

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BIZLINK TECHNOLOGY, INC.,
Petitioner,

v.

ANDERSON POWER PRODUCTS, INC.,
Patent Owner.

IPR2024-00687
Patent 8,808,017 B2

Before JAMESON LEE, SCOTT A. DANIELS, and LISA L. TSANG,
Administrative Patent Judges.

TSANG, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. §318(a)

ORDER
Denying Patent Owner's Motion to Strike (Paper 18)
37 C.F.R. § 42.23(b)

I. INTRODUCTION

This is a Final Written Decision in an *inter partes* review challenging the patentability of claims 1–4 and 7–12 (collectively, “the challenged claims”) of U.S. Patent No. 8,808,017 B2 (Ex. 1001 (“the ’017 patent”). We have jurisdiction under 35 U.S.C. § 6. We issue this Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner demonstrates by a preponderance of the evidence that claims 1–3 and 7–12 are unpatentable; Petitioner does not demonstrate by a preponderance of the evidence that claim 4 is unpatentable. We also, for reasons explained below, deny Patent Owner’s Motion to Strike.

A. Procedural History

BizLink Technology, Inc. (“Petitioner”) filed a Petition (Paper 1 (“Pet.”)), seeking *inter partes* review of claims 1–4 and 7–12 under 35 U.S.C. § 311. *See* Pet. 1. Anderson Power Products, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). On November 22, 2024, we instituted an *inter partes* review of the challenged claims. Paper 7 (“Institution Decision” or “Dec.”).

Following institution, Patent Owner filed a Response (Paper 12 (“PO Resp.”)), Petitioner filed a Reply (Paper 15 (“Reply”)), and Patent Owner filed a Sur-reply (Paper 17 (“Sur-reply”). With our authorization (*see* Ex. 3001), Patent Owner also filed a Motion to Strike (Paper 18, “PO MTS”), and Petitioner filed an Opposition (Paper 19, “Pet. MTS Opp.”).

We heard oral argument on August 13, 2025, and the record includes a transcript of the argument. Paper 26 (“Tr.”).

B. Real Parties in Interest

Petitioner identifies itself, BizLink Holding Inc., and BizLink International Corp. as the real parties in interest. Pet. 100. Patent Owner states that it is “the owner of the entire interest in [the ’017 patent] and thus is a real party-in-interest.” Paper 4, 2.

C. Related Matters

The parties identify that the ’017 patent is involved in *Anderson Power Products, Inc. v. BizLink Technology, Inc. et al.*, No. 3:23-cv-05436 (N.D. Cal. 2023) (“the related district court litigation”). Pet. 100; Paper 4, 2.

D. The ’017 Patent (Ex. 1001)

The ’017 patent is titled “Electrical Connector With Anti-Arcing Feature.” Ex. 1001, code (54). According to the ’017 patent, electrical connectors that were inadvertently connected or disconnected while receiving an electrical load, especially direct current, experienced “electrical arcing between the separating contacts [that was] maintained over a substantial range of contact separations, creating a burn hazard for the user and reducing the useful life of the connector.” *Id.* at 1:19–31. One conventional solution of adding shorter contacts “increase[d] both the bulk and the cost of the system.” *Id.* at 1:39–41. Another solution, involving including an insulating barrier covering a leading end of one electrical contact, did not prevent arcing via “an indirect path that by-passes the insulating barrier.” *Id.* at 1:42–47.

Figure 1A, reproduced below, shows a partial cross-sectional view of a prior-art electrical connector pair during connection. Ex. 1001, 2:34–35.

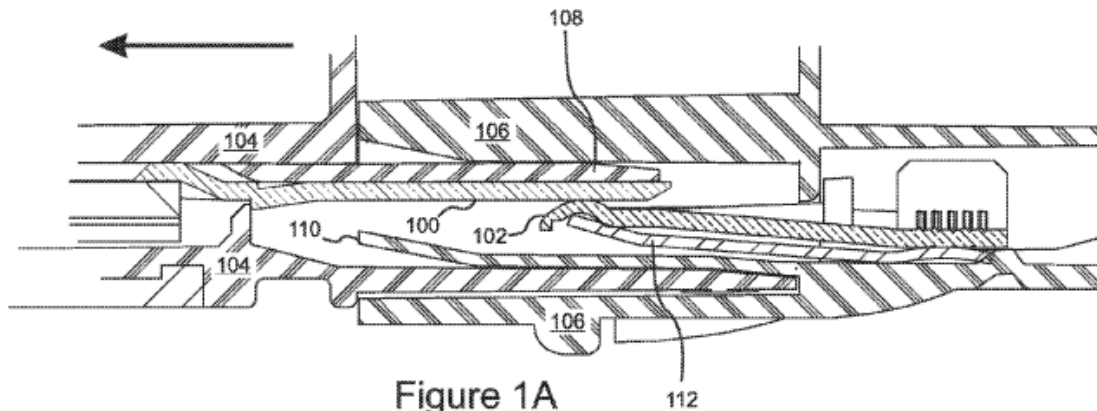


Figure 1A
Prior Art

Figure 1A shows, in part, female contact 102 biased against a connecting surface of male contact 100. *Id.* at Fig. 1A, 2:62–3:2. Insulated housing 104 surrounds the male contact, and insulating support structure 108 is proximal to an outer face of the male contact. *Id.* at Fig. 1A, 3:2–10. Likewise, insulated housing 106 surrounds the female contact, and insulating support structure 110 is proximal to an outer face of the female contact. *Id.* Figure 1B, reproduced below, illustrates a partial cross-sectional view of the prior-art electrical connector pair during partial disconnection and application of voltage. *Id.* at 3:13–14.

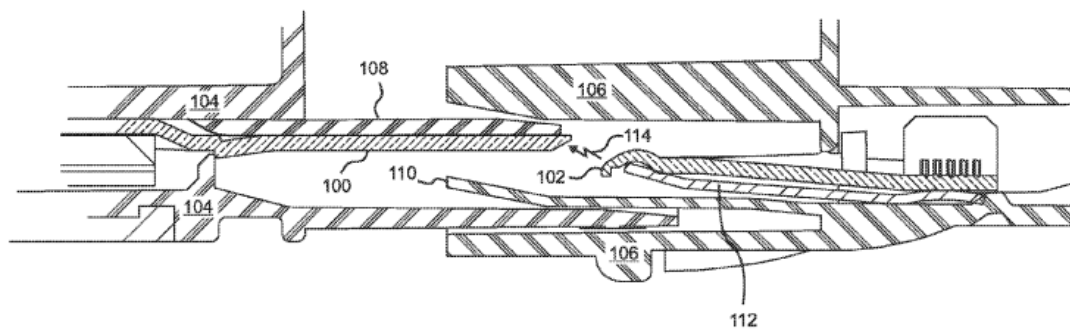


Figure 1B
Prior Art

Figure 1B shows the male contact and the female contact in a partially disconnected state while a voltage is still being applied. *See id.* at Fig. 1B. The '017 patent explains that because the prior-art male and female contacts'

leading ends were “separated by a short gap,” as shown in Figure 1B above, through-air electrical arcing 114 occurred between the contacts. *Id.* at 3:13–17.

To solve this problem of electrical arcing, but without the purported disadvantages of conventional connectors, the '017 patent proposes an electrical connector that “suppresses electrical arcing between separated contacts during mating and un-mating of the connectors, without including an additional connection or switching device.” Ex. 1001, 1:55–58.

Figure 2A, below, depicts a partial cross-sectional view of an exemplary “male and female connector pair in a connected configuration.” *Id.* at 2:39–40.

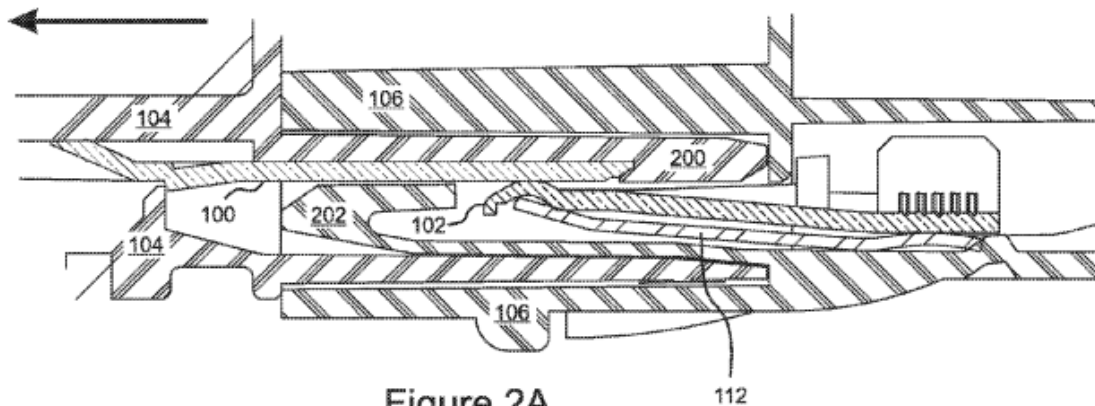


Figure 2A illustrates similar insulated housings 104, 106 and male and female contacts 100, 102 to those shown in prior-art Figures 1A and 1B. *Compare id.* at Fig. 1A, with *id.* at Fig. 2A; *see also id.* at 3:20–23. The '017 patent, however, replaced the prior-art insulating support structures with insulating barrier structures 200, 202. *Id.* at 3:20–23. Here, “male insulating barrier structure 200 extends beyond the male contact 100, and covers the leading end of the male contact 100.” *Id.* at 3:23–25. Likewise,

female insulating barrier 202 extends beyond and “is in front of the leading end of the female contact.” *Id.* at 3:25–28.

