13.) "Electrical arcing between the separated contacts of a live electrical connector present a hazard of fire and of burns to the user, and any such arcing tends to reduce the useful life of the connector." (*Id.* at 1:13-17.)

“Nevertheless, due to the fallibility of human nature, it remains true that electrical connectors may at times be inadvertently connected or disconnected while the electrical load is turned on.” (*Id.* at 1:18-21.)

In the ‘017 patent’s discussion of the prior art, the specification describes a typical “male and female connector pair” that includes a male contact 100 and a female contact 102. (*Id.* at 2:62-64.) “[I]nsulating structures 108, 110 are provided proximal to the outer faces of the contacts 100, 102 to support the contacts 100, 102, and to provide receiving channels for the two insulating housings 104, 106 to mate.” (*Id.* at 3:6-10.) However, as shown in FIG. 1B below, when the connector pair has “been partially disconnected while a voltage is still being applied” the “leading ends of the two contacts 100, 102 are separated by a short gap” and “through-air electrical arcing 114 is taking place between them.” (*Id.* at 3:13-17.)

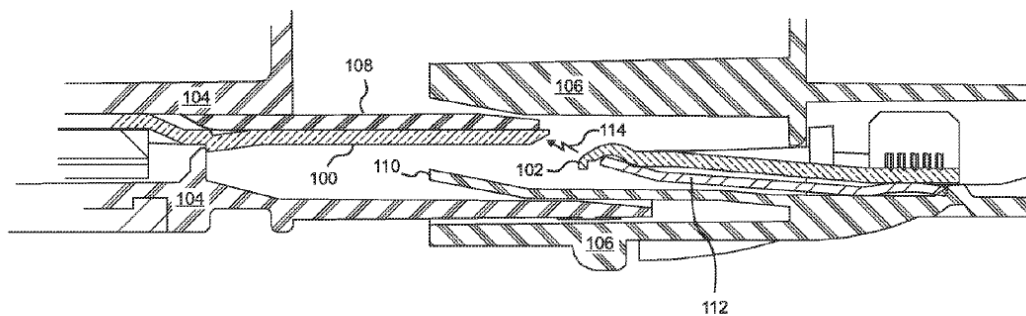


Figure 1B
Prior Art

(*Id.* at FIG. 1B (depicting through-air electrical arcing 114).)

To rectify this issue, the inventors of the ‘017 patent developed a “novel connector pair [that] suppresses electrical arcing between separated contacts during

mating and un-mating of the connectors, without including an additional connection or switching device.” (*Id.* at 1:55-58.) The novel connector pair “includes an insulating barrier that suppresses arcing between separated contacts during connection and disconnection of the electrical contacts ... thereby protect[ing] users from electrical burns and extend[ing] the useful life of the connector.” (*Id.* at 1:58-63.) “The insulating barrier includes both a male and a female barrier, at least one of which is configured so that it extends beyond at least one of the contacts and covers the leading edge of the contact.” (*Id.* at 1:64-67.) “The male and female barriers engage with each other when the contacts are separated, thereby closing off all through-air paths between the contacts and suppressing arcing.” (*Id.* at 1:67-2:3; *see also id.* at Abstract.)

Unlike the prior art connector pair shown in FIG. 1B, when the “ends of the two contacts 100, 102 [in the novel connector pair of the ‘017 patent] are not separated by a large distance, the male insulating barrier 200 is very near to or physically in contact with the [female] insulating barrier 202, thereby blocking substantially all through-air arcing paths between the contacts 100, 102.” (*Id.* at 3:30-36.)

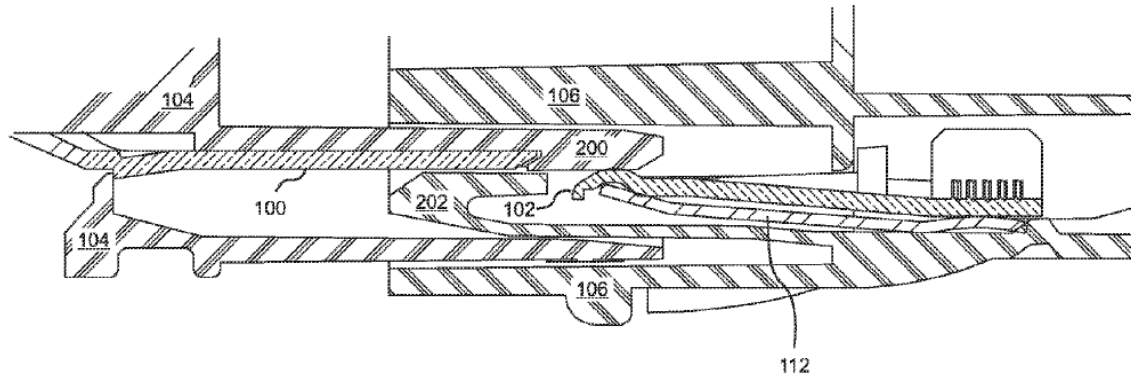


Figure 2B

(*Id.* at FIG. 2B.)

Independent Challenged Claim 1 of the '017 patent—the only independent Challenged Claim—is reproduced below with Petitioner's limitation designations:

1[pre] An electrical connector pair, comprising:

1[a] a first connector having a first insulating housing;

1[b] a first electrical contact supported within the first insulating housing,

1[c] the first electrical contact having a connecting surface that is substantially parallel with a longitudinal axis of the insulating housing and terminates in a leading end of the first electrical contact;

1[d] a second connector having a second insulating housing;

1[e] a second electrical contact supported within the second insulating housing,

1[f] the second electrical contact being configured to laterally engage with the connecting surface of the first electrical contact when the first connector is mated with the second connector;

1[g] a first insulating barrier within the first connector extending beyond and covering the leading end of the first electrical contact; and

1[h] a second insulating barrier extending beyond the second electrical contact within the second connector,

1[i] the second insulating barrier being configured so as to be in close proximity with the first insulating barrier when the first and second connectors are partially disconnected and the first and second electrical contacts are separated by a short distance, thereby blocking substantially all through-air arcing paths between the first and second electrical contacts.

(*Id.* at claim 1.)

As shown above, Challenged Claim 1 of the '017 patent is directed to an electrical connector pair comprising a first connector having a first insulating housing and a second connector having a second insulating housing. (*Id.* at claim 1.) The first connector has a first insulating barrier extending beyond and covering a leading end of a first electrical contact supported within the first insulating housing, and the second connector has a second insulating barrier extending beyond a second electrical contact supported within the second insulating housing. (*Id.*) The second insulating barrier is configured to be in close proximity with the first insulating barrier when the first and second connectors are partially disconnected and the first and second electrical contacts are separated by a short distance. (*Id.*) In the claimed configuration, substantially all through-air arcing paths between the first and second electrical contacts are blocked. (*Id.*)

B. The Level Of Ordinary Skill In The Art.

The '017 patent states that the “invention relates to electrical connectors, and more particularly, to an electrical connector that suppresses arcing if connected or disconnected while current is flowing.” (EX1001 at 1:6-8.) Petitioner's expert agrees that the field of the invention is “electrical connectors.” (EX2002 at 174:20-175:3; *see also id.* at 99:10-16.)

Petitioner asserts that a POSITA “would have had at least a bachelor's degree in electrical engineering or a similar field and at least two years of experience working with electrical circuits or electrical connectors, including power connectors.” (Petition at 19.)

Petitioner's proposed definition of a POSITA is incorrect because it excludes the field of the '017 patent, is not limited to the field of the '017 patent (*i.e.*, electrical connectors), and encompasses individuals with no experience with electrical connectors.¹ An individual with no experience with electrical connectors would not

¹ See Petition at 19 (“electrical circuits *or* electrical connectors”) (emphasis added); EX2002 at 91:11-94:22 (Petitioner's expert testifying he does not know how much experience with electrical connectors one would need to qualify under his own definition).

have been considered a POSITA in the field of the '017 patent (*i.e.*, electrical connectors). (EX2001, ¶ 30; EX2002 at 174:20-175:3.)

Petitioner's proposed definition of a POSITA is also incorrect because it is overbroad. "Working with" electrical connectors is broad enough to encompass merely using or installing electrical connectors. (EX2001, ¶ 31.) For example, a concert "roadie" that has used electrical connectors for decades may be considered a POSITA under Petitioner's definition, even if he or she has no idea how electrical connectors work. (*Id.*) To properly understand the electrical connectors of the claimed invention, including the technical requirements of suppressing electrical arcing, a POSITA in the field of the '017 patent would have had at least two years of experience designing or developing electrical connectors. (*Id.*)

Accordingly, a POSITA in the field of the '017 patent would have had at least a bachelor's degree in mechanical or electrical engineering or an equivalent field, and at least two years of experience designing or developing electrical connectors. (*Id.*, ¶ 32.)²

² Patent Owner's expert qualifies as a POSITA under both parties' definitions. (*Id.*, ¶ 33.)

C. The Petition's Asserted Grounds Of Unpatentability And Asserted Anticipatory References.

The Petition seeks review of the Challenged Claims of the '017 patent based on six grounds, which are referred to as Grounds 1A-D and Grounds 2A-B. (Petition at 18-19.) With respect to Challenged Claim 1 of the '017 patent (*i.e.*, the only independent Challenged Claim), the Petition asserts only anticipation grounds under 35 U.S.C. ¶ 102. (*Id.*) The Petition's asserted anticipatory references (*i.e.*, Winkler and Kataoka) are summarized below.

1. U.S. Patent No. 2,838,739 ("Winkler").

Winkler is generally directed to "an electrical connector of novel construction of the type having one or more identical contact or terminal members and which is adapted for longitudinal telescoping engagement with a second and identical connector." (EX1004 at 1:44-48.) The connector includes a housing "in which provision is made for movably and yieldably mounting the terminals in a manner such that the terminals may be resiliently interlocked in their engaged position so as to prevent inadvertent disengagement thereof during normal usage." (*Id.* at 1:48-55.) "The present terminals are also adapted for self-cleaning during engagement and disengagement thereof and are shaped so that any pitting of the terminals caused by arcing at the extreme ends thereof during disengagement will not impair the efficiency of the terminals at the areas of contact in their engaged position." (*Id.* at 1:55-61.)

2. U.S. Patent No. 8,182,278 (“Kataoka”).

Kataoka is generally directed to “a connector which may be potentially employed for a connection of a power harness used for transmitting a large amount of power.” (EX1005 at 1:10-14.) “The connector 1 is used for connecting, e.g., a motor for driving a vehicle to an inverter for driving the motor.” (*Id.* at 5:58-59.) According to Kataoka, “when [a] non-through type connecting member is employed, there is a new problem that it is necessary to take measures to prevent abrasion at the contact point.” (*Id.* at 2:27-29.) To address this problem, Kataoka developed a connector constructed so as “to suppress abrasion due to fine sliding at the contact points while ensuring insertability between connecting terminals when the connector is fitted even if a non-through type connecting member is employed.” (*Id.* at 3:59-62.)

III. LEGAL STANDARDS

In an *Inter Partes* Review, the Petitioner bears the burden from the onset to show with particularity why the patent it challenges is unpatentable. *See, e.g.*, 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b); *Dynamic Drinkware, LLC v. Natl. Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

“[T]he reference must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements arranged as in the claim.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1083 (Fed. Cir. 2008) (internal quotations omitted). In other words, it is not enough to be able to find all of the pieces of the claimed invention somewhere in a prior art reference; rather, those elements must be set out in the prior art reference in the same way they are in the claimed invention. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008).

“Inherent anticipation requires that the missing descriptive material is ‘necessarily present’ ... in the prior art.” *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002) (quoting *In re Robertson*, 169 F.3d 743, 745, (Fed. Cir. 1999)). Inherency “may not be established by probabilities or possibilities.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010). “The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.* Further, “what would have been obvious to a skilled artisan is not a valid consideration in an inherency analysis.” *Vivint, Inc. v. Alarm.com Inc.*, 741 Fed. Appx. 786, 792 (Fed. Cir. 2018) (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555 (Fed. Cir. 1983).)

“To anticipate, a reference must do more than ‘suggest’ the claimed subject matter. *Eli Lilly & Co. v. L.A. Biomedical Research Inst.*, 849 F.3d. 1073, 1076

(Fed. Cir. 2017) (quoting *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1055 (Fed. Cir. 2010).) Similarly, the Board is not permitted to “fill in missing limitations simply because a skilled artisan would immediately envision them.” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1274-75 (Fed. Cir. 2017).

IV. CLAIM CONSTRUCTION

A. “insulating”

The term “insulating” is recited several times in Challenged Claim 1 of the ‘017 patent. (EX1001 at claim 1.) The proper construction of “insulating” is “electrically insulating.” Patent Owner’s construction is consistent with the intrinsic and extrinsic evidence, as well as the Board’s preliminary construction of “insulating” in the Institution Decision. (Institution Decision at 11-12.)

1. The Claims Support Patent Owner’s Proposed Construction.

First, the claims support Patent Owner’s proposed construction. Claims 1, 4, 13, and 17 of the ‘017 patent recite four “insulating” structures: “a first insulating housing,” “a second insulating housing,” “a first insulating barrier,” and “a second insulating barrier.” (EX1001 at claims 1, 4, 13, and 17.)

The claims of the ‘017 patent support that these “insulating” structures are “electrically insulating” because the claims are expressly directed to an “*electrical* connector pair” comprising first and second connectors each having an “*electrical* contact” supported therein. (*Id.* at claims 1 and 13 (emphases added).) The second

connector includes a “second insulating barrier” that is configured “to be in close proximity with [a] first insulating barrier [in the first connector] when the first and second connectors are partially disconnected and the first and second *electrical* contacts are separated by a short distance.” (*Id.* at claims 1 and 17 (emphasis added).)

The claims also support that the claimed “insulating” structures are “electrically insulating” because the claims recite that the first and second insulating barriers “block[] substantially all through-air arcing paths between the first and second electrical contacts.” (*Id.*) Arcing in the claims refers to *electrical* arcing, which occurs when an electrical current jumps the gap between two conductors (*e.g.*, the gap between the first and second electrical contacts). (*Id.* at Abstract (“The transitional segment is configured to make first and last contact during the initial phases of mating and un-mating, thereby increasing electrical resistance and significantly lowering the electrical current and the energy available for *electrical arcing*.”), 1:6-8 (“The invention relates to electrical connectors, and more particularly, to an electrical connector that suppresses *arcing* if connected or disconnected while *current is flowing*.”) (emphases added); *id.* at 1:14-15, 1:27-28, 1:49-50, 1:55-56, 2:10-11 (referring to electrical arcing); EX2001, ¶ 49; EX2002 at 100:1-5.) To block substantially all through-air electrical arcing between the

claimed first and second electrical contacts, the claimed first and second insulating barriers must be electrically insulating. (EX2001, ¶ 49; Institution Decision at 11.)

Thus, the claims are clear that the term “insulating” means “electrically insulating.” In accordance with well-settled principles of claim construction, this construction should be applied to all instances of the term “insulating” in the claims of the ‘017 patent (*i.e.*, to all the claimed “insulating” structures). *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1345 (Fed. Cir. 1998) (“the same word appearing in the same claim should be interpreted consistently.”); *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1310 (Fed. Cir. 1999) (same); Institution Decision at 11 (citing *Digital Biometrics*).

2. The Specification Supports Patent Owner's Proposed Construction.

Second, the specification supports Patent Owner's proposed construction. The specification teaches that the “insulating” structures block substantially all through-air arcing paths and protect a user from electrical burns and other detrimental effects of arcing. (EX1001 at Abstract, 1:6-8, 1:48-51, 1:55-58.) To do that, the claimed “insulating” structures must be electrically insulating. (EX2001, ¶ 50; Institution Decision at 11.)

The specification also supports that the claimed “insulating” structures are electrically insulating because it teaches that the connector pair (which includes first and second insulating barriers that are configured to engage with each other when

the connectors' electrical contacts are partially disconnected and separated by a small gap) suppresses electrical arcing during connection and disconnection by substantially blocking or resisting the flow of electrical current. (EX1001 at Abstract, 1:6-8, 1:48-51, 1:55-61, 1:64-2:3, 2:42-44, 3:30-40; EX2002 at 99:10-16, 100:1-5.) In that claimed configuration, substantially all through-air electrical arcing paths between the first and second electrical contacts are blocked. (*Id.*)

Additionally, the specification distinguishes the claimed novel connector pair from prior art connector pairs that allowed through-air electrical arcing to take place between the electrical contacts as the connectors were mated and un-mated. (EX1001 at 3:13-17; *see also id.* at 1:42-47; *id.* at FIG. 1B (showing electrical arcing 114 between contacts 100, 102).) The specification teaches that the claimed “insulating” structures block the tendency of electrical current to arc from the female contact 102 to the male contact 100 by having high (or even “near-infinite”) electrical resistance. (*Id.* at 3:63-4:5; *see also id.* at Abstract, 4:6-10.) That is, the claimed “insulating” structures block or resist the flow of electrical current (*i.e.*, are electrically insulating), thus preventing electrical arcing.

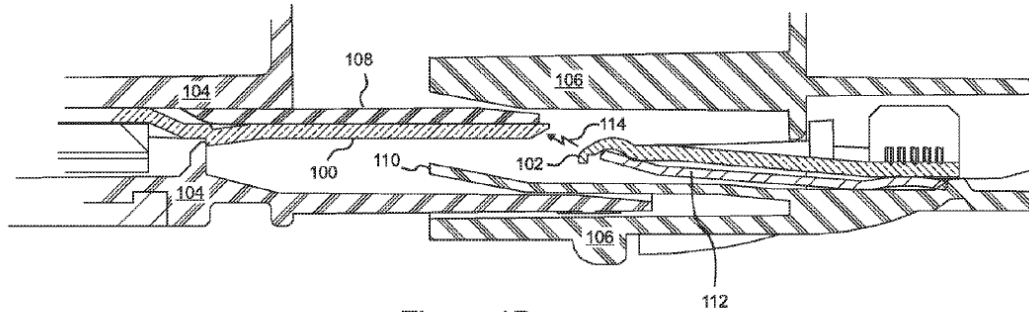


Figure 1B
Prior Art

(*Id.* at FIG. 1B (showing electrical arcing 114 between contacts 100, 102).)

The specification further supports that the claimed “insulating” structures are electrically insulating because it teaches the claimed “insulating” structures protect a user from electrical burns and other detrimental effects of electrical arcing. To protect a user from those effects, the claimed “insulating” structures must be electrically insulating. (EX2001, ¶ 53; Institution Decision at 11.) The specification states that the insulating barriers “*protect[]* users from *electrical* burns and extend[] the useful life of the connector.” (*Id.* at 1:61-63 (emphases added).) The connector pair of the ‘017 patent also includes insulating housings 104, 106 that surround the male and female electrical contacts 100, 102. (*Id.* at 3:2-3, FIGS. 2A-B.) Like the first and second insulating barriers, the insulating housings 104, 106 are configured to “provid[e] *some protection to a user in case arcing occurs when the user is handling the connector pair.*” (*Id.* at 3:2-6 (emphasis added).)

3. The Petition Supports Patent Owner's Proposed Construction.

Third, the Petition supports Patent Owner's proposed construction. In the Petition, Petitioners assert that the claimed "insulating" structures must be made of nonconductive material. (Petition at 64, 75.) The term "nonconductive" means that the material does not conduct electricity and is, therefore, electrically insulating. (EX2001, ¶ 54; EX2008.) For example, the Petition asserts that Kataoka's "[i]nsulating member 43a of insulator 8a is an 'insulating barrier' *because it is formed of non-conductive material* and because it 'ensure[s] insulation between the contact points (or between a contact point and the first terminal housing).'" (Petition at 75 (emphasis added); *id.* at 74 ("insulators 8a-8d formed of a non-conductive resin...").) The Petition also asserts that Kataoka's "[h]ousing 5 is an 'insulating housing,' *because it is formed of non-conductive resin.*" (*Id.* at 64 (emphasis added); EX2006 at 35.)³

The Petition asserts that insulating materials prevent electrical arcing because electrical current does not travel through the insulating material. (Petition at 7.) Similarly, the Petition asserts that insulating barriers are designed to prevent electric shock to a user's hand or finger. (*Id.* at 16.) In other words, the Petition confirms

³ The Petition similarly discusses displacing insulation to enable "conductive coupling to a wire." (Petition at 50.)

that the claimed “insulating” structures prevent electrical conductivity and that the proper construction of the term “insulating” is “electrically insulating.”

4. The Extrinsic Evidence Supports Patent Owner's Proposed Construction.

Fourth, the extrinsic evidence supports Patent Owner's proposed construction. The '017 patent describes the field of the invention as follows: “The invention relates to electrical connectors, and more particularly, to an electrical connector that suppresses arcing if connected or disconnected while current is flowing.” (EX1001 at 1:6-8; EX2002 at 174:20-175:3.) Patent Owner's expert Mr. Locati, who is a POSITA, explained that in the field of the '017 patent the term “insulating” is used to refer to electrically nonconducting materials. (EX2001, ¶ 56.) That is, those of ordinary skill in the art in the field of the '017 patent understand the term “insulating” to mean “electrically insulating.” (*Id.*)

Consistent with the '017 patent's description of the various “insulating” structures, the dictionary defines an “insulator” as “a body of *electrically nonconducting material* for keeping charged conductors from contact with each other or from grounding and often also for supporting them.” (EX2007; EX2008.)

Accordingly, the intrinsic and the extrinsic evidence supports that the proper construction of the term “insulating” is “electrically insulating.”

B. “within”

The term “within” is recited several times in Challenged Claim 1 of the ‘017 patent. (EX1001 at claim 1.) The proper construction of the term “within” is “on the inside of.” This construction is consistent with the intrinsic and extrinsic evidence.

1. The Intrinsic Evidence Supports Patent Owner's Proposed Construction.

The intrinsic evidence supports Patent Owner's proposed construction of “within” (*i.e.*, “on the inside of”).

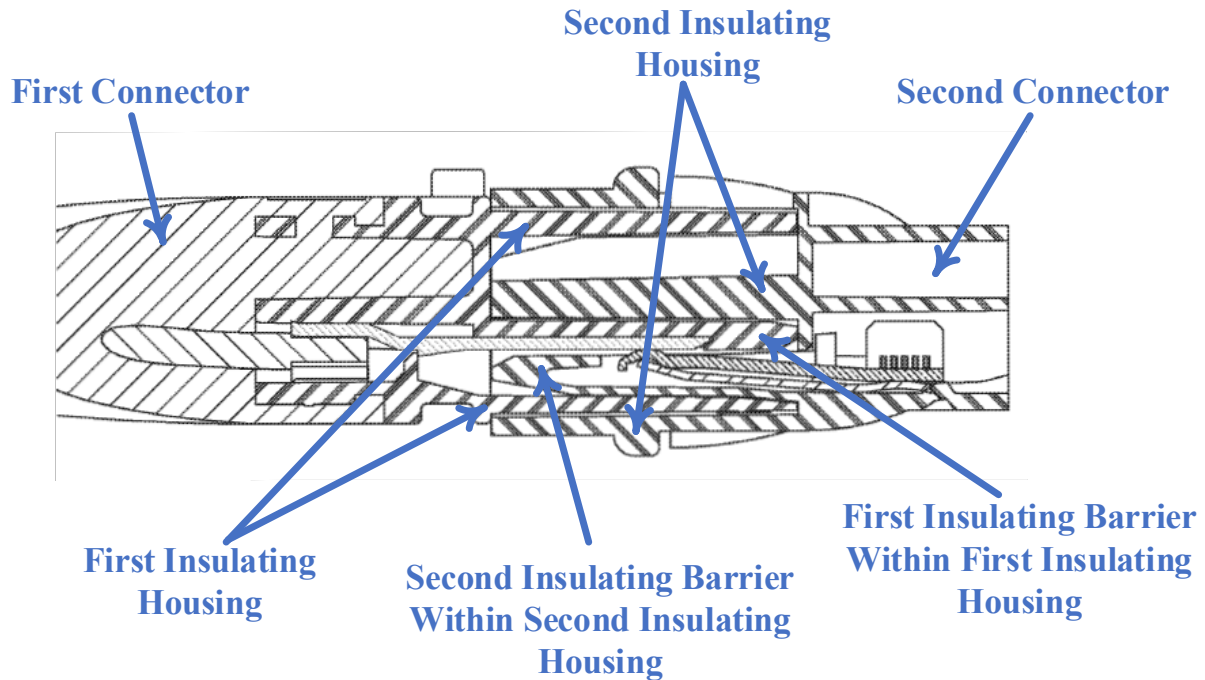
Challenged Claim 1 recites several structures that are “within” (*i.e.*, on the inside of) another structure. Challenged Claim 1 recites (i) “a first electrical contact supported *within* the first insulating housing”; (ii) “a second electrical contact supported *within* the second insulating housing”; (iii) “a first insulating barrier *within* the first connector”; and (iv) “a second insulating barrier extending beyond the second electrical contact *within* the second connector.” (EX1001 at claim 1 (emphases added).)

The specification is clear that each of the claimed electrical contacts and insulating barriers is within (*i.e.*, on the inside of) another structure (*i.e.*, an insulating housing and a connector, respectively). For example, the specification teaches “[i]nsulated housings 104, 106 *surround* the male and female [electrical] contacts.” (EX1001 at 3:2-3 (emphasis added).) The insulated housings would not

“surround” the electrical contacts if the contacts were on the outside of the insulated housings. (EX2001, ¶ 60.) Rather, the electrical contacts are within (*i.e.*, on the inside of) the insulated housings. (*Id.*)

Like electrical contacts 100, 102, the specification discloses that insulating barriers 200, 202 are within (*i.e.*, on the inside of) the connectors. According to the specification, “additional insulating structures 108, 110 are provided proximal to the outer faces of the [electrical] contacts 100, 102.” (EX1001 at 3:6-8.) These insulating structures 108, 110 are “replaced by insulating barrier structures 200, 202.” (*Id.* at 3:18-23.) The specification discloses that insulating barriers 200, 202 are configured to “block[] substantially all through-air arcing paths between the [electrical] contacts 100, 102” when the connectors are in a partially disconnected configuration. (*Id.* at 3:30-40; *see also id.* at Abstract.)

Figure 3B, reproduced below, shows that the insulating barriers are within (*i.e.*, on the inside of) the insulating housings of the first and second connectors:



(*Id.* at FIG. 3B (annotated).)

Similarly, in Figures 3A and 4A—which depict top views of a complete connector pair in the connected and partially disconnected configurations, respectively—neither the electrical contacts nor the insulating barriers are visible because they are within (*i.e.*, on the inside of) the connectors and thus cannot be seen from the exterior:

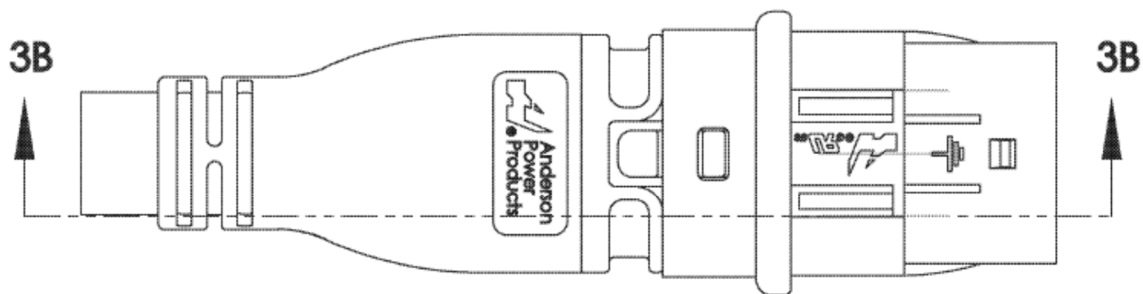


Figure 3A

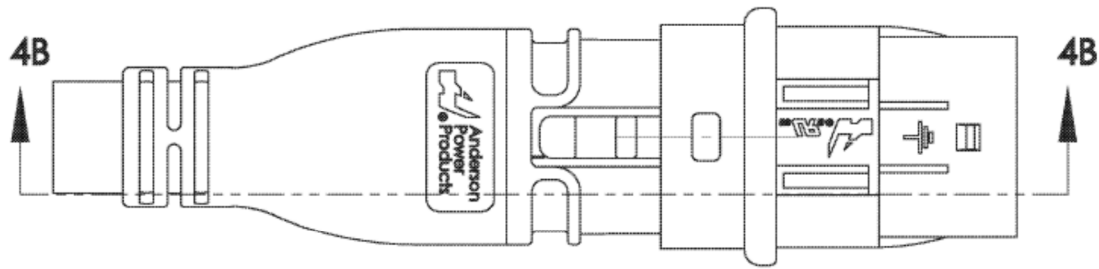


Figure 4A

(*Id.* at FIGS. 3A, 4A; *see also id.* at 3:41-48.)

Accordingly, the intrinsic evidence confirms the proper construction of the term “within” is “on the inside of.”

2. The Extrinsic Evidence Supports Patent Owner’s Proposed Construction.

The extrinsic evidence also supports Patent Owner’s proposed construction of “within” (*i.e.*, “on the inside of”). The dictionary defines the term “within” as “on the inside,” “internally,” or “inside.” (EX2009.) The dictionary definition of “within” is consistent with the intrinsic evidence.

V. PETITIONER HAS FAILED TO SHOW THE CHALLENGED CLAIMS OF THE '017 PATENT ARE UNPATENTABLE.

A. Ground 1A: Petitioner Has Failed To Show Winkler Anticipates Challenged Claims 1-4 And 9.

1. Petitioner Has Failed To Show Winkler Anticipates Challenged Claim 1.

(a) Petitioner Has Failed To Show That Winkler Discloses Limitation 1[f].

(i) The Petition Failed To Present A *Prima Facie* Case That Winkler Discloses Limitation 1[f].

The Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[f] because it ignores Limitation 1[f]'s requirement that the second electrical contact is configured to laterally engage *with the connecting surface* of the first electrical contact. (EX1001 at claim 1.) The Petition *does not assert* that Winkler's second electrical contact (*i.e.*, the other contact member 22, according to Petitioner) is configured to laterally engage with the alleged connecting surface of the first electrical contact (*i.e.*, the "flat elongated portion 32 of contact member 22," according to Petitioner). (See Petition at 23-25; EX1003, ¶¶ 67-70.)