Figure 2B of the '017 patent shows partial disconnection of the connectors of Figure 2A during application of voltage. Ex. 1001, 3:30–32.

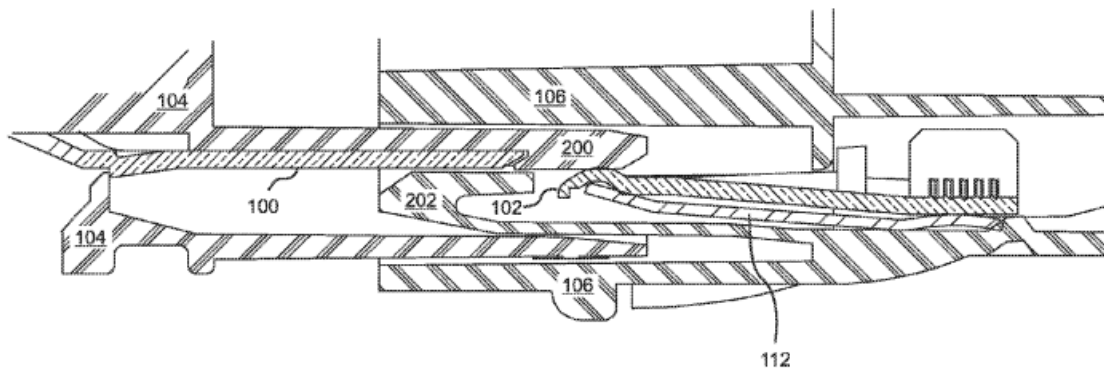


Figure 2B

Figure 2B, reproduced above, illustrates the male and female contacts separated by a distance, similar to the male and female contacts of the prior-art connectors during disconnection while a voltage is still being applied. *Compare id.* at Fig. 1B, *with id.* at Fig. 2B; *see also id.* at 3:30–36. In contrast, however, here “the male insulating barrier 200 is very near to or physically in contact with the fema[le] insulating barrier 202, thereby blocking substantially all through-air arcing paths between the contacts 100, 102.” *Id.* at 3:33–36; *see also id.* at Fig. 2B.

E. Challenged Claims

Petitioner challenges claims 1–4 and 7–12 of the '017 patent. Pet. 19–99. Of these, claim 1 is independent.

Independent claim 1 is reproduced with bracketing as follows:

1. [1[pre]]¹ 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.

Ex. 1001, 4:20–44.

F. The Asserted Challenges to Unpatentability and Evidence of Record

We instituted an *inter partes* review of the challenged claims under the following challenges to unpatentability:

¹ For consistency, the Board relies on Petitioner’s annotations 1[pre]–1[i] referencing particular claim 1 limitations. *See* Pet. 19–34, 63–83.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 9	102(b) ²	Winkler ³
7	103(a)	Winkler, Winkler ⁴
8, 10	103(a)	Winkler, Handbook ⁵
11, 12	103(a)	Winkler, Poliak ⁶
1–4	102(a), (e)	Kataoka ⁷
7–10	103(a)	Kataoka, Handbook

In support of its patentability challenges, Petitioner relies on, *inter alia*, the Declaration of Dr. Charles Eldering (Ex. 1003). Patent Owner relies on, *inter alia*, the Declaration of Ronald P. Locati (“Mr. Locati”) (Ex. 2001).

II. UNPATENTABILITY

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)).

“A single prior art reference that discloses, either expressly or

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284, 287–288 (2011), amended 35 U.S.C. §§ 102 and 103. Because the application for the ’017 patent was filed before the effective date of the relevant amendments, we refer to the pre-AIA versions. *See* Ex. 1001, code (22).

³ U.S. Patent No. 2,838,739, issued June 10, 1958 (Ex. 1004).

⁴ U.S. Patent No. 3,909,099, issued September 30, 1975 (Ex. 1006).

⁵ Robert S. Mroczkowski, *Electronic Connector Handbook* (1998) (Ex. 1008).

⁶ U.S. Patent No. 4,634,211, issued January 6, 1987 (Ex. 1007).

⁷ U.S. Patent No. 8,182,278 B2, issued May 22, 2012 (Ex. 1005).

inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375–76 (Fed. Cir. 2005). To establish anticipation, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008); *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

The legal question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.⁸ *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based on more than one reference must articulate sufficient reasoning with rational underpinnings to combine teachings. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

B. Level of Ordinary Skill in the Art

Relying on the Declaration of Dr. Eldering for support, Petitioner contends a person of ordinary skill in the art (“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. Additional relevant work experience can compensate for less education, and vice versa.” Pet. 19

⁸ The current record does not include allegations or evidence of objective indicia of nonobviousness.

(citing Ex. 1003 ¶¶ 24–26).

Patent Owner, on the other hand, contends a POSITA “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.” PO Resp. 8. Patent Owner disputes Petitioner’s proffered level of skill because it: (1) “encompasses individuals with no experience with electrical connectors,” namely those working with electrical circuits; and (2) “is overbroad” because “working with . . . electrical connectors” includes individuals who have experience only using or installing electrical connectors with “no idea how electrical connectors work.” *Id.* at 7–8.

We agree with Patent Owner’s first argument that a level of ordinary skill in the art that encompasses an individual having experience with electrical circuits but not electrical connectors is not consistent with the technology and descriptions in the ’017 patent. *See* PO Resp. 7. The field of the invention of the ’017 patent is “electrical connectors, and more particularly, . . . an electrical connector that suppresses arcing if connected or disconnected while current is flowing.” Ex. 1001, 1:7–9. Consistent therewith, the challenged claims are directed to “[a]n electrical connector pair” and recite structural features of the electrical connector pair. *Id.* at 4:20–56, 5:1–20.

As for Patent Owner’s second argument, however, we note that under Petitioner’s level of skill in the art, an individual having at least two years’ experience only using or installing electrical connectors must nevertheless possess “at least a bachelor’s degree in electrical engineering or a similar field” in order to qualify as an ordinarily skilled artisan. Pet. 19. Patent

Owner does not persuade us that individuals with bachelor's degrees in electrical engineering or similar fields would need actual experience in designing electrical connectors to understand how electrical connectors similar to that claimed work.

Although Patent Owner argues that a POSITA should, instead, have at least two years' experience specifically "designing or developing" electrical connectors in order "[t]o properly understand the electrical connectors of the claimed invention, including the technical requirements of suppressing electrical arcing" (PO Resp. 8), such a narrow range of experience is not consistent with our understanding of the '017 patent and prior art of record. For example, the '017 patent itself includes only high-level disclosures of the technical aspects of the electrical connector and suppressing electrical arcing (*see, e.g.*, Ex. 1001, 1:55–2:3, 2:62–3:36), which tends to support that understanding those details would not have required such a deep knowledge of electrical connectors. Winkler, which issued decades before the '017 patent, in 1953, includes similarly broad descriptions of the technical aspects of its electrical connector. *See, e.g.*, Ex. 1004, 1:67–2:17, 3:14–47. And regarding the technical requirements of suppressing electrical arcing, Dr. Eldering testifies, unrebutted, that the claimed feature of blocking substantially all through-air arcing paths is accomplished simply by the positioning of the insulating barriers. *See* Ex. 1003 ¶ 82.

We additionally note that the open-ended language "at least" in Petitioner's formulation expands the range of education and experience indefinitely with no upper bound. Therefore, we do not adopt this aspect of Petitioner's formulation. In summary, we adopt the following level of ordinary skill: One of ordinary skill in the art would have had a bachelor's

degree in electrical engineering or a similar field and two years of experience working with electrical connectors, including power connectors. Additional relevant work experience can compensate for less education, and vice versa.

Based on the complete record, the level of skill we adopt is consistent with our review and understanding of the technology and descriptions in the '017 patent and prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). We would, however, reach the same conclusions applying either Petitioner's or Patent Owner's definition of the level of skill in the art.

C. Claim Construction

We apply the claim construction standard used to construe the claims in a civil action under 35 U.S.C. § 282(b), as articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2023). Under the *Phillips* standard, claim terms must be given “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313.

Here, the parties dispute the meaning of two terms recited in claim 1: (1) “insulating” and (2) “within.” See PO Resp. 12–22; Reply 2–5; Sur-reply 1–3. We address each of the terms below.

1. Claim Construction Principles

“The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.” *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed.

Cir. 2012) (citing *Phillips*, 415 F.3d at 1313). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Id.* (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1580 (Fed. Cir. 1996)).

In construing the claims, we begin with the language of the claims themselves. *Phillips*, 415 F.3d at 1314. However, “[c]laim construction requires determining how a skilled artisan would understand a claim term ‘in the context of the entire patent, including the specification.’” *Grace Instrument Indus., LLC v. Chandler Instruments Co., LLC*, 57 F.4th 1001, 1008 (Fed. Cir. 2023) (citing *Phillips*, 415 F.3d at 1313). In this regard, the specification “is the single best guide to the meaning of a disputed term.” *Id.* (citing *Vitrionics*, 90 F.3d at 1582). Our analysis “should also consider the patent’s prosecution history, if it is in evidence,” because it aids in demonstrating how the Office and the patentee understood the patent. *Phillips*, 415 F.3d at 1317.

“Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995). Extrinsic evidence may be useful in claim construction, but is “secondary to the intrinsic evidence” and is generally of less significance than the intrinsic evidence. *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 799 (Fed. Cir. 2019); *see also Phillips*, 415 F.3d at 1317 (citing *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004). “If the meaning of a claim term is clear from the intrinsic

evidence, there is no reason to resort to extrinsic evidence.” *Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1287 (Fed. Cir. 2021).

2. Construction of “Insulating”

In the Institution Decision, we preliminarily construed “insulating” to mean “electrically insulating.” Dec. 10–12.

Patent Owner argues that our preliminary construction is correct because it is supported by the language of the claims, the Specification of the ’017 patent, the Petition, and extrinsic evidence. PO Resp. 12–18. Specifically, Patent Owner contends the claims are directed to and recite “electrical” components in conjunction with “a first insulating housing,” “a second insulating housing,” “a first insulating barrier,” and “a second insulating barrier.” *Id.* at 12–13. Patent Owner further contends that the claims require the first and second insulating barriers to “block[] substantially all through-air arcing paths between the first and second electrical contacts,” which necessarily requires that these insulating barriers be electrically insulating in order to block electrical current from jumping between the two connectors. *Id.* at 13–14. According to Patent Owner, the first and second housings must be similarly electrically insulating. *Id.* at 14 (citing *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1345 (Fed. Cir. 1998); *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1310 ((Fed. Cir. 1999); Dec. 11).

Patent Owner further argues the Specification of the ’017 patent discloses that the insulating barriers and housings protect users from electrical burns and arcing and “substantially block[] or resist[] the flow of electrical current” during connection and disconnection of the connector

pair, such that they must be electrically insulating. PO Resp. 14–16. Relatedly, Patent Owner contends that the Specification distinguishes the ’017 patent’s connector pair from those of the prior art, which did not include this feature of suppressing electrical arcing. *Id.* at 15. Additionally, Patent Owner argues that the Petition’s discussion of insulating barriers also confirms that Patent Owner’s proffered construction is correct. *Id.* at 17–18 (citing Pet. 7, 16, 64, 74–75). Patent Owner also adds that Mr. Locati and two dictionaries support its position that “insulating” means “electrically insulating.” *Id.* at 18 (citing Ex. 2001 ¶ 56; Ex. 2007; Ex. 2008).

Petitioner argues no claim terms require express construction (Pet. 12), and that no express lexicography, clear disavowal of claim scope, or other basis supports Patent Owner’s interpretation of the term “insulating” (Reply 2–3). Petitioner further argues that “[r]edefining the claims globally [to have ‘insulating’ defined as ‘electrically insulating’] also excludes the broader scope of ‘protection’ the specification described for the housings.” *Id.* at 3. Additionally, Petitioner urges us to disregard Mr. Locati’s claim construction opinions as being unreliable and providing no technical analysis. *Id.* at 3.

We find that the intrinsic evidence supports maintaining our construction in the Institution Decision that “insulating” means “electrically insulating.” *See* Dec. 11–12. In particular, we agree with Patent Owner’s argument that the insulating barriers would be unable to be configured to “block[] substantially all through-air arcing paths between the first and second electrical contacts,” as claimed, unless they were electrically insulating. *See* Ex. 1001, 4:36–44. Moreover, as Patent Owner avers, our interpretation of “insulating” as it applies to the first and second insulating

barriers should be the same as for the first and second housings. *See Digital Biometrics*, 149 F.3d at 1345 (“whatever interpretation we assign [to a word used in a claim] should encompass both uses because the same word appearing in the same claim should be interpreted consistently” (citation omitted)).

Although “a patent’s written description can set forth more than one definition of a claim term,” we do not discern that to be the case here. *See Pitney Bowes*, 182 F.3d at 1310. The portions of the Specification of the ’017 patent that Patent Owner cites use “insulating” and its associated tenses to mean suppressing electrical arcing and protecting from electrical burns, i.e., electrically insulating. *See, e.g.*, Ex. 1001, code (57), 1:42–51, 1:55–63, 1:64–2:3, 2:42–44, 3:2–6, 3:30–40, 3:63–4:10, *cited in* PO Resp. 12–16.

We also are not apprised of any lexicography or clear disavowal of claim scope that alters our view of what an ordinarily skilled artisan would have understood the term to mean when read in light of the Specification of the ’017 patent and the prosecution history. *See Thorner*, 669 F.3d at 1365. Moreover, as Patent Owner notes, such a construction does not preclude the claimed “insulating housing[s]” from serving protective functions that would be met by a housing itself. *See* Sur-reply 1–2. And as Patent Owner further notes, the ’017 patent more specifically discloses that insulated housings 104, 106 “provid[e] some protection to a user *in case arcing occurs*,” thereby disclosing providing *electrical* protection. *See id.* at 2; Ex. 1001, 3:2–6. Because the meaning of the term “insulating” is clear from the intrinsic evidence, we need not consider extrinsic evidence. *See Seabed*, 8 F.4th at 1287.

Accordingly, on the complete record, we maintain our construction

that “insulating” means “electrically insulating.”

3. Construction of “Within”

Patent Owner avers that “within”—as recited in claim 1’s limitations “a first electrical contact supported within the first insulating housing,” “a second electrical contact supported within the second insulating housing,” “a first insulating barrier within the first connector,” and “a second insulating barrier . . . within the second connector”—means “on the inside of.” PO Resp. 19–22. Patent Owner argues, “[t]he 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).” *Id.* at 19. Specifically, according to Patent Owner, the Specification of the ’017 patent discloses that the first and second electrical contacts are “surround[ed]” by the first and second housings, respectively; and the first and second insulating barriers are on the inside of the first and second connectors, respectively, and unable to be seen from their exteriors. *Id.* at 19–22 (citing Ex. 1001, 3:2–3, 3:6–8, 3:18–23, 3:30–48, code (57), Figs. 3A–4A). Additionally, Patent Owner points to a dictionary as defining “within” as “on the inside,” “internally,” or “inside.” *Id.* at 22 (citing Ex. 2009).

Petitioner responds that “[w]ithin” is a common word that needs no further explanation,” and “what constitutes ‘on the inside of’ offers no more clarity than ‘within.’” Reply 3–5. Petitioner further argues that the Specification does not support Patent Owner’s construction and provides no lexicography, disavowal, or limit to the scope of the term “within.” *Id.* Petitioner points, for example, to Figures 2A and 2B as showing the insulating barriers being flush with the ends of the insulating housings,

rather than on the inside of the housings. *Id.* at 4. As for Patent Owner’s dictionary evidence, Petitioner avers that Patent Owner cherry-picks “on the inside” at the expense of other alternative definitions for “within.” *Id.* During oral arguments, Petitioner additionally argued that “‘within’ means . . . on the inner side of the housing.” Tr. 21:7–8.

Beginning with the intrinsic evidence, we are not apprised of any particular evidence that sheds light on the specific term “within” as used *ipsis verbis* in the claims. *See generally* Exs. 1001, 1002 (prosecution history of the ’017 patent). Nevertheless, we agree with Patent Owner’s argument that the Specification provides some support for construing “within” to mean that the claimed electrical contacts and insulating barriers are on the inside of other structures. *See* PO Resp. 19. For example, the Specification discloses that “[i]nsulated housings 104, 106 surround the male and female contacts” and includes top (Figures 3A and 4A) and cross-sectional side views (Figures 3B and 4B) showing the housings at least partially encircling those contacts.⁹ *See* Ex. 1001, 2:45–53, 3:2–6, Figs. 3A–4B. These figures, likewise, depict each insulating barrier as being on the inside of its respective connector. *See id.* at Figs. 3A–4B. And although Petitioner argues Figures 2A and 2B of the ’017 patent show the insulating barriers flush with the ends of the housings, the barriers are on the inside—inside the boundaries or physical area along at least one dimension—of the connectors. *See id.* at Figs. 2A–2B.

⁹ Because the ’017 patent does not include exterior side views of the connector pair, we are unable to discern whether the housings completely encircle the contacts or completely shield the contacts from external view. *See* Ex. 1001, Figs. 3A–4B.

Accordingly, the intrinsic evidence provides some support for construing “within” to mean “on the inside of.” Consistent with Petitioner’s argument, we are not apprised of any lexicography or clear disavowal of claim scope that alters our view of what an ordinarily skilled artisan would have understood the term to mean when read in light of the Specification of the ’017 patent and the prosecution history. *See Thorner*, 669 F.3d at 1365. To the extent Patent Owner might have us further limit “within” to mean “surround” (*see* PO Resp. 19–20), however, we decline to do so because although the ’017 patent discloses that the insulated housings “surround” the contacts (Ex. 1001, 3:2–3), we do not discern a similar disclosure with respect to the first and second connectors and the first and second insulating barriers, respectively. We, likewise, decline to construe “within” to mean “cannot be seen from the exterior” (*see* PO Resp. 21–22) because, as noted above, the ’017 patent also does not support the contacts and insulating barriers being unable to be seen from the exterior of the housings and connectors, respectively.

Because the intrinsic evidence is not entirely clear as to the meaning of the term “within,” we additionally consider the extrinsic evidence Patent Owner proffers, namely declaration testimony from Mr. Locati and definitions of the term from Merriam-Webster’s Unabridged Dictionary (Ex. 2009). *See Continental Circuits*, 915 F.3d at 799; *Seabed*, 8 F.4th at 1287. In this regard, Mr. Locati’s testimony, which substantively mirrors Patent Owner’s Response, does not aid further our understanding of what the Specification discloses. *See* Ex. 2001 ¶¶ 57–64. As for Patent Owner’s dictionary evidence, we note that the dictionary includes multiple definitions for “within,” the first listed being “on the inside or on the inner

side : INTERNALLY, INSIDE,” with other relevant definitions including “inside the bounds of a place or region” and “in an inner room or enclosure.” Ex. 2009, 1. Therefore, construing “within” to mean “on the inside of” is consistent with the dictionary definition of the term. Notably, Petitioner’s arguments do not demonstrate persuasively why one of the alternatively set forth definitions in the dictionary is more appropriate, or why dictionary evidence that is consistent with Patent Owner’s construction does not provide further support for that construction. *See* Reply 4–5. Accordingly, we construe “within” to mean “on the inside of.” Importantly, however, we do not construe “within” to require that the insulating barriers and electrical contacts be *entirely* on the inside of the connectors and housings, respectively. Such a limiting construction would amount to reading “within” in the claims as “entirely within,” and therefore, would not be commensurate with the scope of the claim, the Specification of the ’017 patent, or Patent Owner’s dictionary evidence. Accordingly, we determine that “within” as meaning “on the inside of” can be met by being on the inside along any dimension, namely length, width, or height.

4. Remaining Claim Terms

Construction is needed only for those terms “that are in controversy, and only to the extent necessary to resolve the controversy.” *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs. Inc. v. Am. Sci & Eng’g Inc.*, 200 F.3d 795 803 (Fed. Cir. 1999)). After reviewing the parties’ arguments and evidence, we determine that no further claim terms require express construction for this decision.

D. Summary of Asserted Art

The following subsections provide a brief description of the asserted prior art references.

1. *Winkler (Ex. 1004)*

Winkler is titled “Electrical Connector.” Ex. 1004, 1. Figure 1, below, shows two identical two-pole electrical cable connectors. *Id.* at 1:67–70.

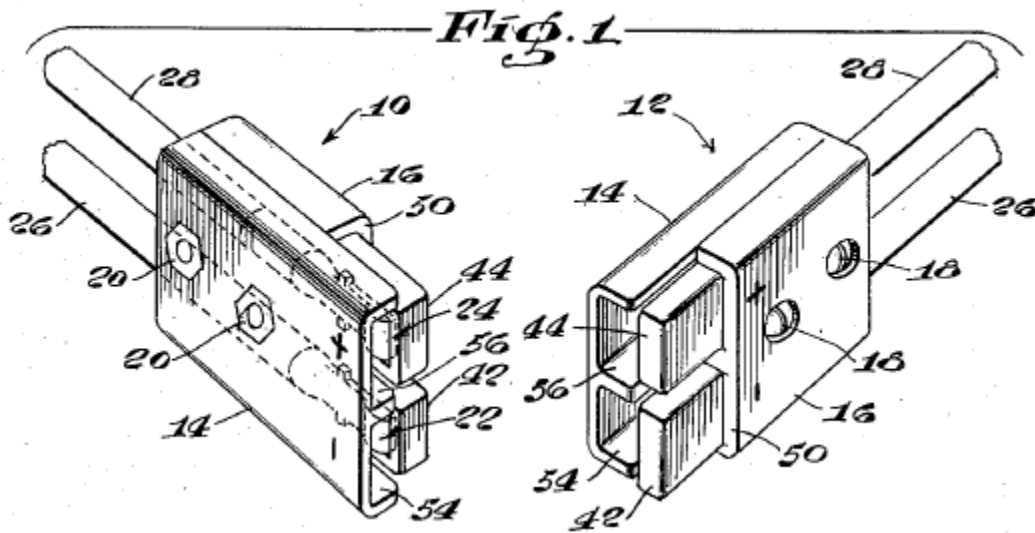


Figure 1 illustrates electrical connectors 10, 12 each including an insulated housing with two half sections 14, 16. *Id.* at 1:71–2:2. Winkler discloses that each housing supports contact members 22, 24 that form terminals of electrical cables 26, 28. *Id.* at 2:4–10. Additionally, half section 16 of each connector has terminal-receiving pockets 42, 44 that are “substantially U-shaped in cross section and closed at their outer ends.” *Id.* at 2:23–26. According to Winkler, the terminals are enclosed in the terminal-receiving pockets, and sockets 54, 56 “provide a protective insulating wall above the terminals.” *Id.* at 3:7–13.

Winkler's Figure 2, reproduced below, shows a cross-sectional view of the connectors in a connected state. Ex. 1004, 1:29–30.

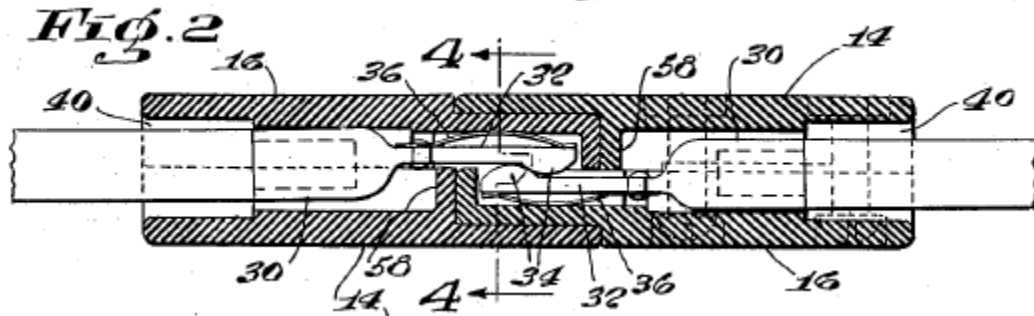


Figure 2 illustrates each of the contact members having a contacting end including elongated flat portion 32 having rounded or convex end portion 34 projecting from a surface of the elongated flat portion. *Id.* at Fig. 2, 2:10–14.

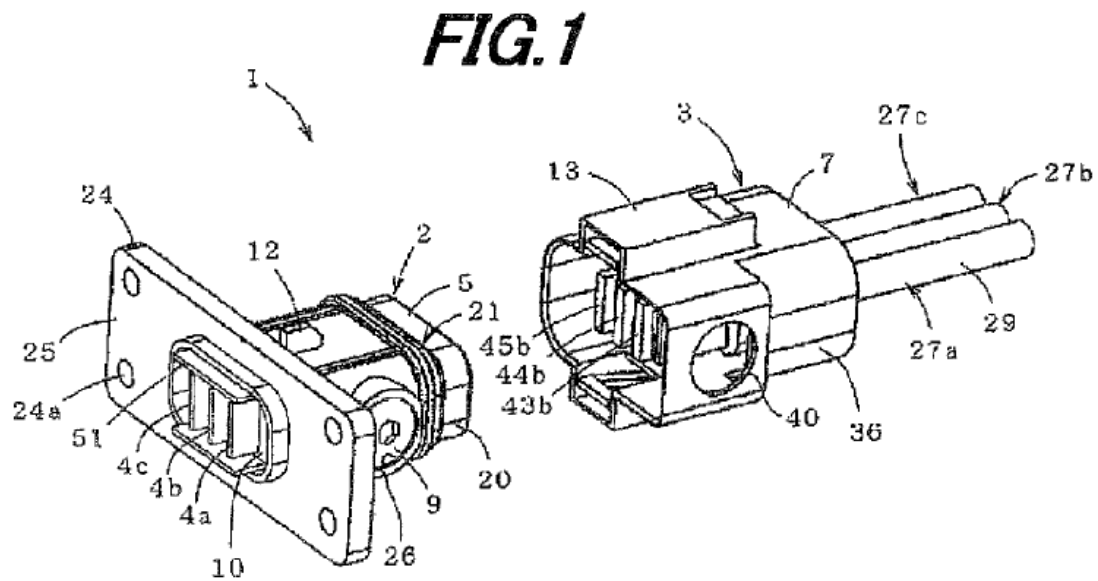
Winkler explains that during engagement of the connectors,

the rounded contacting faces 34 of each spring-pressed terminal are slidably engaged by each other, initial inward movement of the connectors effecting downward movement of the terminals in their respective pockets against the springs 36. Upon continued inward movement the high points of the curved portions pass by each other, and 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, as illustrated [in Figure 2].

Id. at 3:14–27.

2. Kataoka (Ex. 1005)

Kataoka is titled “Connector” and provides an electrical connector. Ex. 1005, codes (54), (57). Figure 1, reproduced below, shows an exemplary connector including first connector portion 2 and second connector portion 3. *Id.* at Fig. 1, 4:48–52.



As shown in Figure 1, the first connector portion has male terminals 4a-4c housed in first terminal housing 5, and the second connector portion has female terminals housed in second terminal housing 7. *Id.* at 4:53-63.

Figure 3 of Kataoka is shown below.