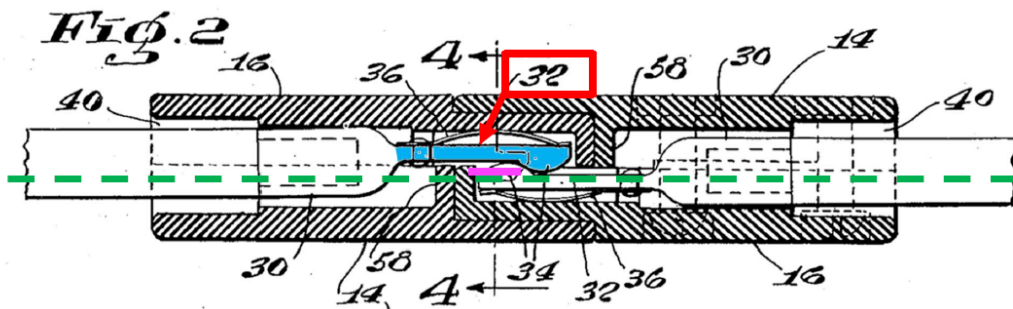
Limitation 1[f] recites: "the second electrical contact being configured to laterally engage with the connecting surface of the first electrical contact when the first connector is mated with the second connector." (EX1001 at claim 1.)

The antecedent basis for Limitation 1[f]'s term "the connecting surface of the first electrical contact" is provided earlier in the claim in Limitation 1[c], which

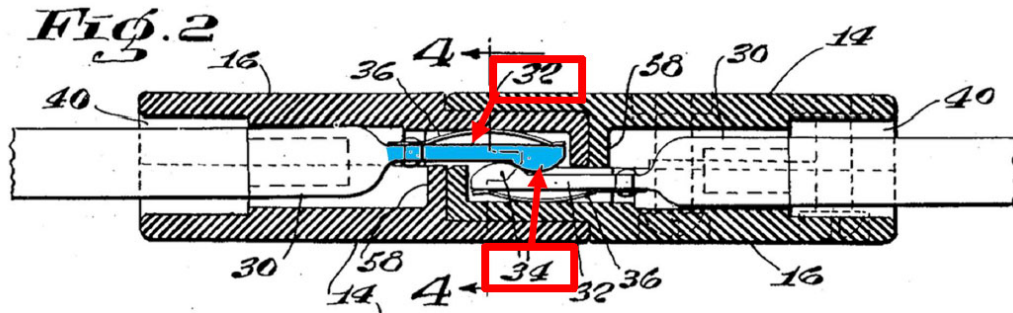
recites: “the first electrical contact having a connecting surface that is substantially parallel with a longitudinal axis of the insulating housing and terminates in a leading end of the first electrical contact.” (*Id.*)

Regarding Limitation 1[c], the Petition asserts that Winkler's contact member 22 is the claimed “first electrical contact,” Winkler's “flat elongated portion 32 of contact member 22” is the claimed “connecting surface” of the first electrical contact, and Winkler's “convex end portion 34” is the claimed “leading end” of the first electrical contact. (Petition at 23-25; EX1003, ¶¶ 67-70.)

The Petition includes the below illustrations identifying the alleged “connecting surface of the first electrical contact” (*i.e.*, elongated flat portion 32, shown in pink) and distinguishing it from the alleged “leading end of the first electrical contact” (*i.e.*, convex end portion 34, the tip of the portion shown in blue):



(Petition at 24 (annotations in original); EX1003, ¶ 68 (same); EX2002 at 123:7-124:6.)



(Petition at 25 (annotations in original); EX1003, ¶ 69 (same).)

Regarding Limitation 1[f], the Petition asserts that “[c]ontact members 22 in *Winkler* (first and second electrical contacts) ‘laterally engage’ with one another as claimed because they are in ‘interlocking engagement with each other when fully engaged.’” (Petition at 29 (quoting EX1004 at 4:50-56); EX1003, ¶ 75 (same).) The Petition further asserts that “as the connectors approach full engagement, the springs 36 effect upward movement of the terminals in their pockets to present the *curved portions 34* in hooked or interlocked relation to each other.” (Petition at 29-30 (quoting EX1004 at 3:18-27) (emphasis added); EX1003, ¶ 75 (same).)

Challenged Claim 1 does not recite first and second electrical contacts configured to laterally engage with each other. (EX1001 at claim 1.) Rather, Challenged Claim 1 expressly recites a second electrical contact configured to laterally engage *with the connecting surface* of the first electrical contact. (*Id.*)

The Petition, however, *does not assert* that *Winkler*’s second electrical contact is configured to laterally engage with the alleged connecting surface (*i.e.*, *Winkler*’s “elongated flat portion 32”) of *Winkler*’s first electrical contact. (Petition

at 28-30; EX1003, ¶¶ 74-75.) Rather, the Petition asserts only that Winkler's first and second electrical contacts, and, more specifically, the curved portions 34 of Winkler's first and second electrical contacts, laterally engage with one another. (*Id.*)

Importantly, Winkler's "curved portion 34" *is not the alleged connecting surface* of Winkler's first electrical contact. Rather, Winkler's "elongated flat portion 32" is the alleged connecting surface. (Petition at 24 (showing alleged connecting surface in pink); *id.* at 25 (distinguishing Winkler's end portion 34 from the alleged connecting surface 32); EX1003, ¶¶ 67-70; EX2002 at 123:7-124:6.) The Petition's analysis of Limitation 1[f] does not even mention Winkler's alleged connecting surface (*i.e.*, the elongated flat portion 32) and does not assert that Winkler's second electrical contact is configured to laterally engage with the "elongated flat portion 32" (*i.e.*, the alleged connecting surface) of the first electrical contact, as Limitation 1[f] of Challenged Claim 1 requires. (Petition at 28-30; *see also* EX1003, ¶¶ 74-75.)

In the Institution Decision, the Board preliminarily held that Petitioner has shown that Winkler discloses Limitation 1[f]. (Institution Decision at 23-24.) The Board stated: "As shown, and without need for further explanation, the first and second contacts *are engaged* at least along the location of the elongated flat portion depicted cross-sectionally in Figure 4." (*Id.* at 24 (citing Petition at 29; EX1004 at

FIG. 4) (emphasis added).) The Institution Decision, like the Petition, fails to address what is claimed and how Winkler's second electrical contact is purportedly configured to “*laterally engage*” with the alleged connecting surface (*i.e.*, elongated flat portion 32) of the first electrical contact. (Institution Decision at 24; Petition at 28-30; EX1003, ¶¶ 74-75.) Challenged Claim 1 does not recite that the first and second contacts “are engaged.” (EX1001 at claim 1.) Rather, the claim requires that the second electrical contact is configured to “*laterally engage* with the *connecting surface* of the first electrical contact.” (*Id.* (emphases added).)

Accordingly, the Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[f].

(ii) Winkler Does Not Disclose Limitation 1[f].

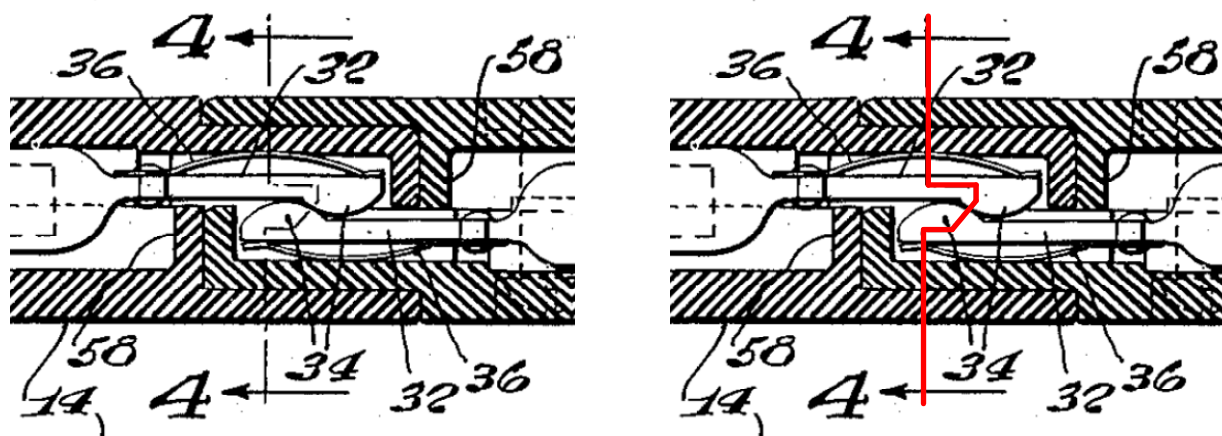
In view of Petitioner's failure to show that Winkler discloses Limitation 1[f] in the first instance, no further inquiry is necessary, and the Board should conclude that none of the Challenged Claims are unpatentable over Winkler.

The Board should also find in Patent Owner's favor because Winkler does not disclose that the second electrical contact is configured to laterally engage with the “elongated flat portion 32” (*i.e.*, the alleged connecting surface) of the first electrical

contact. (EX2001, ¶ 73.)⁴ Indeed, Winkler does not disclose that the second electrical contact makes *any sort of engagement or contact* with the elongated flat portion 32 of the first electrical contact. (*Id.*)

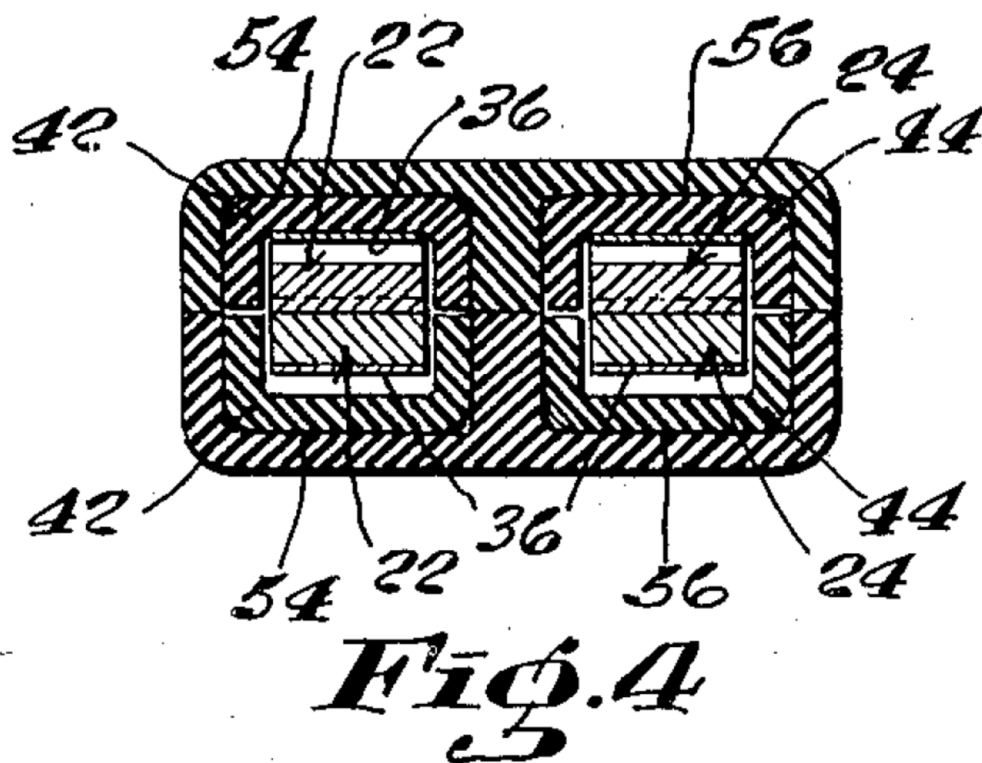
At the outset, the Board's preliminary finding that Winkler's Figure 4 shows engagement between the second contact and the elongated flat portion 32 of the first contact is incorrect. (Institution Decision at 24; EX2001, ¶ 78.) Winkler's Figure 4 is described as "a cross-sectional view taken on the line 4-4 of Fig. 3." (EX1004 at 1:33-34, FIG. 4.) The "line 4-4" is shown in red in the annotated figure reproduced below. As can be seen, the "line 4-4" takes an approximately 45-degree angle through the convex end portions 34 of the electrical contacts. (EX2001, ¶ 77.) The "line 4-4" does not go through the elongated flat portion 32 of either electrical contact. (*Id.*) Again, Petitioner alleges that the elongated flat portion 32 (and not the convex end portion 34) is the connecting surface of the first contact. (Petition at 28-30; EX1003, ¶¶ 74-75.)

⁴ Engagement means contact or touching. (*Id.*) Petitioner's expert agrees. (EX1003, ¶ 148.)



(*Id.* at FIG. 2 (annotated).)

Winkler's Figure 4, reproduced below, illustrates the engagement between the convex end portions 34 along the "line 4-4." (EX2001, ¶ 78; EX1004 at FIG. 4, 1:33-34, 3:14-27; EX2002 at 142:21-146:14.) Winkler's Figure 4 shows that the convex end portions 34 are in "hooked or interlocked" engagement with each other at an approximately 45-degree angle. (*Id.*) Winkler's Figure 4 does not have a reference numeral 32, does not depict the elongated flat portion 32 of the first electrical contact, and does not disclose that the elongated flat portion 32 of the first electrical contact engages or is in contact with the second electrical contact. (EX2001, ¶ 78; EX1004 at FIG. 4.)



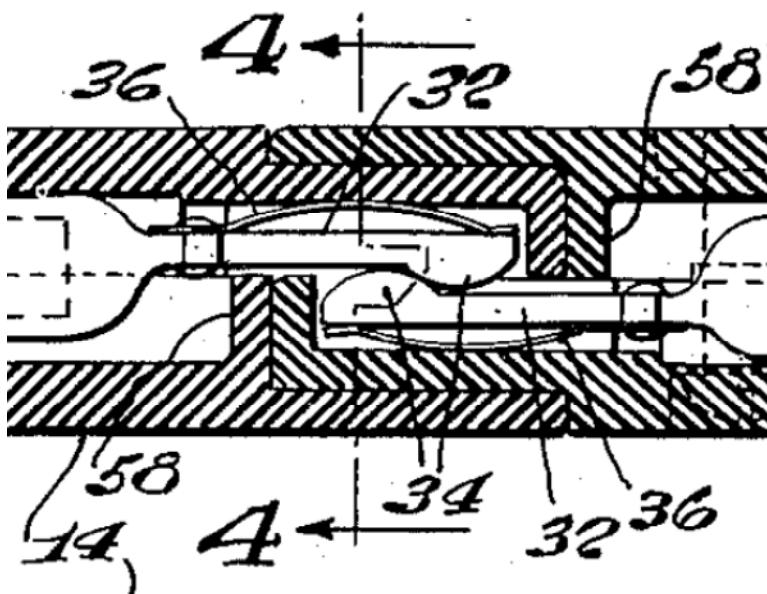
(EX1004 at FIG. 4.)

Like Figure 4, nothing in Winkler's written description discloses that the second electrical contact engages or touches the elongated flat portion 32 of the first electrical contact. (EX2001, ¶¶ 74-76.) Winkler's elongated flat portion 32 is mentioned only once. (EX1004 at 2:10-14.) Winkler does not disclose that the elongated flat portion 32 engages or contacts the second electrical contact. (*Id.*)

Winkler's convex end portions 34, on the other hand, are discussed several times. (EX1004 at 2:10-14, 2:27-32, 3:14-27, claim 4.) Winkler describes the convex end portions 34 as "contacting portions" of the electrical contacts that have "rounded contacting faces." (*Id.*) Winkler also discloses that, when the connectors

are engaged, the convex end portions 34 “are slidingly engaged by each other.” (*Id.*) Winkler further discloses that, when the connectors are fully engaged, the convex end portions 34 are in “hooked or interlocked” engagement with each other. (*Id.*)

Like Figure 4, none of Winkler’s other figures disclose that the elongated flat portion 32 of the first electrical contact engages or is in contact with the second electrical contact. (EX2001, ¶ 79.) Winkler Figure 2 discloses the opposite. (*Id.*) Figure 2, reproduced below, shows a gap between the elongated flat portion 32 and the convex end portion 34 of the opposing electrical contacts. (*Id.*)



(EX1004 at FIG. 2.)

In any case, “patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.” *Hockerson-Halberstadt, Inc. v. Avia Group. Int'l*,

Inc., 222 F.3d 951, 956 (Fed. Cir. 2000); *Nystrom v. TREX Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005) (“arguments based on drawings not explicitly made to scale” are “unavailing.”); *Franklin Elec. Co., Inc. v. Dover Corp.*, No. 2006-1442, 2007 WL 634430, at *6 (Fed. Cir. Mar. 1, 2007) (“We need not resolve” whether a figure “depict[s] contact between the right side of the spill collector and the upward extension” because “patent figures are generally not intended to convey such detail.”).

Here, Winkler does not indicate its figures are drawn to scale. (*See generally* EX1004; EX2001, ¶ 80.) When viewed in isolation, Winkler’s Figure 2 is at least ambiguous as to whether the elongated flat portion 32 of the first electrical contact engages or is in contact with the second electrical contact. (EX2001, ¶ 80.) However, when viewed in the context of its other disclosures, Winkler is clear the elongated flat portion 32 of the first electrical contact does not engage or contact the second electrical contact. (*Id.*)

Accordingly, Petitioner has failed to show Winkler discloses Limitation 1[f].

(b) Petitioner Has Failed To Show That Winkler Discloses Limitation 1[g].

Petitioner has failed to show that Winkler discloses Limitation 1[g]. Limitation 1[g] recites: “a first insulating barrier within the first connector extending beyond and covering the leading end of the first electrical contact.” (EX1001 at claim 1.)

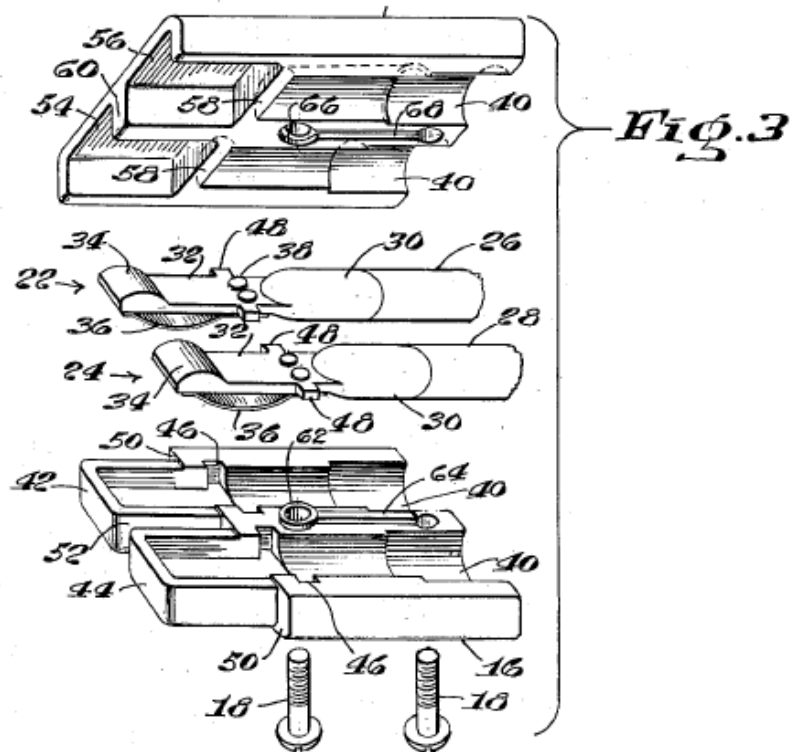
Petitioner asserts that Winkler's "receiving pocket 42" is "a first insulating barrier that extends beyond and covers a leading end of contact member 22..." (Petition at 31; *id.* at 30; EX1003, ¶ 76; EX2002 at 147:2-7.)

Petitioner ***does not assert*** that Winkler's "receiving pocket 42" (*i.e.*, the alleged first insulating barrier) is "***within***" ***Winkler's first connector 10***, as Limitation 1[g] of Challenged Claim 1 requires. (*Id.*) Thus, the Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[g].

Winkler also ***does not disclose*** that its "receiving pocket 42" (*i.e.*, the alleged first insulating barrier) is "within" (*i.e.*, on the inside of)⁵ Winkler's first connector 10. (EX2001, ¶ 87.) Rather, Winkler discloses that receiving pocket 42 is formed as part of the outside or exterior of connector 10. (*Id.*)

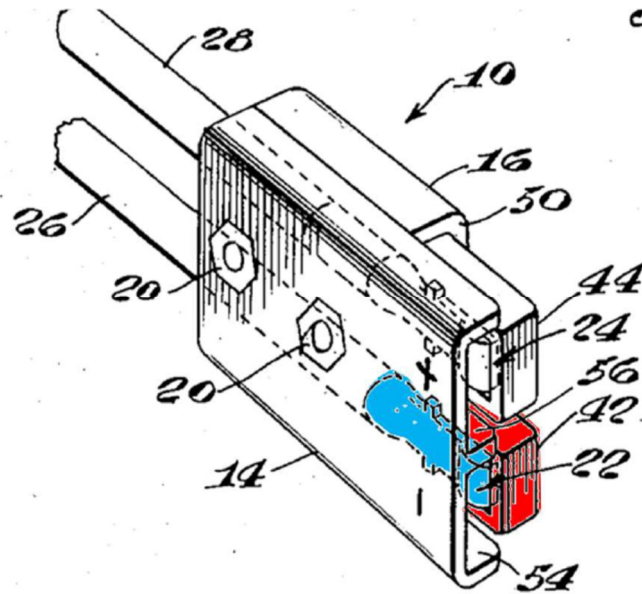
As shown in Figure 3 below, Winkler discloses that the only things "within" (*i.e.*, on the inside of) Winkler's first connector 10 are the electrical contacts 22 and 24 and air:

⁵ As discussed above, the proper construction of "within" is "on the inside of."



(EX1004 at FIG. 3; *id.* at 2:4-7, 2:18-32, 2:39-43, claim 1; EX2001, ¶ 88.)

Petitioner's annotated version of Winkler's Figure 1, reproduced below, further confirms that Winkler's "receiving pocket 42" (*i.e.*, the alleged first insulating barrier) is not "within" (*i.e.*, on the inside of) Winkler's first connector 10. As shown below, the alleged first insulating barrier (*i.e.*, **receiving pocket 42** in **red**) is formed on the outside or exterior of connector 10 (not inside the connector 10):



(Petition at 30; EX1003, ¶ 76 (same); EX2002 at 148:1-22.)

Lest there be any doubt Winkler fails to disclose Limitation 1[g], Petitioner *admits* that Winkler's receiving pocket 42, annotated in **red** below, is an “*outer portion[] of [the] connector housing.*” (Petition at 36 (emphasis added).) Thus, Petitioner agrees that Winkler's receiving pocket 42 is on the outside of the connector 10, not inside the connector 10. (*Id.*)



(*Id.* (annotations in original); EX1003, ¶ 89 (same).)

Accordingly, Petitioner has failed to show Winkler discloses Limitation 1[g].

(c) Petitioner Has Failed To Show That Winkler Discloses Limitation 1[h].

Petitioner has also failed to show that Winkler discloses Limitation 1[h]. Limitation 1[h] recites: “a second insulating barrier extending beyond the second electrical contact within the second connector.” (EX1001 at claim 1.)

Petitioner asserts Winkler’s “receiving pocket 42” of second connector 12 is the claimed “second insulating barrier.” (Petition at 31-32; EX1003, ¶ 78; EX2002 at 149:13-150:2.) Petitioner’s analysis of Limitation 1[h] relies on its analysis of Limitation 1[g]. (*Id.*; EX2002 at 150:4-9)

As shown above, the Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[g] and Winkler’s “receiving pocket 42” of first connector 10 (*i.e.*, the alleged “first insulating barrier”) is not “within” (*i.e.*, on the inside of) Winkler’s first connector 10. (EX2001, ¶¶ 95-96.) For the same reasons, the Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[h] and Winkler’s “receiving pocket 42” of second connector 12 (*i.e.*, the alleged “second insulating barrier”) is not “within” (*i.e.*, on the inside of) Winkler’s second connector 12, as claimed. (*Id.*)

Additionally, the Federal Circuit has “instruct[ed] that different claim terms are presumed to have different meanings.” *MicroStrategy Inc. v. Bus. Objects Americas*, 238 Fed. Appx. 605, 609 (Fed. Cir. 2007). Here, Limitation 1[g] recites

“a first insulating barrier within the first connector,” while Limitation 1[h] recites “a second insulating barrier *extending beyond the second electrical contact* within the second connector.” (EX1001 at claim 1 (emphasis added).) The Petition treats Limitations 1[g] and 1[h] as if they are the same, even though they are different in scope, which is legally and factually incorrect. (Petition at 31-32; EX1003, ¶ 78; EX2002 at 59:18-60:18, 62:7-15, 66:8-67:12.) Petitioner has failed to show Winkler discloses Limitation 1[h] for this additional reason.

(d) Petitioner Has Failed To Show That Winkler Discloses Limitation 1[i].

(i) The Petition Failed To Present A *Prima Facie* Case That Winkler Discloses Limitation 1[i].

The Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[i] because it relies exclusively on a made-up diagram that is not disclosed in Winkler and does not disclose many of the recited elements of Limitation 1[i].

Limitation 1[i] recites: “the second insulating barrier being configured so as to be in close proximity with the first insulating barrier when the first and second connectors are partially disconnected and the first and second electrical contacts are separated by a short distance, thereby blocking substantially all through-air arcing paths between the first and second electrical contacts.” (EX1001 at claim 1.)

In attempting to show Winkler discloses Limitation 1[i], Petitioner relies on a made-up diagram that is not disclosed anywhere in Winkler and was created by Petitioner's counsel for the purposes of this proceeding. (Petition at 32-34; EX1003, ¶¶ 80-84; EX2002 at 152:5-15, 15:8-16; EX2001, ¶ 102.) Petitioner's counsel's made-up diagram is reproduced below:

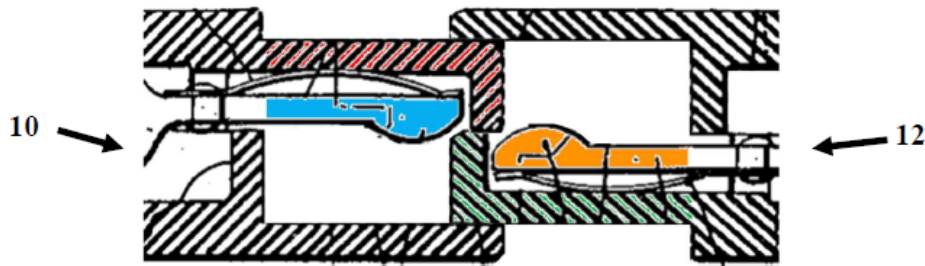


Diagram created based on Ex. 1004, Fig. 2, (modified to show connector 10 and connector 12 partially disconnected)

(Petition at 33; EX1003, ¶ 80.)⁶

Petitioner asserts, without any explanation or analysis, that the above diagram shows that “the first and second insulation barriers [depicted in red and green, respectively] block substantially all through-air arcing paths between the first contact member and the second contact member [depicted in blue and orange,

⁶ A POSITA would not envisage Petitioner's counsel's made-up diagram from Winkler's actual disclosures and figures, and, as discussed below, the diagram is **inconsistent** with Winkler's actual disclosures and figures. (EX2001, ¶ 102.)

respectively].” (Petition at 33.) Petitioner’s expert simply repeats the above sentence *verbatim* with no additional analysis or explanation. (EX1003, ¶ 81.)

Petitioner failed to present a *prima facie* case that Winkler discloses Limitation 1[i] for several reasons.

First, Petitioner’s counsel’s made-up diagram does not disclose “blocking substantially all through-air arcing paths between the first and second electrical contacts,” as Limitation 1[i] requires. Petitioner relies on only its counsel’s diagram and does not cite any text passages from Winkler. (Petition at 33; EX1003, ¶ 81.) Petitioner’s counsel’s diagram is silent as to whether Winkler’s alleged insulating barriers block any through-air arcing paths, let alone whether they block “substantially all through-air arcing paths,” as claimed. (EX2001, ¶ 103.) The diagram does not disclose anything about electrical arcing (or the lack thereof). (*Id.*)

Second, even if one were to assume Petitioner’s counsel’s diagram discloses blocking through-air arcing paths to any extent (it does not), Petitioner’s counsel’s diagram is at best ambiguous as to whether the alleged first and second insulating barriers are configured to “block substantially all through-air arcing paths” between the first and second electrical contacts, as Limitation 1[i] requires. (EX2001, ¶ 104.) “[I]t has long been understood that ambiguous references do not, as a matter of law, anticipate a claim.” *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272,

1284 (Fed. Cir. 2017). Anticipation “may not be established by probabilities or possibilities.” *Therasense*, 593 F.3d at 1332.

Here, Petitioner’s counsel’s made-up diagram, which, again, does not appear anywhere in Winkler, is a cross-sectional view of electrical connector pair 10, 12. (EX2001, ¶ 104.) The diagram depicts the arrangement of the alleged insulating barriers vis-à-vis the alleged electrical contacts at an unspecified location along the width of the electrical connector pair. (*Id.*)

The diagram does not disclose anything about the alleged insulating barriers or their arrangement at other locations along the width of the electrical connector pair. (*Id.*) For example, the diagram is ambiguous as to whether there are through-air arcing paths at other locations along the width of the electrical connector pair. (*Id.*) Further, the diagram is ambiguous as to whether there are indirect through-air arcing paths that may or may not be visible in the diagram or in any of Winkler’s other figures. (*Id.*)⁷ Nothing in Winkler, including Winkler’s other figures, resolves the ambiguity in Petitioner’s favor and, tellingly, no citations to Winkler other than the made-up diagram reproduced above were cited in Petitioner’s Limitation 1[i] analysis. (*Id.*; Petition at 32-33; EX1003, ¶¶ 79-82.)

⁷ Petitioner’s expert agreed that “through-air arcing paths” include both direct and indirect arcing paths. (EX2002 at 67:22-68:8.)