FIG.3

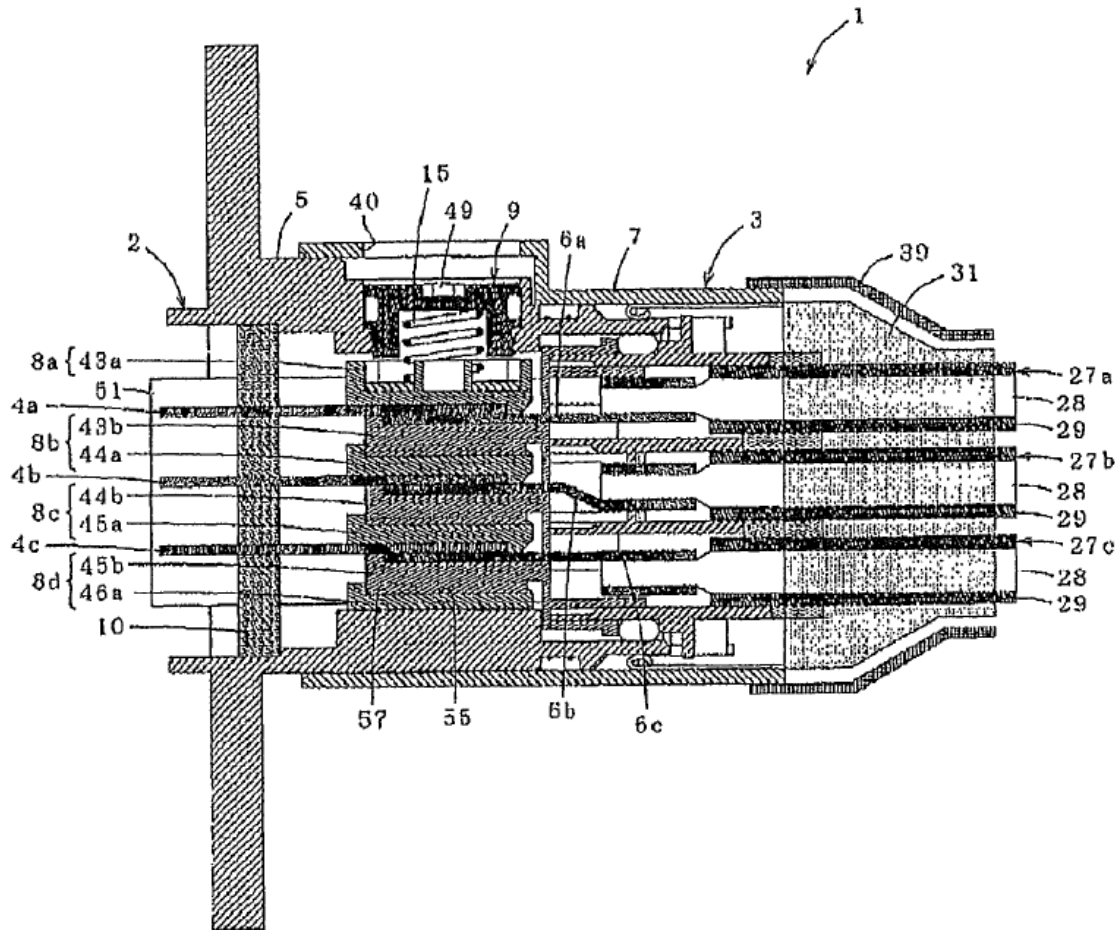


Figure 3 is a cross-sectional view of the connector portions when they are fitted together. Ex. 1005, 4:6–7. When the connector portions are connected as shown in Figure 3, above, connecting member 9, depicted as a spring, causes the male and female terminals to electrically connect. *Id.* at 4:53–63. Kataoka explains that one surface of each of the male terminals is paired with one surface of each of the female terminals to create contact points “sandwiched” by insulators 8a–8d that are adjacent to the male and female terminals, “thereby forming a laminated structure.” *Id.* at 4:63–5:9. Kataoka further discloses that because of the insulators, the male and female insulators “are not exposed in the non-fitted state[,] and it is thereby possible

to prevent unintentional contact and electric shock to a foreign object such as a hand or finger of a worker, etc.” *Id.* at 15:12–22.

3. *Winkler2* (Ex. 1006)

Winkler2 is titled “Electrical Connector With Movably Mounted Cable Clamp” and provides an electrical connector having a cable clamp that freely pivots around a longitudinal axis of a cable but is restrained from movement in a direction along the longitudinal axis. Ex. 1006, codes (54), (57). Figure 1, below, shows a partial view of two electrical connectors 10, 12 and their respective clamping assemblies 24. *Id.* at 1:54–57, 2:15–22.

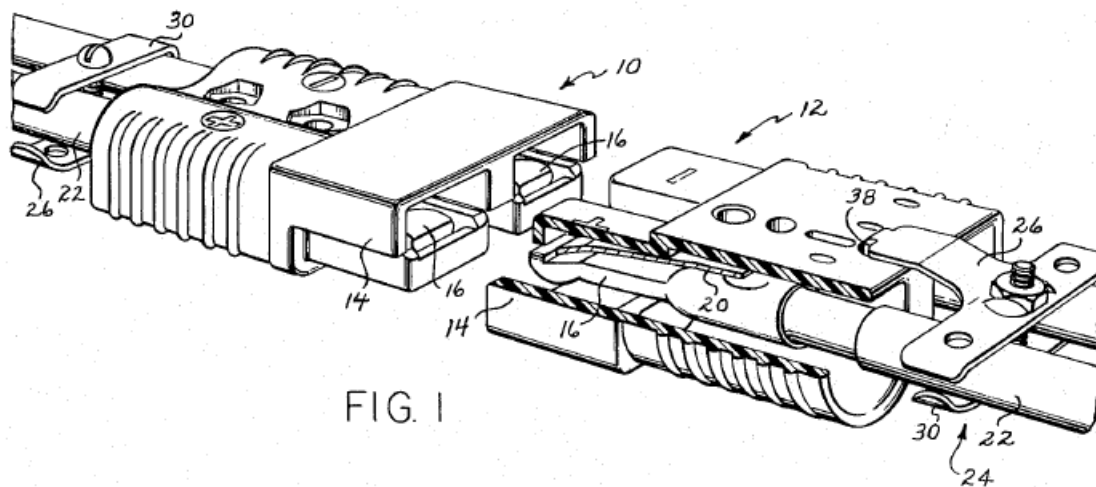


Figure 1 shows the electrical connectors each having hollow insulated housing 14 and terminal member 16 positioned within the housing. *Id.* at Fig. 1, 2:6–9. The terminal member is electrically and mechanically secured to electrical cable 22 “by conventional means, such as[] by crimping and/or soldering,” and the electrical cable is held to housing by the clamping assembly. *Id.* at 2:12–17.

4. Poliak (Ex. 1007)

Poliak is titled “Wiring Device System With Single Screw”

Subassembly” and provides a “device that electrically connects conductors from a cable to the electrical contacts of a plug or receptacle by means of a single fastener.” Ex. 1007, codes (54), (57). Figure 3, reproduced below, shows a longitudinal cross-sectional view of a plug with an electrical cord connection. *See id.* at Fig. 1, 3:6–9, 3:14–15.

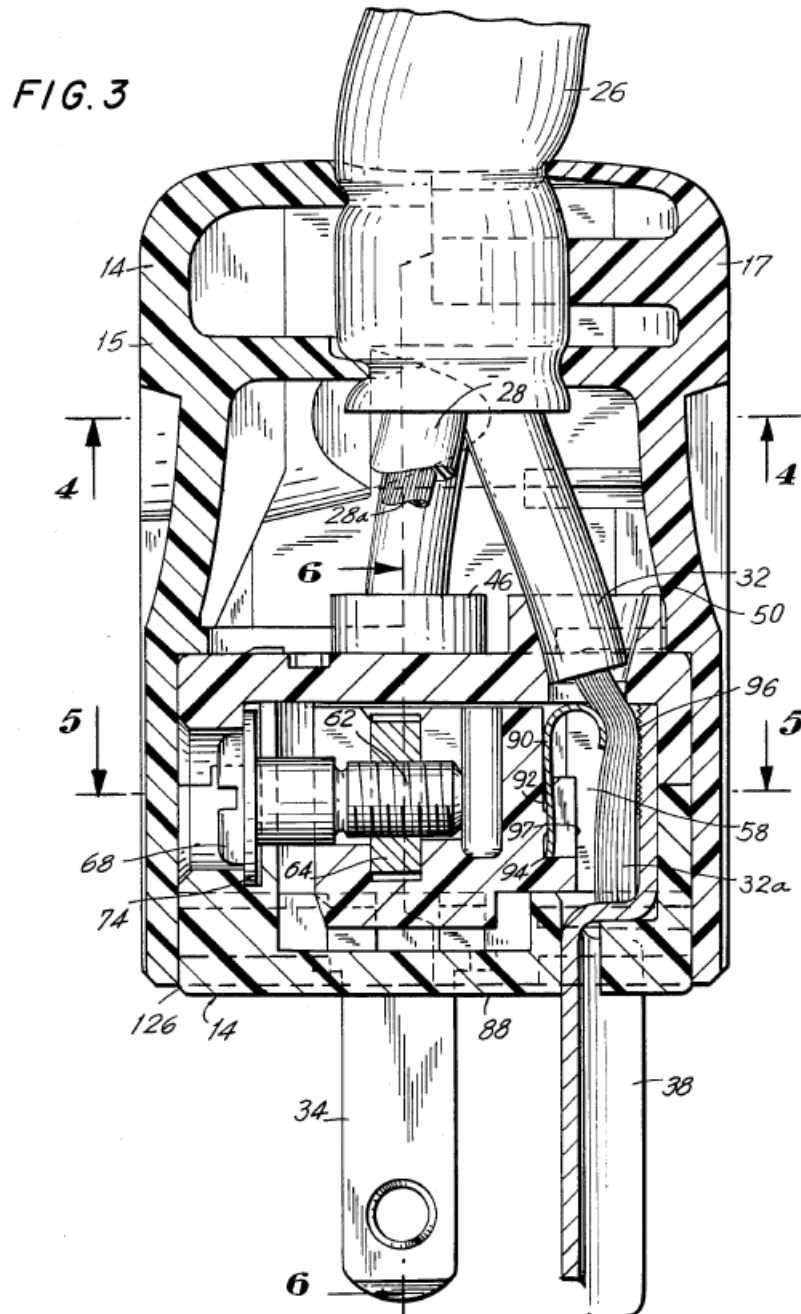


Figure 3 illustrates a male plug assembly having multi-conductor cable 26 with conductors 28, 32 shown in the figure, and additional conductor 30 not shown in the figure. *Id.* at Fig. 3, 4:6–29. The plug assembly further includes grounding contact 38 and electrical contacts 34, 36, with only the contact 34 shown in the figure. *Id.* Screw 62 engaged with nut 64 may be rotated to move a carriage (not labeled) forward so that the conductors are tightly pressed against respective contacts. *Id.* at 6:21–29. Figure 3 shows one carriage wall 97 pressing one of the conductors 32 into contact with the grounding contact. *Id.* at Fig. 3.