Third, Petitioner's assertion that Winkler discloses Limitation 1[i] is conclusory and legally insufficient. The Petition simply says "see the diagram above" with no explanation or analysis. (Petition at 33.) Petitioner's expert merely repeats this conclusory statement *verbatim*. (EX1003, ¶ 80.) This is legally insufficient to show anticipation. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential).⁸

Fourth, to the extent the Board construes the Petition as raising an inherency argument, such an argument must fail because Petitioner's expert does not opine, let alone show, that Limitation 1[i] is necessarily present in Winkler. (EX1003, ¶¶ 80-84.)⁹

⁸ Petitioner's assertion that its counsel's diagram looks like a figure in the '017 patent is irrelevant. (Petition at 33-34; EX1003, ¶ 83.) The prior art must be compared to the claims, not the specification. *Momentum Dynamics Corp. v. WiTricity Corp.*, IPR2021-01167, Paper 31 at 41 (PTAB Nov. 22, 2022).

⁹ What a reference suggests to a POSITA, what a POSITA would envision from a reference, and/or what would have been obvious to a POSITA is irrelevant to whether a reference discloses a limitation. *See, e.g., Vivint*, 741 Fed. Appx. at 792; *Eli Lilly*, 849 F.3d. at 1076; *Nidec Motor*, 851 F.3d at 1274-75.

Accordingly, the Petition failed to present a *prima facie* case that Winkler discloses Limitation 1[i].

(ii) Winkler Does Not Disclose Limitation 1[i].

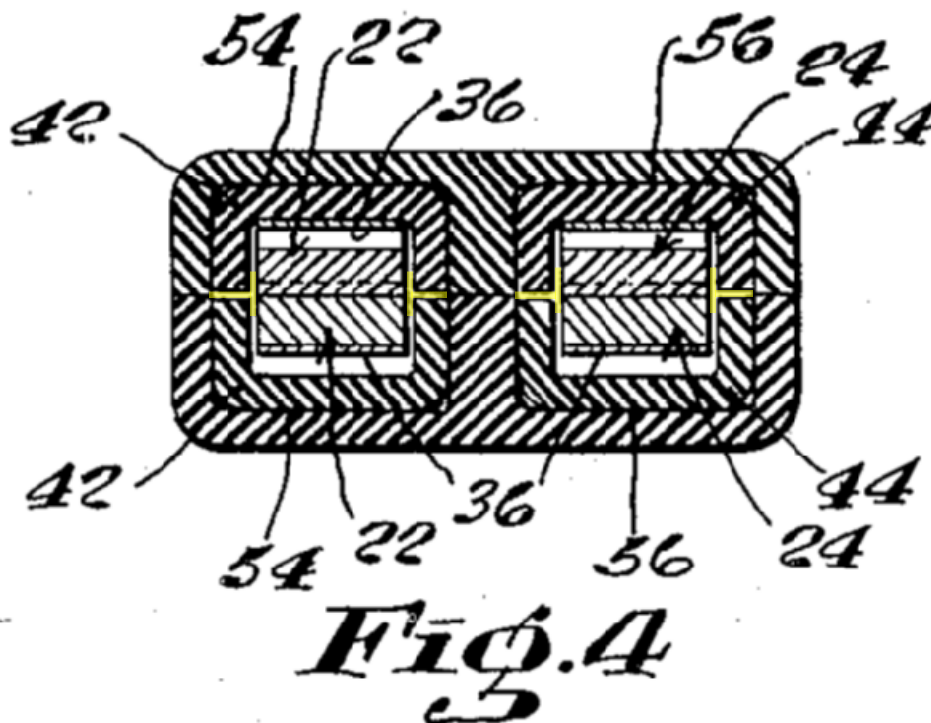
The Board should also find in Patent Owner's favor because, when the entirety of Winkler is considered, it is evident that Winkler does not disclose "blocking substantially all through-air arcing paths between the first and second electrical contacts" when the first and second connectors are partially disconnected, as Limitation 1[i] requires. (EX2001, ¶ 105.)

Winkler discloses that *electrical arcing* between the first and second electrical contacts *occurs* when the first and second connectors are partially disconnected. (EX2001, ¶ 105; EX1004 at 1:54-61, 3:40-47.)

Winkler also discloses that this electrical arcing is so pervasive that it causes "pitting" of the electrical contacts, which caused Winkler to employ a "self-cleaning" mechanism to address arc-induced pitting. (*Id.*)

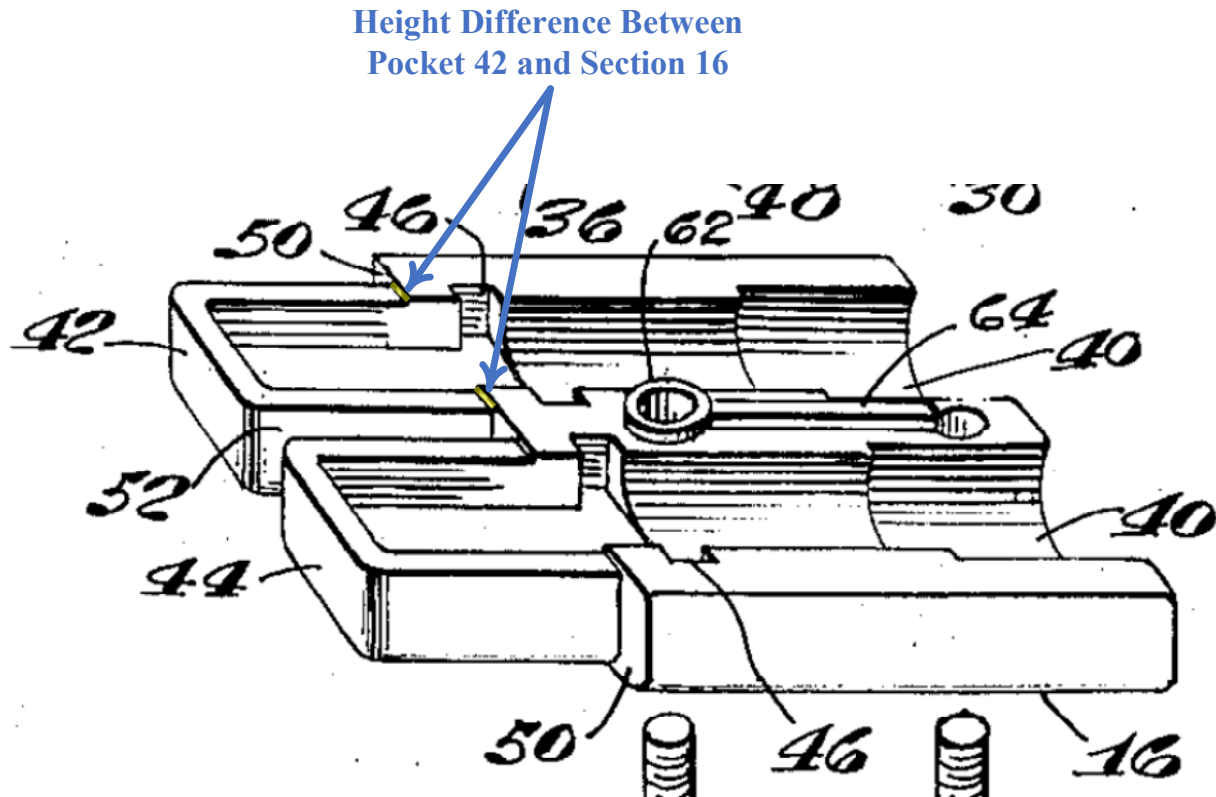
Because there is electrical arcing in Winkler, Winkler does not disclose insulating barriers configured to "block[] substantially all through-air arcing paths between the first and second electrical contacts," as Limitation 1[i] requires. (EX2001, ¶ 106.) A POSITA reading Winkler's disclosure would have understood that Winkler's alleged insulating barriers are *not* configured to block all (or substantially all) through-air arcing paths between the electrical contacts. (*Id.*)

Further, Winkler's figures show that there *are* through-air arcing paths between Winkler's alleged insulating barriers. (EX2001, ¶ 107.) The through-air arcing paths between Winkler's alleged insulating barriers are clearly visible in yellow in Winkler's Figure 4, reproduced below:



(EX1004 at FIG. 4 (annotated).)

As shown in Winkler's Figure 3 below, there is also an appreciable height difference between the pocket 42 of each connector (*i.e.*, the alleged insulating barriers) and the rest of the lower half section 16 of each connector. (EX2001, ¶ 108.) This height difference creates paths between the alleged insulating barriers (visible in Figure 4 above) for through-air electrical arcing during connection and disconnection of the connectors 10, 12. (*Id.*)



(EX1004 at FIG. 3 (annotated).)

Because Petitioner relies solely on a made-up diagram that is inconsistent with Winkler's actual disclosures and does not accurately represent what would be seen in the partially disconnected state, Petitioner has failed to show Winkler discloses Limitation 1[i]. (EX2001, ¶ 109.)

2. Petitioner Has Failed To Show That Winkler Anticipates Dependent Claims 2-4 And 9.

Petitioner has failed to show that Winkler anticipates Challenged Claims 2-4 and 9 in view of their dependency on Challenged Claim 1.

Petitioner has also failed to show that Winkler anticipates Challenged Claim 4 for the reasons discussed below.

(a) Petitioner Has Failed To Show That Winkler Anticipates Challenged Claim 4.

Petitioner has failed to show Winkler anticipates Challenged Claim 4. Challenged Claim 4 recites, *inter alia*, “a barrier tensioning mechanism that presses the first and second insulating barriers against each other when the first and second connectors are partially disconnected.” (EX1001 at claim 4.)

In attempting to show Winkler anticipates Challenged Claim 4, Petitioner relies on a made-up diagram that is not disclosed anywhere in Winkler and was created by Petitioner's counsel for the purposes of this proceeding. (Petition at 36-37; EX1003, ¶¶ 88-89; EX2002 at 173:3-10; EX2001, ¶ 113.) Petitioner's counsel's made-up diagram is reproduced below:

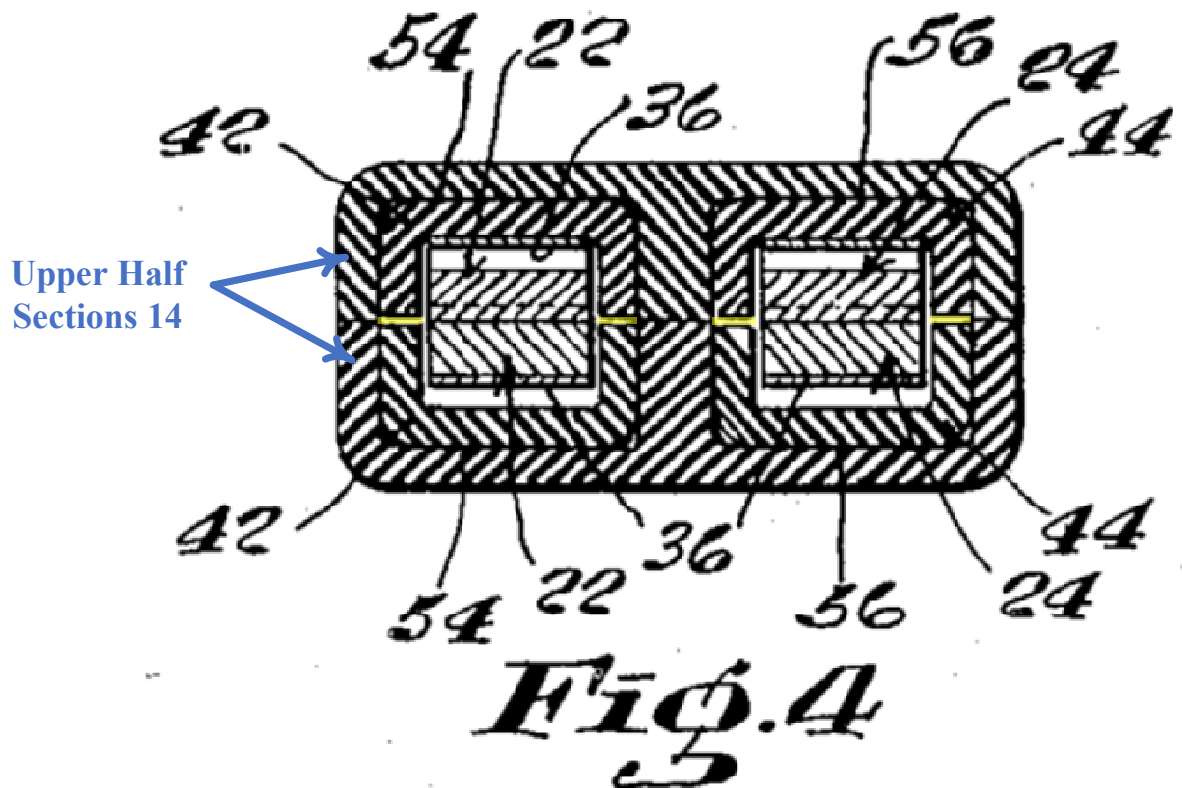


(*Id.*)

Petitioner argues the “pink highlighted portions of each connector housing [in the diagram above] are barrier tensioning mechanisms because they cause the first

insulating barrier and the second insulating barrier to press against each other.”
(Petition at 36-37; EX1003, ¶ 89.)

Petitioner is wrong. As explained in Limitation 1[i], Winkler is clear the alleged insulating barriers do not press against each other when connectors 10, 12 are partially disconnected. (EX2001, ¶ 114.) Contrary to Petitioner's counsel's made-up diagram, Winkler Figure 4 shows there is an *appreciable gap* between the pockets 42 (*i.e.*, the alleged insulating barriers) of connectors 10, 12. (*Id.*) The pockets 42 are not pressed against each other if they are not even touching. (*Id.*) As shown below, the only portions of the housings that physically press against each other are the opposing upper half sections 14. (*Id.*)



(EX1004 at FIG. 4 (annotated); *id.* at FIGS. 1-3.)

B. Grounds 1B-D: Petitioner Has Failed To Show That Winkler In View Of Winkler2, The Handbook, Or Poliak Renders Dependent Claims 7-8 And 10-12 Obvious.

Petitioner has failed to show that Challenged Claims 7-8 and 10-12 are obvious in view of their dependency on Challenged Claim 1.

Petitioner has also failed to show that Challenged Claims 8 and 10-12 are obvious for the reasons discussed below.

1. Claim 8.

Challenged Claim 8 recites: “The connector pair of claim 1, wherein at least one of the first and second electrical contacts includes a terminal for soldering to a printed circuit or wiring board.” (EX1001 at claim 8.)

Petitioner asserts it would have been obvious to solder Winkler’s cylindrical end portion 30 to a board using the surface mount techniques disclosed in the Handbook. (Petition at 44-45; EX1003, ¶¶ 105-106.)