5. *Handbook (Ex. 1008)*

Handbook is excerpts from a book titled *Electronic Connector Handbook* that purports to aid in “[s]elect[ing] the perfect connector for any given application” and provide information regarding “signal and power applications” and “design and material issues.” Ex. 1008, 1–2. To that end, Handbook includes chapters covering topics such as overviews of the function, structure, and applications of connectors (Chapter 1); permanent connections, including crimped connections and insulation displacement connections, to wires and cables (Chapter 9); and connections, including permanent mechanical connections and soldering, to printed wiring boards (Chapter 11). *Id.* at 4–7, 32, 70.

E. Asserted Grounds of Unpatentability

1. *Alleged Anticipation By Winkler: Claims 1–4 and 9*

Petitioner contends that claims 1–4 and 9 of the ’017 patent would have been anticipated by Winkler. Pet. 13, 19–38. Having considered the arguments and evidence before us, we determine Petitioner has shown by a

preponderance of the evidence that claims 1–3 and 7 would have been anticipated by Winkler; Petitioner has not carried its burden with respect to claim 4 as anticipated by Winkler.

For each claim, we first address the claim limitations and Petitioner’s arguments in the Petition. We then turn to the disputes raised by Patent Owner’s arguments in its Response and Sur-reply and Petitioner’s contentions in its Reply.

(a) Independent Claim 1

- (i) *1[pre]: “An electrical connector pair, comprising”*

Regarding the preamble, Petitioner contends Winkler discloses two-pole electrical cable connectors 10, 12. Pet. 19–20 (citing Ex. 1004, Fig. 1, 1:68–70; Ex. 1003 ¶ 63).¹⁰

- (ii) *1[a]: “a first connector having a first insulating housing”*

As for limitation 1[a], Petitioner points to Winkler’s disclosure that connector 10 includes “an insulating housing” formed by two half sections 14, 16. Pet. 20–21 (citing Ex. 1004, Fig. 1, 1:47–50, 1:68–2:2, 3:7–13; Ex. 1003 ¶ 64).

- (iii) *1[b]: “a first electrical contact supported within the first insulating housing”*

For limitation 1[b], Petitioner argues that Winkler illustrates contact member 22 supported by the housing half sections. Pet. 22 (citing Ex. 1004,

¹⁰ Neither party contends the preamble is limiting. *See generally* PO Resp.; Reply. Therefore, we need not make such a determination.

Figs. 1, 3; Ex. 1003 ¶¶ 63–64). Petitioner explains that the contact member “forms a terminal for electrical cable 26.” *Id.* at 21 (citing Ex. 1004, 2:4–7).

- (iv) *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”*

For limitation 1[c], Petitioner argues that Winkler’s contact member has elongated flat portion 32 and leading convex end portion 34. Pet. 23–25. Petitioner further contends that the elongated flat portion: (1) is in electrical connection with a second contact member of a mated connector, and (2) is parallel with a longitudinal axis of the housing half sections. *Id.* at 23–24 (citing Ex. 1004, Figs. 2, 4, 2:10–14; Ex. 1003 ¶¶ 66–67). Moreover, Petitioner contends that the convex end portion of Winkler’s contact member is “substantially the same” as the type of structure that Patent Owner asserts in the related district court litigation may be the recited “connecting surface.” *Id.* at 25–26 (citing Ex. 1009 (Complaint for Infringement), 11; Ex. 1003 ¶ 71).

- (v) *1[d]: “a second connector having a second insulating housing”*

With respect to limitation 1[d], Petitioner argues that Winkler’s connector 12 is identical to connector 10 and similarly includes insulating housing half sections 14, 16. Pet. 26–27 (citing Ex. 1004, Fig. 1, 1:27–28, 2:4–10; Ex. 1003 ¶ 72).

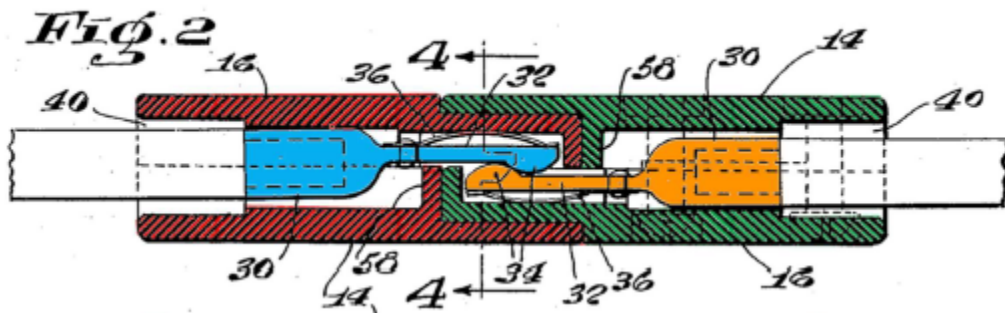
- (vi) *1[e]: “a second electrical contact supported within the second insulating housing”*

Regarding limitation 1[e], Petitioner argues that Winkler illustrates a

second contact member 22 supported within the housing half sections of the second connector. Pet. 27–28 (citing Ex. 1004, Figs. 2, 4; Ex. 1003 ¶ 73). Petitioner explains that the contact member “is a terminal for electrical cable 26.” *Id.* at 28 (citing Ex. 1004, 2:4–7).

- (vii) 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”

Regarding limitation 1[f], Petitioner contends Winkler’s contact members of the two connectors laterally and slidingly engage and are biased together such that their respective convex end portions are “in hooked or interlocked relation to each other” when the contact members are fully engaged. Pet. 28–30 (citing Ex. 1004, Figs. 2, 4, 3:18–27, 4:50–56; Ex. 1003 ¶¶ 74–75). Petitioner further reproduces Figure 2 of Winkler with coloring, as shown below:



Pet. 29. Figure 2 illustrates mated first connector (red) and second connector (green), mated first electrical contact (blue) and second electrical contact (orange), and a line 4—4 extending through the elongated flat portion. *See* Ex. 1004, Fig. 2; Pet. 29. The Petition also reproduces a colored version of Winkler’s Figure 4, which corresponds to a cross-sectional view taken along the line 4—4 and looking towards the left of Figure 2, i.e., along the length

of the elongated flat portion. Pet. 29; Ex. 1004, 1:33–34.

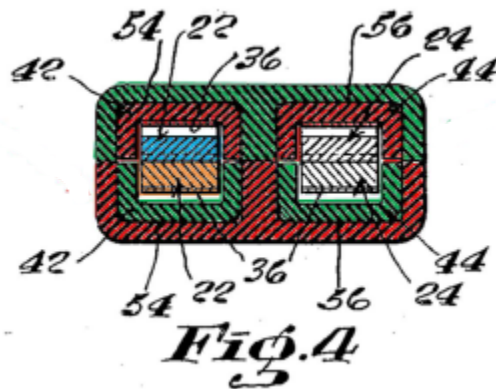


Figure 4, above, again shows the first and second connectors shaded in red and green, respectively, and first contact and second contact shaded in blue and orange, respectively. Pet. 29.

- (viii) *1[g]: “a first insulating barrier within the first connector extending beyond and covering the leading end of the first electrical contact”*

For limitation 1[g], Petitioner argues that connector 10 has receiving pocket 42 in housing half section 16 that is an insulating barrier enclosing the connector’s contact member, and which is “substantially U-shaped in cross section and closed at [its] outer end[.]” Pet. 30–31 (citing Ex. 1004, Figs. 1–2, 2:23–26, 2:39–40, 3:7–9; Ex. 1003 ¶ 76) (alterations in original). Petitioner further contends that “[t]he ’017 [patent] also admits an insulating barrier that ‘blocks the direct through-air path between the contacts’ was known.” *Id.* at 31 (citing Ex. 1001, 1:42–44; Ex. 1003 ¶ 77).

- (ix) *1[h]: “a second insulating barrier extending beyond the second electrical contact within the second connector”*

For limitation 1[h], Petitioner reiterates that Winkler’s connectors are identical and argues that receiving pocket 42 of connector 12 constitutes the

claimed “second insulating barrier” for the same reasons as articulated for limitation 1[g]. Pet. 31–32 (citing Ex. 1004, Fig. 2, 1:27–28, 2:4–10; Ex. 1003 ¶ 78).

- (x) 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”

With respect to limitation 1[i], Petitioner relies on “[a] diagram created based on *Winkler* Fig. 2 . . . , showing connectors 10 and 12 partially disconnected,” to show that *Winkler* discloses the limitation. Pet. 32–33. Reproduced below are Petitioner’s modified Figure 2 diagram and accompanying caption.