Petitioner is wrong. Winkler’s electrical contacts require freedom of movement within the housing to effect engagement of the connectors 10, 12. (EX2001, ¶ 119; EX1004 at 1:47-55, 3:14-39.) Without this freedom of movement, it would be difficult, if not impossible, to mate the connectors 10, 12. (EX2001, ¶ 119.) At the very least, the forces required to mate the connectors 10, 12 would be so high that it would damage the connectors. (*Id.*)

A POSITA would have recognized that soldering the cylindrical end portion 30 of one or more of Winkler's electrical contacts to a printed circuit or wiring board would have interfered with, or altogether prevented, the freedom of movement of Winkler's electrical contacts. (*Id.*, ¶ 120.) Recognizing this freedom of movement is required to effect engagement of the connectors 10, 12, a POSITA would **not** have soldered Winkler's cylindrical end portion 30 to a board, as Petitioner proposed. (*Id.*)

A POSITA also would have recognized that a solder joint is a fragile connecting element that needs to be isolated from movement, such as that resulting from electrical contact repositioning induced by mating Winkler's connectors together. (*Id.*, ¶ 121.) A POSITA would have known that such movement would risk over-stressing and breaking the delicate solder joint. (*Id.*) For this additional reason, a POSITA would not have soldered Winkler's electrical contacts to a printed circuit or wiring board, as Petitioner and Dr. Eldering have proposed. (*Id.*) A POSITA also would not have been a reasonable expectation of success for the reasons discussed above. (*Id.*)

2. Claim 10.

Challenged Claim 10 recites: "The connector pair of claim 1, wherein at least one of the first and second electrical contacts includes a terminal using insulation displacement for attaching a wire to the contact." (EX1001 at claim 10.)

Petitioner asserts it would have been obvious to modify Winkler's contact member 22 in Winkler's electrical connectors 10 and 12 to use insulation displacement, as disclosed in the Handbook. (Petition at 50-51; EX1003, ¶ 113.) Petitioner states the proposed modification "would have involved modifying or replacing cylindrical end portion 30 with an insulation displacement terminal to enable conductive coupling to a wire." (*Id.*)

Petitioner is wrong. As discussed above, Winkler's electrical contacts require freedom of movement within the housing to effect engagement of the connectors 10, 12. (EX2001, ¶ 124; EX1004 at 1:47-55, 3:14-39.) Without this freedom of movement, it would be difficult, if not impossible, to mate the connectors 10, 12. (EX2001, ¶ 124.) At the very least, the forces required to mate the connectors 10, 12 would be so high that it would damage the connectors. (*Id.*)

A POSITA would have recognized that modifying or replacing the cylindrical end portion 30 of Winkler's contact member 22 with an insulation displacement terminal would have interfered with, or altogether prevented, the freedom of movement of Winkler's electrical contacts. (*Id.*, ¶ 125.) Recognizing this freedom of movement is required to effect engagement of the connectors 10, 12, a POSITA would not have modified or replaced the cylindrical end portion 30 of Winkler's contact member 22 with an insulation displacement terminal, as Petitioner proposed. (*Id.*)

A POSITA also would have recognized insulation displacement is ineffective when the wire inside the insulation displacement terminal moves around. (*Id.*, ¶ 126.) However, Winkler's electrical contacts are intended to move to effect engagement of the connectors 10, 12. (*Id.*) Because movement of the electrical contacts would cause movement of the wire inside the insulation displacement terminal, a POSITA would have recognized insulation displacement is inappropriate for Winkler's connectors 10, 12. (*Id.*) For at least these reasons, there also would not have been a reasonable expectation of success. (*Id.*)

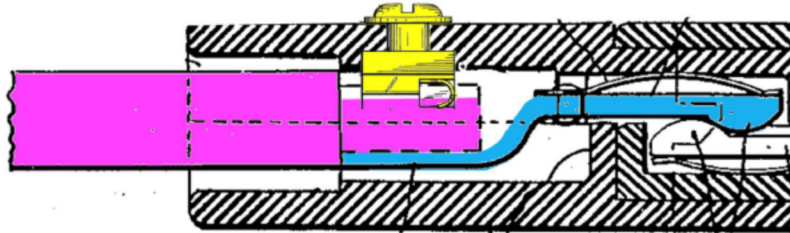
3. Claim 11.

Challenged Claim 11 recites: "The connector pair of claim 1, wherein at least one of the first and second electrical contacts includes a screw terminal for attaching a wire to the contact." (EX1001 at claim 11.)

Petitioner argues "a POSITA would have found it obvious to modify at least one of the existing bolts 18 and nuts 20 in Winkler to include the carriage 60 of Poliak, to press Winkler's cable 26 against contact member 22." (Petition at 58-59; EX1003, ¶ 124.)

Petitioner alternatively argues "a POSITA would have found it obvious to modify Winkler's connectors to incorporate Poliak's carriage 60 and spring 90, and to add screw 62 and nut 64 of Poliak, thereby adding a third screw to Winkler's

connector.” (Petition at 59; EX1003, ¶ 125.) Petitioner illustrated its proposed modifications in the below annotated figure:



(Petition at 59.)

Petitioner has failed to show that Winkler in view of Poliak renders Challenged Claim 11 obvious because neither of Petitioner's proposed modifications teach what Challenged Claim 11 requires. (EX2001, ¶ 131.)

Challenged Claim 11 requires that “at least one of the first and second *electrical contacts includes a screw terminal* for attaching a wire to the contact.” (EX1001 at claim 11 (emphasis added).) In Petitioner's proposed modifications, however, neither of Winkler's electrical contacts are modified to include a screw terminal, as claimed. Rather, as shown in Petitioner's own annotations above, the Petition proposed modifying Winkler's *housing* to include a screw terminal (shown in yellow) that presses a cable (shown in pink) against an electrical contact (shown in blue). (EX2001, ¶ 132.) Petitioner's proposed modifications fail to teach what is claimed by Challenged Claim 11. (*Id.*, ¶ 133.)

4. Claim 12.

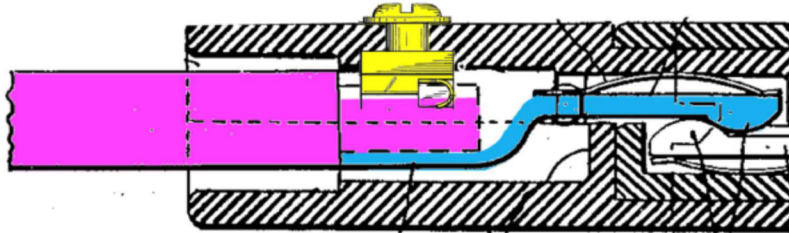
Challenged Claim 12 recites: “The connector pair of claim 1, wherein at least one of the first or second electrical contact is configured with a terminal using a spring mechanism for attaching at least one wire to the contact.” (EX1001 at claim 12.)

Petitioner, relying on its proposed modifications in Challenged Claim 11, asserts that Poliak’s alleged screw terminal includes the claimed “spring mechanism for attaching at least one wire to the contact.” (Petition at 61-62; EX1003, ¶¶ 131-132.)

Petitioner has failed to show that Winkler in view of Poliak renders Challenged Claim 12 obvious because Petitioner’s proposed modifications to Winkler fail to teach what Challenged Claim 12 requires. (EX2001, ¶ 136.)

Challenged Claim 12 requires that “at least one of the first or second *electrical contact is configured with a terminal using a spring mechanism* for attaching at least one wire to the contact.” (EX1001 at claim 12 (emphasis added).) In Petitioner’s proposed modifications, however, neither of Winkler’s electrical contacts are configured with a terminal using a spring mechanism, as claimed. (EX2001, ¶ 137.) Rather, as shown in Petitioner’s own annotations below, the Petition proposed modifying Winkler’s *housing* to include a terminal with a spring mechanism (shown in yellow) that presses a cable (shown in pink) against an

electrical contact (shown in blue). (*Id.*) Petitioner's proposed modifications fail to teach what is claimed by Challenged Claim 12. (*Id.*, ¶ 138.)



(Petition at 59.)

C. Ground 2A: Petitioner Has Failed To Show That Kataoka Anticipates Challenged Claims 1-4.

1. Petitioner Has Failed To Show That Kataoka Anticipates Challenged Claim 1.

(a) Petitioner Has Failed To Show That Kataoka Discloses Limitation 1[d].

(i) The Petition Failed To Present A *Prima Facie* Case That Kataoka Discloses Limitation 1[d].

The Petition failed to present a *prima facie* case that Kataoka discloses Limitation 1[d]. Limitation 1[d] recites: “a second connector having a second insulating housing.” (EX1001 at claim 1.)

The Petition asserts Kataoka's housing 7 constitutes the claimed “second insulating housing” because housing 7 “surrounds the contact members and protects them from the environment.” (Petition at 70 (citing EX1005 at FIGS. 6A-B, 4:56-66, 10:19-29, 12:17-43); EX1003, ¶ 142 (same).)

The Petition is silent as to housing 7's material properties. (*Id.*)

In the Institution Decision, the Board found that Petitioner failed to present a *prima facie* case that Kataoka discloses Limitation 1[d]. (Institution Decision at 30.) The Board's finding is correct. Any housing may surround an object. (EX2001, ¶ 141.) Likewise, any housing will provide some degree of environmental protection (e.g., from wind, water, dust, the sun, etc.). (*Id.*) Petitioner and its expert fail to explain why a POSITA would have concluded that Kataoka's housing 7 is an “*insulating* housing,” as claimed, simply because it “surrounds the contact members and protects them from the environment.” (Petition at 70; EX1003, ¶ 142; EX2001, ¶ 141.)¹⁰

Accordingly, the Petition failed to present a *prima facie* case that Kataoka discloses Limitation 1[d].

¹⁰ To the extent the Board later construes the Petition as raising an inherency argument, such an argument must fail because Petitioner's expert does not opine, let alone show, that Limitation 1[d] is necessarily present in Winkler. (EX1003, ¶ 142.) What a reference suggests to a POSITA, what a POSITA would envision from a reference, and/or what would have been obvious to a POSITA is irrelevant to whether a reference discloses a limitation. *See, e.g., Vivint*, 741 Fed. Appx. at 792; *Eli Lilly*, 849 F.3d. at 1076; *Nidec Motor*, 851 F.3d at 1274-75.

**(ii) Kataoka Does Not Disclose Limitation 1[d]
Under The Proper Construction Of
“Insulating.”**

In view of Petitioner's failure to show Kataoka discloses Limitation 1[d] in the first instance, no further inquiry is necessary, and the Board should conclude that none of the Challenged Claims are unpatentable over Kataoka. (Institution Decision at 30-31.) No construction of the term “insulating” is needed to reach this conclusion, as the Petition failed to make a *prima facie* showing under any reasonable interpretation of the term, including the “electrically insulating” interpretation advanced in the Petition itself (Petition at 64, 75). *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Patent Owner notes that Petitioner asserted in the district court proceeding between the parties that the term “insulating” should be construed as “protecting.” (EX2003 at 7; EX2004 at 12.) Petitioner raised this construction for the first time in September 2024, four months after the Petition was filed. (*See generally* EX2003.) To the extent Petitioner attempts to raise its new district court claim construction in its Reply, the Board should reject Petitioner's construction for several reasons.

First, the Board's Rules require the Petition to identify “[h]ow the challenged claim is to be construed.” *See* 37 C.F.R. § 42.104(b)(3). However, the Petition does not assert that the term “insulating” should be construed as “protecting.” (Petition

at 12.) Indeed, the word “protecting” does not appear anywhere in the Petition. (*See generally id.*)

Second, as discussed earlier, the Petition confirms that Petitioner understood the term “insulating” to mean “electrically insulating.” (*See* Section IV(A)(3), *supra*.) Petitioner’s new district court claim construction is inconsistent with Petitioner’s own interpretation of the term in the Petition.

Third, Petitioner’s new district court claim construction is incorrect. (EX2001, ¶ 142.) As demonstrated in Section IV(A), *supra*, the proper construction of the term “insulating” is “electrically insulating.” The Petition does not assert that Kataoka’s housing 7 (*i.e.*, the alleged “second insulating housing”) is electrically insulating. (Petition at 68-70; EX1003, ¶ 142.) Further, the cited portions of Kataoka do not disclose that housing 7 is electrically insulating and do not specify what material housing 7 is made of. (EX2001, ¶¶ 143-145.)

Accordingly, to the extent Petitioner attempts to raise its new district court claim construction in its Reply, the Board should still find Petitioner has failed to show that Kataoka discloses Limitation 1[d].

(b) Petitioner Has Failed To Show That Kataoka Discloses Limitation 1[i].

(i) The Petition Failed To Present A *Prima Facie* Case That Kataoka Discloses Limitation 1[i].

The Petition failed to present a *prima facie* case that Kataoka discloses Limitation 1[i] because the Petition relies exclusively on a made-up diagram that is not disclosed in Kataoka and does not disclose many of the recited elements of Limitation 1[i].

Limitation 1[i] recites: “the second insulating barrier being configured so as to be in close proximity with the first insulating barrier when the first and second connectors are partially disconnected and the first and second electrical contacts are separated by a short distance, thereby blocking substantially all through-air arcing paths between the first and second electrical contacts.” (EX1001 at claim 1.)

In attempting to show Kataoka discloses Limitation 1[i], the Petition relies on a made-up diagram that is not disclosed anywhere in Kataoka and was created by Petitioner's counsel for the purposes of this proceeding. (Petition at 81-83; EX1003, ¶ 156; EX2002 at 181:16-182:8, 183:1-4, 183:9-184:6, 184:8-19; EX2001, ¶ 150.) Petitioner's counsel's made-up diagram is reproduced below:

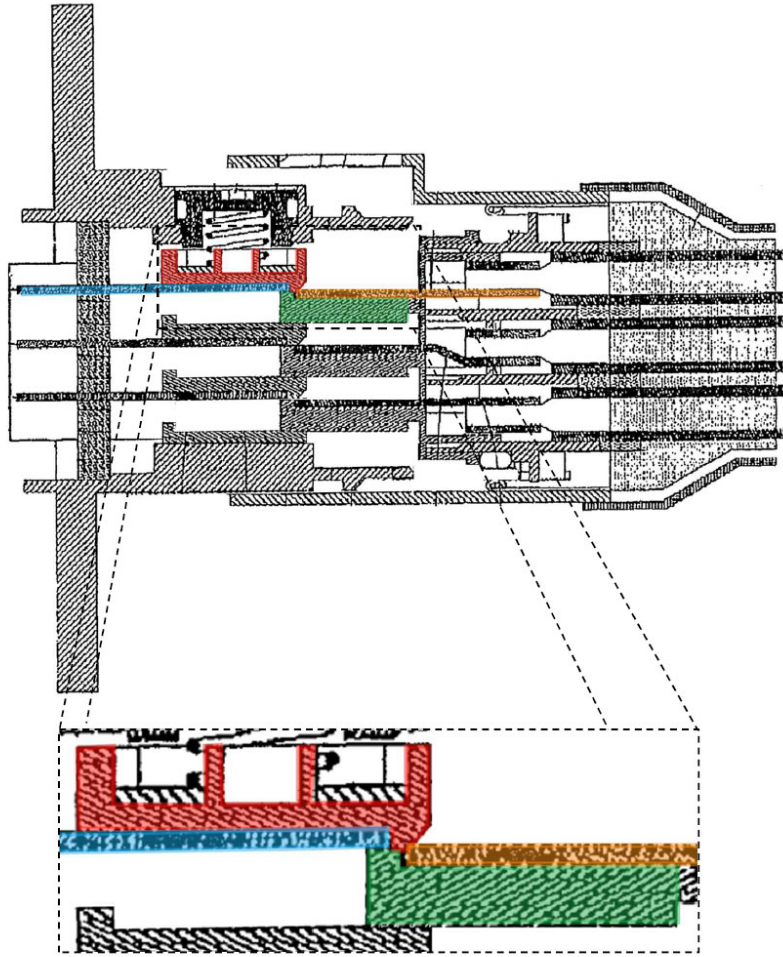


*Diagram created based on Ex. 1005, Fig. 3 (top), and enlarged portion (bottom) (showing a **first insulating barrier in red** and a **second insulating barrier in green** of a connector pair in a partially disconnected configuration, a **first electrical contact in blue**, and a **second electrical contact in orange**)*

(Petition at 82; EX1003, ¶ 156 (same).)¹¹

¹¹ A POSITA would never envisage Petitioner's counsel's made-up diagram from Kataoka's actual disclosures and figures, and, as discussed below, Petitioner's counsel's diagram is inconsistent with Kataoka's actual disclosures and figures. (EX2001, ¶ 150.)