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

Petitioner explains that the diagram above shows the first contact member (blue) and the second contact member (orange) “separated . . . by a short distance” and the closed ends of the first insulation barrier (red) and the second insulation barrier (green) “in close proximity to one another.” *Id.* at 33 (citing Ex. 1003 ¶¶ 79–82). According to Petitioner, the modified

Figure 2 diagram further shows that “*Winkler* exhibits the same arcing path-blocking functionality that the ’017 patent depicts.” *Id.* at 32–33 (citing Ex. 1001 Fig. 2B; Ex. 1003 ¶ 83). In this regard, Petitioner’s declarant, Dr. Eldering, testifies that the claimed “blocking substantially all through-air arcing paths between the first and second electrical contacts” is achieved by the second insulating barrier being configured as recited in limitation 1[i]. Ex. 1003 ¶ 82.

(xi) *Parties’ Disputes*

Patent Owner contends Petitioner has failed to show that *Winkler* discloses limitations 1[f], 1[g], 1[h], and 1[i]. PO Resp. 23–44; Sur-reply 3–15. We have reviewed the evidence with regard to the non-disputed limitations and concur that Petitioner has met the evidentiary standard to show each element is disclosed by *Winkler*, as indicated by the evidence cited and summarized above. We address Patent Owner’s arguments below.

a) *Limitation 1[f]*

Regarding limitation 1[f], Patent Owner argues Petitioner does not address the full limitation because the Petition merely asserts that *Winkler*’s first and second contacts laterally engage with each other, rather than the second contact being configured to laterally engage “with the connecting surface” of the first contact, as specifically recited. PO Resp. 23–27. Specifically, Patent Owner argues that the Petition equates the claimed “connecting surface” to *Winkler*’s elongated flat portion 32—as distinguished from *Winkler*’s convex end portion 34 forming the claimed “leading end of the first electrical contact”—but that Petitioner does not address how *Winkler*’s second electrical contact is configured to laterally engage with the elongated flat portion of the first electrical contact. *Id.*

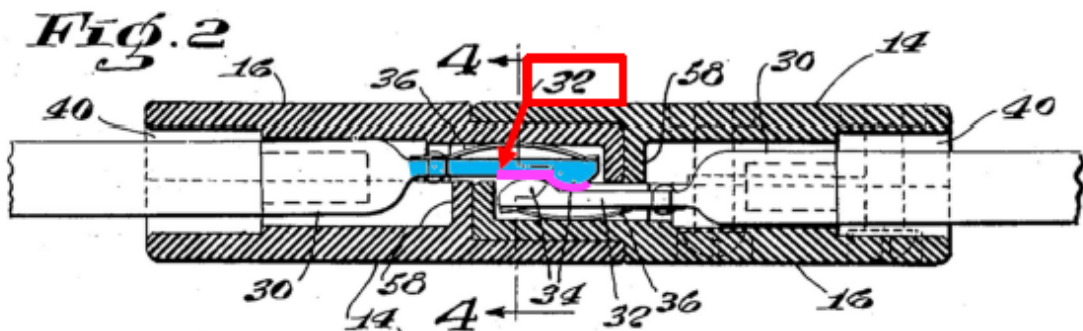
at 24–27; Sur-reply 3–4. Patent Owner further avers that Winkler does not disclose any engagement or contact between those two elements, whether in Figure 4 or elsewhere, and that Petitioner has not satisfied its burden of proof in this regard. PO Resp. 27–31 (citing Ex. 2001 ¶¶ 73–79; Dec. 24; Ex. 1004, 1:33–34, 2:10–14, 2:27–32, 3:14–27, Figs. 2, 4, claim 4; Pet. 28–30; Ex. 1003 ¶ 148; Ex. 2002, 142:21–146:14); Sur-reply 5. Moreover, according to Patent Owner, Winkler does not disclose whether its figures are drawn to scale and, therefore, cannot be relied upon to show the claimed feature. PO Resp. 31–32 (citations omitted); Sur-reply 5.

In contrast, Petitioner contends “the [P]etition identifies both the elongated flat section [i.e., Winkler 32] of the electrical contact **and** the curved portion [i.e., Winkler 34] of the contact as the connecting surface.” Reply 6 (citing Pet. 23; Ex. 2002, 39:8–40:3). Furthermore, Petitioner contends Patent Owner: (1) “interpret[s] a round convex portion of a first electrical contact as satisfying the claimed substantially parallel contacting surface in the co-pending litigation” and (2) admits that Winkler’s contacts are laterally engaged at their convex end portions. *Id.* at 6–7. Petitioner also argues Mr. Locati wrongly opines that Winkler requires a single point of contact between the first and second contacts. *Id.* at 8. Additionally, Petitioner argues Winkler’s Figure 2 shows the claimed lateral engagement. *Id.* at 8–9.

Patent Owner responds that the Reply raises an impermissible new argument that Winkler’s “connecting surface” encompasses both the elongated flat portion and the curved portion. Sur-reply 5–7. Patent Owner argues that Winkler’s curved portion, in any event, is not “substantially parallel with a longitudinal axis of the insulating housing” as recited in

limitation 1[c], and is “‘hooked’ side-to-side [with the curved portion of the other contact when they are engaged] along the *longitudinal axis*, not ‘laterally engaged’ along the *lateral axis*,” as required by the claim. *Id.* at 7–9 (citing Ex. 1001, claim 1; Pet. 24, 29–30; Ex. 1003 ¶ 68; Reply 5–9; Ex. 2001 ¶¶ 73, 83; Ex. 2002, 45:7–13, 46:5–9, 48:18–49:2; PO Resp. 27–31; Ex. 1004, 3:18–27, Fig. 2).

As an initial matter, we disagree with Patent Owner’s argument that Petitioner impermissibly raises a new theory in its Reply. Instead, the Petition itself points to both the elongated flat portion and the convex end portion of Winkler as satisfying the claimed “connecting surface.” Pet. 23, 25–26. For example, when addressing limitation 1[c], in which the connecting surface is first recited, the Petition reproduces with annotated highlighting Figure 2 of Winkler with a caption as follows:



Ex. 1004, Fig. 2 (annotated highlighting *contact member 22* in *blue*, circling *elongated flat portion 32*, and identifying a *connecting surface* in *pink*)

As shown above, Petitioner highlights in pink both the elongated flat portion and the convex end portion and indicates that its annotated figure “identif[ies] a connecting surface in pink.” Pet. 23. Petitioner additionally maps the claimed “leading end” in which the connecting surface terminates to the convex end portion (*see id.* at 25), thereby specifying that the convex end portion forms a part of the connecting surface. And Petitioner argues

that, “[a]ccording to Patent Owner, a rounded convex portion of the first electrical contact can constitute the claimed ‘connecting surface,’” such that “*Winkler’s* convex portion 34 of contact member 22 constitutes substantially the same structure that Patent Owner alleges meets [limitation] 1[c].” *Id.* at 26.

Furthermore, although limitation 1[c] requires that the connecting surface be “substantially parallel with a longitudinal axis of the insulating housing,” Patent Owner does not dispute that this feature is met by *Winkler’s* elongated flat portion. *See generally* PO Resp.; Ex. 2001 ¶ 83. Notably, the claim does not require that an entirety of *Winkler’s* connecting surface be substantially parallel with the housing’s longitudinal axis. *See* Ex. 1001, 4:23–25; Ex. 1009, 11.

Patent Owner’s arguments also do not undermine *Winkler’s* clear depiction in Figures 2 and 4 of the second electrical contact laterally engaging the convex end portion of the first electrical contact when they are mated. The line 4—4 in *Winkler’s* Figure 3 laterally traverses the convex end portions of *Winkler’s* electrical contacts, and it is undisputed that *Winkler’s* Figure 4 shows engagement of the contacts along that line. *See* Ex. 1004, Figs. 3–4; *see also* PO Resp. 30–31 (arguing that “*Winkler* describes the convex end portions 34 as ‘contacting portions’ of the electrical contacts that have ‘rounded contacting faces,’” and “*Winkler* also discloses that, when the connectors are engaged, the convex end portions 34 ‘are slidably engaged by each other’ “in ‘hooked or interlocked’ engagement with each other”). Given the depictions in Figures 3 and 4 as described above, and given further that the line 4—4 is, as Patent Owner characterizes it, “an approximately 45-degree angle through the convex end

portions 34 of the electrical contacts” (*see* PO Resp. 28), the convex end portions of the contacts must both longitudinally and laterally engage each other. *See* Ex. 1004, Figs. 3–4; *see also* Ex. 2002, 48:20–49:2 (Dr. Eldering testifying that, in the context of the ’017 patent, the lateral axis is the one “run[ning] vertically up and down perpendicular to the arrow shown in Figure 2-A”). In view of Winkler’s added descriptions of the engagement of the convex end portions with each other (*see, e.g.*, Ex. 1004, 2:27–32, 3:14–27, claim 4, *cited in* PO Resp. 30–31), we are unpersuaded by Patent Owner’s argument that Winkler’s figures cannot be relied upon to show the claimed feature.

Thus, we find that Petitioner has shown that Winkler discloses limitation 1[f].