The Petition asserts, without explanation or analysis, that the above diagram shows that “the first insulating barrier and the second insulating barrier [depicted in red and green, respectively] ‘block[] substantially all through-air arcing paths between the first and second electrical contacts [depicted in blue and orange, respectively],’ ... because there is no air gap or other through-air arcing path between the first insulating barrier and the second insulating barrier.” (Petition at 83; EX1003, ¶ 156 (same).)

The Petition also argues the above diagram is consistent with Kataoka's disclosure that connector 1 is intended “to prevent unintentional contact and electrical shock to a foreign object such as a hand or finger of a worker, etc.” (Petition at 83 (citing EX1005 at 15:12-22); EX1003, ¶ 157 (same).)

The Petition failed to present a *prima facie* case that Kataoka discloses Limitation 1[i] for several reasons.

First, Petitioner's counsel's made-up diagram does not disclose “blocking substantially all through-air arcing paths between the first and second electrical contacts,” as claimed. (EX2001, ¶ 151.) Petitioner's counsel's diagram does not disclose anything about electrical arcing (or the lack thereof). (*Id.*) The diagram is simply silent as to whether Kataoka's alleged insulating barriers block any through-air arcing paths, let alone whether they block “substantially all through-air arcing

paths,” as Limitation 1[i] requires. (*Id.*) Indeed, electrical arcing is not mentioned anywhere in Kataoka. (*See generally* EX1005; EX2001, ¶ 151.)

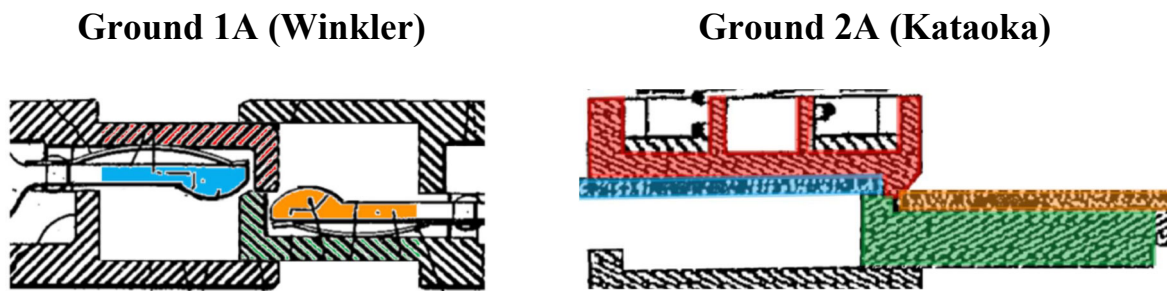
Second, even if one were to assume Petitioner’s counsel’s made-up diagram discloses blocking through-air arcing to any extent (it does not), Petitioner’s counsel’s diagram is at best ambiguous as to whether the alleged first and second insulating barriers are configured to “block substantially all through-air arcing paths” between the first and second electrical contacts, as claimed. (EX2001, ¶ 152.)¹²

Petitioner’s counsel’s made-up diagram, which, again, does not appear anywhere in Kataoka, is a cross-sectional view of electrical connector pair 2, 3. (*Id.*) The diagram depicts the arrangement of the alleged insulating barriers vis-à-vis the alleged electrical contacts at an unspecified location along the width of the electrical connector pair. (*Id.*) The diagram does not disclose anything about the alleged insulating barriers or their arrangement at other locations along the width of the electrical connector pair. (*Id.*) For example, the diagram is ambiguous as to whether there are through-air arcing paths at other locations along the width of the electrical connector pair. (*Id.*) Further, the diagram is ambiguous as to whether there are

¹² As noted above, anticipation cannot be established with ambiguities, possibilities, or probabilities. *Wasica*, 853 F.3d at 1284; *Therasense*, 593 F.3d at 1332.

indirect through-air arcing paths that may or may not be visible in the diagram or in any of Kataoka's other figures. (*Id.*) Nothing in Kataoka resolves the ambiguity in Petitioner's favor. (*Id.*) Again, Kataoka is simply silent as to whether electrical arcing can occur. (*See generally* EX1005; EX2001, ¶ 152.)

Winkler further underscores the ambiguity in Kataoka. In Grounds 1A and 2A, Petitioner relies on nearly identical made-up cross-sectional diagrams to attempt to show that Winkler and Kataoka disclose "blocking substantially all through-air arcing paths between the first and second electrical contacts." (Petition at 33, 82.)



(Petition at 33, 82.)

However, as Winkler's teachings confirm, one cannot assume that such made-up cross-sectional diagrams disclose "blocking substantially all through-air arcing paths between the first and second electrical contacts," as Petitioner and its expert have incorrectly done. (EX2001, ¶ 153; EX1004 at 1:54-61, 3:40-47.)

Third, Kataoka's disclosure that connector 1 is intended "to prevent unintentional contact and electrical shock to a foreign object such as a hand or finger of a worker, etc." is of no help to Petitioner. (EX2001, ¶ 154.) Limitation 1[i]

expressly recites that the first and second insulating barriers are configured to “block[] substantially all *through-air arcing paths* between the first and second electrical contacts.” (EX1001 at claim 1 (emphasis added).) Preventing physical contact between an electrical contact and a hand or finger is not the same thing as blocking *through-air* arcing paths between the contacts. (EX2001, ¶ 154.) Through-air electrical arcing, as the name suggests, occurs through the air, not through physical contact with the electrical contact. (*Id.*) That Kataoka’s connector 1 is intended to prevent physical contact with a hand or finger is irrelevant to what is claimed and is merely a statement of intended purpose. (*Id.*)

Fourth, the Petition’s assertion that Kataoka discloses the claimed first and second insulating barriers configured to “block substantially all through-air arcing paths” between the first and second electrical contacts is conclusory and legally insufficient. The Petition simply says “see the diagram above,” with no explanation or analysis, and then repeats the claim language. (Petition at 82-83.) Petitioner’s reasoning is circular and conclusory, and Petitioner’s expert repeats Petitioner’s conclusory argument nearly *verbatim*. (EX1003, ¶ 156.) A petitioner cannot prevail with expert testimony that “merely repeats, verbatim, the conclusory assertion for which it is offered to support.” *Xerox Corp.*, IPR2022-00624, Paper 9 at 15.

Fifth, to the extent the Board construes the Petition as raising an inherency argument, such an argument must fail because Petitioner’s expert does not opine, let

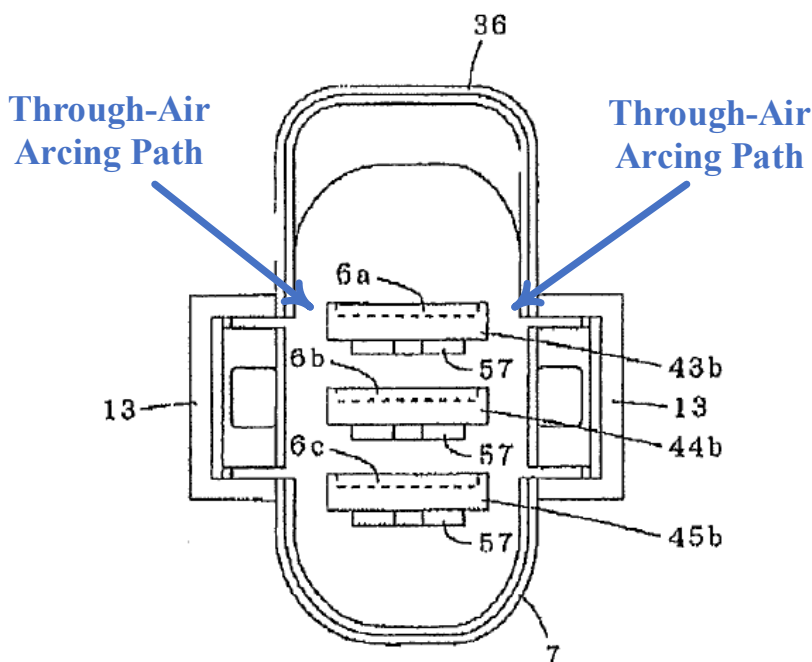
alone show, that Limitation 1[i] is necessarily present in Kataoka. (EX1003, ¶¶ 155-157.)

Accordingly, the Petition failed to present a *prima facie* case that Kataoka discloses Limitation 1[i].

(ii) Kataoka Does Not Disclose Limitation 1[i].

The Board should also find in Patent Owner's favor because, when the entirety of Kataoka is considered, it is evident Kataoka *does not disclose* "blocking substantially all through-air arcing paths between the first and second electrical contacts" when the first and second connectors are partially disconnected, as Limitation 1[i] requires. (EX2001, ¶ 155.)

Kataoka's figures indicate there *are* through-air arcing paths, such as around the sides of Kataoka's alleged insulating barriers. (EX2001, ¶ 155; EX1005 at FIGS. 3, 4A-B, 5A-B, 6A-B.)

FIG. 6B

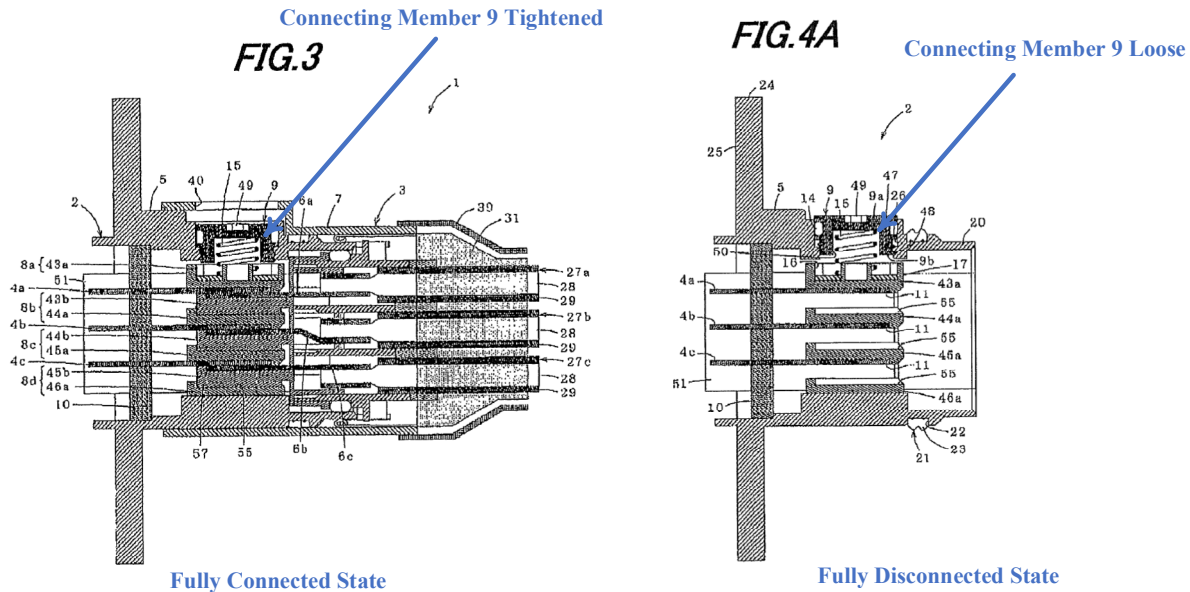
(EX1005 at FIG. 6B (annotated).)

Further, Kataoka teaches that, in the partially and fully disconnected states, there are “**gaps**” between insulating members 43a-46a of connector 2 to permit insertion of electrical contacts 6a-c of connector 3. (EX2001, ¶ 156; EX1005 at 13:40-45, 14:23-41, FIGS. 4A-B.) It is not until connectors 2, 3 are fully fitted together that connecting member 9 is tightened using a tool to press electrical contacts 4a-c of connector 2 against electrical contacts 6a-c of connector 3. (EX2001, ¶ 156; EX1005 at 2:49-52, 3:22-26, 4:60-63, 6:9-14, 7:56-67, 8:10-12, 8:38-49, 14:49-65.) Kataoka discloses that the gaps between insulating members 43a-46a allow connectors 2, 3 to be fitted together without causing undesirable

abrasion to the electrical contacts. (EX2001, ¶ 156; EX1005 at 2:13-35, 3:58-62, 15:7-11.) A POSITA would have understood that the “gaps” between insulators 8a-d create through-air arcing paths between the first and second electrical contacts of connectors 2, 3 in the partially disconnected state. (EX2001, ¶ 156.)

Crucially, Petitioner's counsel's made-up diagram does not accurately reflect Kataoka's connectors 2, 3 in the partially disconnected state. (EX2001, ¶ 157.) Petitioner's counsel's made-up diagram is based on Kataoka Figure 3, which shows connectors 2, 3 fully fitted together and connecting member 9 tightened. (*Id.*) But Kataoka discloses that connecting member 9 is only tightened when connectors 2, 3 are fully fitted together. (*Id.*) That is, contrary to Petitioner's counsel's made-up diagram, connecting member 9 is ***not tightened*** in the partially disconnected state. (*Id.*) Thus, like Petitioner's counsel's made-up Winkler diagram, Petitioner's counsel's made-up Kataoka diagram is not representative of (and inconsistent with) what would be seen in the partially disconnected state. (*Id.*)

A side-by-side comparison of Kataoka Figures 3 and 4A shows the increased space between insulating members 43a-46a when connecting member 9 is ***not tightened*** (as would be the case in the partially disconnected state). (EX2001, ¶ 158.)



(EX1005 at FIGS. 3, 4A (annotated).)

Because Petitioner relies solely on a made-up diagram that is inconsistent with Kataoka's actual disclosures and does not accurately represent what would be seen in the partially disconnected state, Petitioner has failed to show Kataoka discloses Limitation 1[i]. (EX2001, ¶¶ 155-157.)

2. Petitioner Has Failed To Show Kataoka Anticipates Dependent Claims 2-4.

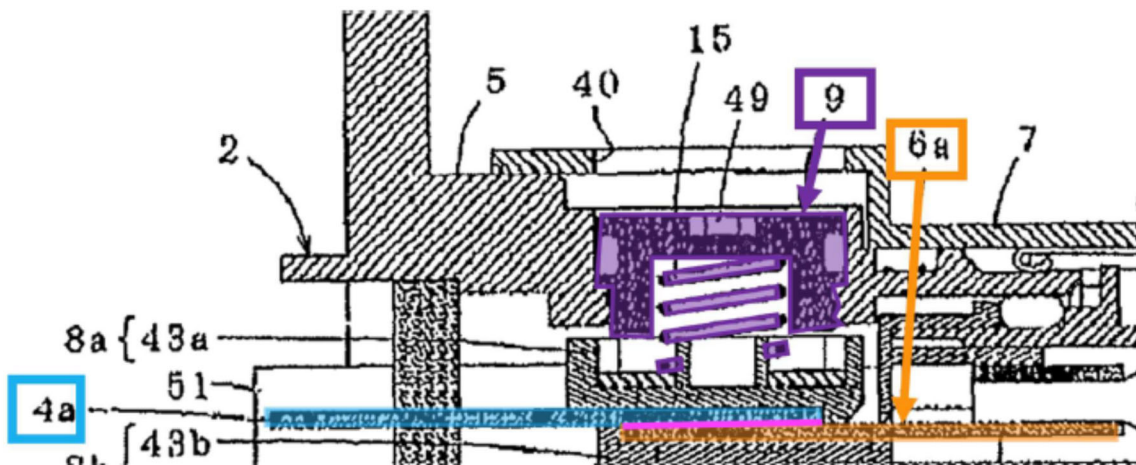
Petitioner has failed to show that Kataoka anticipates Challenged Claims 2-4 in view of their dependency on Challenged Claim 1.

Petitioner has also failed to show that Kataoka anticipates Challenged Claims 2-4 for the additional reasons discussed below.

(a) Petitioner Has Failed To Show Kataoka Anticipates Challenged Claims 2 And 3.

Petitioner has failed to show Kataoka anticipates Challenged Claims 2 and 3. Challenged Claim 2 recites: “The connector pair of claim 1, further comprising a contact tensioning mechanism that presses the second electrical contact against the engaging surface of the first electrical contact when the first and second connectors are connected.” (EX1001 at claim 2.) Challenged Claim 3 depends from, and recites the same “contact tensioning mechanism” as, Challenged Claim 2. (*Id.* at claim 3.)

Petitioner asserts Kataoka's connecting member 9 is the claimed “contact tensioning mechanism.” (Petition at 83-84; EX1003, ¶¶ 159-161.) Petitioner supports its position with the annotated figure reproduced below:



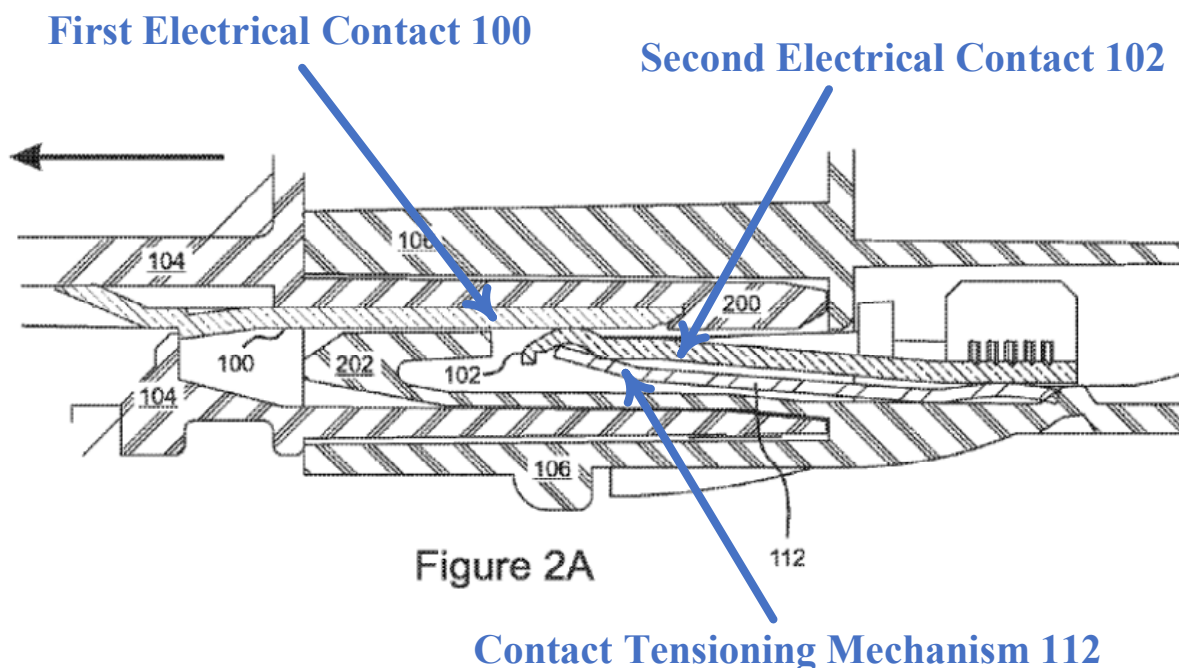
Ex. 1005, annotated portion of Fig. 3 (highlighting connecting member 9 in purple, first connecting terminal 4a in blue, and second connecting terminal 6a in orange, and indicating a connecting surface in pink)

(Petition at 84 (annotations in original); EX1003, ¶ 159 (same).)

Petitioner has failed to show Kataoka's connecting member 9 is the claimed "contact tensioning mechanism." Challenged Claim 2 recites the claimed contact tensioning mechanism "presses the second electrical contact against the engaging surface of the first electrical contact." (EX1001 at claim 2.) However, Kataoka's connecting member 9 (*i.e.*, the alleged "contact tensioning mechanism") does the **opposite** of what is required by Challenged Claim 2. (EX2001, ¶ 161.) As shown above, Kataoka's connecting member 9 presses the **first electrical contact** (shown in **blue**) against the engaging surface of the **second electrical contact** (shown in **orange**). (*Id.*)

While Petitioner points to Newton's 3rd law, Newton's 3rd law is of no help to Petitioner. (Petition at 84; EX1003, ¶ 160.) Newton's 3rd law states that when one object exerts a force on another object, the second object exerts an equal force back on the first object. (EX2001, ¶ 162.) Thus, according to Newton's 3rd law, when Kataoka's first electrical contact exerts a force downward on Kataoka's second electrical contact, Kataoka's second electrical contact exerts an equal force back upward on Kataoka's first electrical contact. (*Id.*) But Challenged Claim 2 does not recite that the second electrical contact exerts a force on the first electrical contact. (EX1001 at claim 2.) Rather, Challenged Claim 2 recites that the "contact tensioning mechanism [] presses the second electrical contact against the engaging surface of the first electrical contact." (*Id.*)

Additionally, the '017 patent confirms that Petitioner has failed to show that Kataoka anticipates Challenged Claim 2. As shown below, the '017 patent discloses a contact tensioning mechanism 112 that presses the second electrical contact 102 upward against the first electrical contact 100. (EX2001, ¶ 163.) Kataoka's connecting member 9, on the other hand, does the exact opposite of what is claimed and described in the '017 patent. (*Id.*, ¶ 164.)



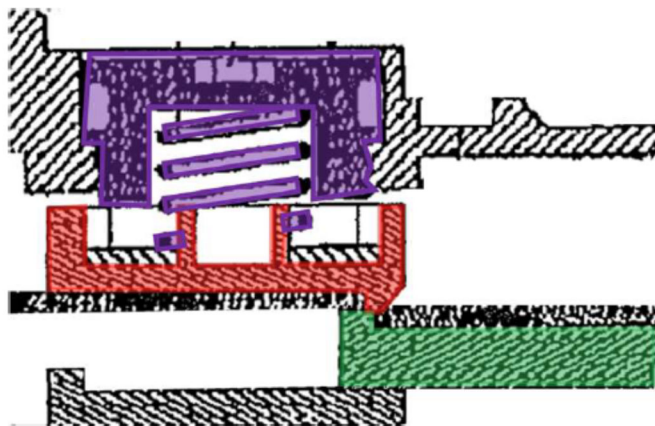
(EX1001 at FIG. 2A (annotated); *id.* at 2:62-3:2, 3:10-12.)

Accordingly, Petitioner has failed to show Kataoka anticipates Challenged Claim 2. Because Challenged Claim 3 depends from, and recites the same “contact tensioning mechanism” as, Challenged Claim 2, Petitioner has likewise failed to show Kataoka anticipates Challenged Claim 3. (EX2001, ¶ 166.)

(b) Petitioner Has Failed To Show Kataoka Anticipates Challenged Claim 4.

Petitioner has failed to show Kataoka anticipates Challenged Claim 4. Challenged Claim 4 recites: “The connector pair of claim 1, further comprising a barrier tensioning mechanism that presses the first and second insulating barriers against each other when the first and second connectors are partially disconnected and the first and second electrical contacts are separated by a short distance.” (EX1001 at claim 4.)

Petitioner asserts that Kataoka's connecting member 9 is the claimed “barrier tensioning mechanism.” (Petition at 86; EX1003, ¶ 164.) According to Petitioner, Kataoka's connecting member 9 presses insulating member 43a (*i.e.*, the alleged “first insulating barrier”) against insulating member 43b (*i.e.*, the alleged “second insulating barrier”). (Petition at 85-86; EX1003, ¶ 163 (same).) Petitioner supports its argument with the following made-up diagram that is not disclosed anywhere in Kataoka and was created by Petitioner's counsel for the purposes of this proceeding:



(*Id.*; EX2002 at 181:16-182:8, 183:1-4, 183:9-184:6, 184:8-19; EX2001, ¶ 169.)

Petitioner has failed to show Kataoka's connecting member 9 is the claimed "barrier tensioning mechanism." Challenged Claim 4 recites that the claimed barrier tensioning mechanism "presses the first and second insulating barriers against each other when the first and second connectors are partially disconnected." (EX1001 at claim 4.)

As discussed above with respect to Limitation 1[i], Petitioner's made-up diagram is not representative of (and inconsistent with) what would be seen in the partially disconnected state. (EX2001, ¶ 171.) Kataoka's connecting member 9 does not press the alleged first and second insulating barriers against each other when the connectors 2, 3 are partially disconnected. (EX1005 at FIGS. 3 and 4A, 2:49-52, 3:22-26, 4:60-63, 6:9-14, 7:56-67, 8:10-12, 8:38-49, 14:49-65; EX2001, ¶ 171.) Kataoka's connecting member 9 is tightened only when the connectors 2, 3 are fully fitted together. (*Id.*) And, when Kataoka's connecting member 9 is tightened, the electrical contacts are pressed against each other, not the alleged first and second insulating barriers. (*Id.*)

Because Petitioner relies solely on a made-up diagram that is inconsistent with Kataoka's actual disclosures and does not accurately represent what would be seen in the partially disconnected state, Petitioner has failed to show Kataoka anticipates Challenged Claim 4. (EX2001, ¶ 171.)

D. Ground 2B: Petitioner Has Failed To Show Kataoka In View Of The Handbook Renders Challenged Claims 7-10 Obvious.

Petitioner has failed to show that Challenged Claims 7-10 are obvious in view of their dependency on Challenged Claim 1.

VI. PETITIONER'S EXPERT'S TESTIMONY SHOULD BE GIVEN LITTLE TO NO WEIGHT

A. Petitioner's Expert Is Not A POSITA.

Petitioner's expert's testimony should be given little to no weight because Petitioner's expert is not a POSITA. It is an abuse of discretion to admit expert testimony "on any issue that is analyzed through the lens of an ordinarily skilled artisan" (e.g., invalidity) where the expert "does not have ordinary skill in the art." *Kyocera Senco Indus. Tools Inc. v. Intl. Trade Commn.*, 22 F.4th 1369, 1377-78 (Fed. Cir. 2022); *Avail Medsystems, Inc. v. Teladoc Health, Inc.*, Case IPR2022-00444, Paper 10 at 26 (PTAB Jul. 21, 2022).

A POSITA in the field of the '017 patent would have had at least two years of experience designing or developing electrical connectors. (*See* Section II(B), *supra*.) Petitioner's expert, Dr. Eldering, does not meet this definition of a POSITA. Dr. Eldering has never personally designed or developed an electrical connector. (EX1003, ¶¶ 3-8; EX2002 at 16:7-10, 16:14-17, 17:5-8, 21:2-5, 22:12-23:6, 27:10-28:12, 29:8-22.) While Dr. Eldering testified that his recent expert litigation support experience "involved" the design of electrical connectors (EX2002 at 30:8-10, 33:13-34:18), litigation support experience is not the same thing as actually

designing and developing electrical connectors. In any case, Dr. Eldering's recent litigation support experience occurred after the '017 patent was filed in January 2013. (EX1001 at [22].)

Unlike Dr. Eldering, Patent Owner's expert has many years of experience designing and developing electrical connectors. (EX2001, ¶¶ 3-7.) The Board should give Petitioner's expert's testimony little to no weight and should give Patent Owner's expert's testimony substantial weight.

B. Petitioner's Expert's Deposition Testimony Was Evasive And Non-Responsive.

Dr. Eldering's testimony should also be given little to no weight because Dr. Eldering was non-responsive and evasive at his deposition. Whether Dr. Eldering's inability to answer simple questions was because he is not a POSITA or because he was deliberately being non-responsive and evasive does not matter. Dr. Eldering's non-responsive and evasive deposition testimony speaks for itself and undermines his credibility before the Board.

The Board has previously explained that an expert's evasiveness or non-responsiveness during cross examination can reduce the weight given to the expert's direct testimony. *10X Genomics, Inc. v. Univ. of Chicago*, IPR2015-01157, Paper 30 at 2 (PTAB May 26, 2016).

Here, Dr. Eldering was non-responsive and evasive throughout his deposition and refused to answer simple questions about his own opinions. For example, Dr. Eldering:

- Refused to identify whether he is opining that the prior art expressly or inherently discloses various limitations (EX2002 at 107:4-108:6, 108:21-116:18, 130:5-131:13, 150:18-152:3, 165:11-167:3, 179:22-181:14);
- Refused to provide the plain and ordinary meaning of the term “connecting surface,” even though he testified he applied the plain and ordinary meaning to every claim term (*id.* at 39:8-43:14, 101:18-21);
- Refused to confirm his opinion regarding the alleged “connecting surface” in Winkler (*id.* at 117:11-122:17; 126:14-129:5); and
- Refused to identify what types of engagement are possible besides “lateral engagement” (*id.* at 57:13-59:2).

Accordingly, Dr. Eldering's testimony should be given little to no weight for this additional reason.

VII. CONCLUSION

Accordingly, for at least the foregoing reasons, Patent Owner respectfully requests that the Board confirm the patentability of the Challenged Claims of the '017 patent.

Respectfully submitted,

Dated: March 7, 2025

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CERTIFICATE OF COMPLIANCE

This paper complies with the requirements of 37 C.F.R. § 42.24 and contains 13,115 words (exclusive of the table of contents, the table of exhibits, the certificate of service, and this certification).

This paper complies with the typeface requirements of 37 C.F.R. § 42.6 and has been prepared in 14 point Times New Roman proportionally spaced typeface with normal spacing.

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The undersigned hereby certifies that on the below date, I caused the forgoing to be served by electronic mail to the following:

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