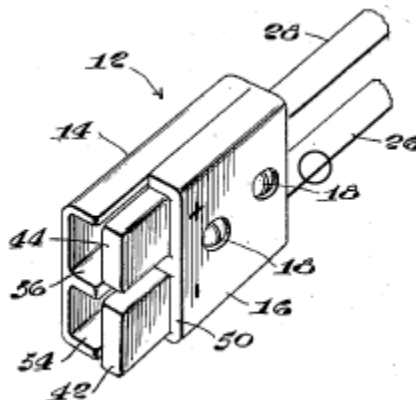
b) Limitation 1[g]

Patent Owner further argues that Petitioner fails to show that Winkler’s receiving pocket is “within the first connector,” as limitation 1[g] requires, and under Patent Owner’s construction of the term “within.” PO Resp. 32–36; Sur-reply 9–11. Specifically, Patent Owner argues that, in addition to the Petition not addressing the claim language, Winkler’s receiving pocket “is formed as part of the outside or exterior of connector,” rather than being on the inside of the connector. PO Resp. 33–35 (citing Ex. 2001 ¶¶ 87–88; Ex. 1004, Figs. 1, 3, 2:4–7, 2:18–32, 2:39–43, claim 1; Pet. 30; Ex. 1003 ¶ 76; Ex. 2002, 148:1–22); Sur-reply 9–11. According to Patent Owner, Petitioner admits that the receiving pocket “is an ‘outer portion[] of [the] connector housing.’” PO Resp. 35 (emphases omitted) (alterations in original). Moreover, Patent Owner contends, Petitioner does not provide an alternate construction for the term “within,” and the position

of Winkler's receiving pocket is unlike that of the '017 patent's insulating barrier. Sur-reply 9–11.

Petitioner contends it addresses the limitation and that Patent Owner's construction "narrow[s] the claims without lexicography or clear disavowal of claim scope," and "[t]he patent identifies no significance to the barrier being within the connector." Reply 10. Petitioner further contends that "[i]f the new portion of element 200 in the '017 patent is 'within' (or 'on the inside of') the connector, then so is the relevant portion of the receiving pocket in *Winkler* (i.e., the portion that extends beyond the contact to form the barrier)." *Id.* at 11 (citing Ex. 1001, Fig. 2A; Ex. 1004, Fig. 2). Additionally, Petitioner disputes that it makes an admission that Winkler's receiving pocket is not within the first connector. *Id.* at 12.

In our Institution Decision, we determined that "Winkler's Figure 1 [cited in the Petition] shows, without need for further explanation, the receiving pocket 'within' the housing section of the first connector 10, at least inasmuch as receiving pocket 42 of second connector 12 is depicted as being *inside the second connector*." Dec. 25 (citing Ex. 1004, Fig. 1; Ex. 1004, 1:67–70) (emphasis added). To illustrate, we reproduce, below, a portion of Winkler's Figure 1 showing connector 12, which is an exact counterpart to connector 10, having receiving pocket 42 and housing 16.



Ex. 1001, Fig. 1, 1:67–70. As shown, the width and height of the receiving pocket are less than those of the housing, and the receiving pocket does not extend laterally beyond or exterior of the housing. *See id.* at Fig. 1; *see also id.* at Figs. 2–3; Ex. 2002, 45:4–13 (Dr. Eldering describing a lateral axis of Winkler as being perpendicular to a longitudinal axis along which the connectors are slidingly mated). As such, the receiving pocket is inside of the housing because it is inside the boundaries, the physical area delineated by the width and height, of the housing. We note, also, that similar to the '017 patent, Winkler's housing at least partially encircles the receiving pocket. *See id.* at Fig. 1; § II.C.3., *supra* (noting that Figures 3A–4B of the '017 patent illustrate the housings at least partially encircling the contacts).

We acknowledge that Winkler's figures show the receiving pocket extending longitudinally beyond an exterior of the housing. *See, e.g.,* Ex. 1004, Fig. 1. This does not negate that the receiving pocket is laterally inside of the housing and, therefore, inside the boundaries or physical area of the housing. *See id.* Notably, we do not construe “within” to require that the insulating barrier be *entirely* inside of, or *entirely* within, the connector, since such a construction would not be commensurate with the scope of the claim, the Specification of the '017 patent, or Patent Owner's dictionary evidence. Furthermore, we disagree with Patent Owner's argument that Petitioner concedes Winkler's receiving pocket is an outer portion of the housing. *See* PO Resp. 35. Rather than referring to Winkler's receiving pocket as an outer portion of the housing, Petitioner characterizes Winkler's “barrier tensioning mechanism” as such. *See* Pet. 36–37.

Thus, we find that Petitioner has shown that Winkler discloses

limitation 1[g].

c) Limitation 1[h]

Patent Owner argues Petitioner fails to show that Winkler discloses limitation 1[h] for similar reasons why Petitioner fails to show Winkler discloses limitation 1[g]. PO Resp. 36–37; Sur-reply 9–11. Patent Owner further contends “[t]he 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.” PO Resp. 36–37.

As discussed above in our analysis of limitation 1[g], we determine that Petitioner has shown sufficiently that Winkler discloses “a first insulating barrier . . . within the first connector.” For limitation 1[h], Petitioner relies on Winkler’s exact-counterpart second connector and receiving pocket thereof as the claimed second connector and second insulating barrier. Pet. 31–32. Accordingly, for the same reasons, we determine that Petitioner has shown sufficiently that Winkler discloses limitation 1[h]. In this regard, we disagree with Patent Owner’s argument that Petitioner treats limitations 1[g] and 1[h] as if they are the same, and we find Petitioner has not failed to show that Winkler accounts for each portion of limitation 1[h].

d) Limitation 1[i]

As for limitation 1[i], Patent Owner argues that “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.” PO Resp. 38. Furthermore, Patent Owner avers that the diagram: (1) would not have been envisaged by Dr. Locati or another ordinarily skilled artisan reading Winkler’s actual disclosures; (2) does not disclose anything relating to

electrical arcing, much less the claimed “blocking substantially all through-air arcing paths between the first and second electrical contacts”; (3) is ambiguous at best; and (4) is unaccompanied by any explanation, analysis, non-conclusory expert testimony, or citations to Winkler’s written disclosure. *Id.* at 38–41 (citing *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential); Sur-reply 12–15. Patent Owner additionally contends that whether Petitioner’s diagram “looks like a figure in the ’017 patent is irrelevant,” since Winkler should be compared to the claims, rather than the Specification of the ’017 patent. PO Resp. 41 n.8; Sur-reply 13–14.

Patent Owner also argues that Winkler does not disclose limitation 1[i] because “Winkler discloses that electrical arcing between the first and second electrical contacts occurs when the first and second connectors are partially disconnected,” such that Winkler proposes a cleaning mechanism to address pitting of the electrical contacts from pervasive electrical arcing. PO Resp. 42 (citing Ex. 2001 ¶ 105; Ex. 1004, 1:54–61, 3:40–47); Sur-reply 15. Moreover, Patent Owner contends that Petitioner’s diagram is inconsistent with Figures 3 and 4 of Winkler, which illustrate through-air arcing paths between Winkler’s insulating barriers. PO Resp. 43–44 (citing Ex. 1004, Figs. 3–4; Ex. 2001 ¶¶ 107–109); Sur-reply 13.

Petitioner contends that its diagram is supported by Winkler and Dr. Eldering’s testimony, not ambiguous, and properly relied upon by Petitioner. Reply 14–16. Petitioner further contends that although Mr. Locati testifies that he would not have envisaged Petitioner’s diagram, he does not explain or illustrate what he would have so envisaged. *Id.* at 15. Further,

regarding Winkler's disclosure of arcing and gaps between the insulating barriers, Petitioner argues Patent Owner has taken the position that the claims do not preclude these features. *Id.* at 18.

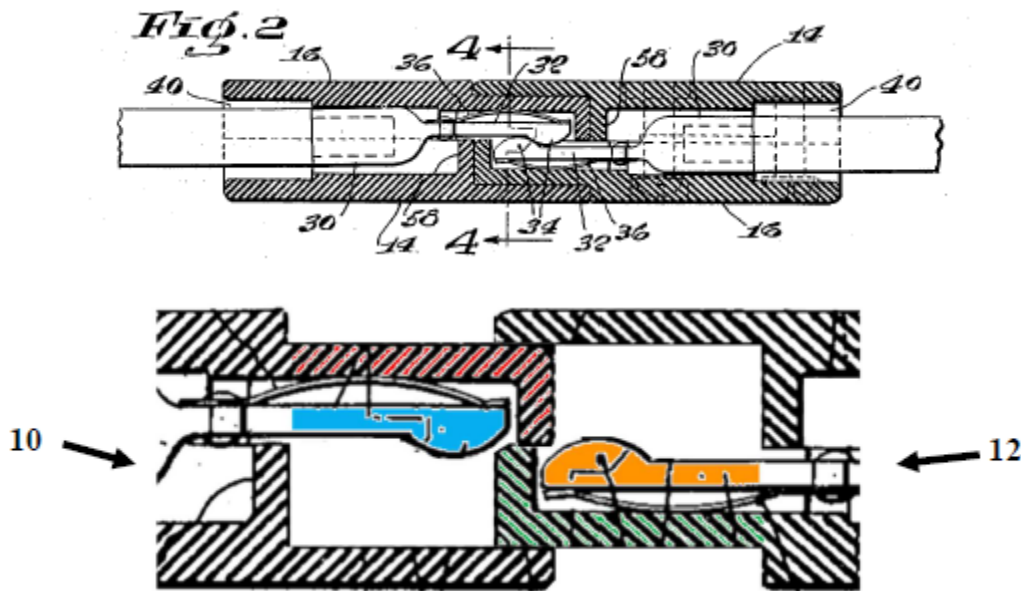
As an initial matter, Dr. Eldering's testimony is not conclusory as Patent Owner asserts, and Patent Owner's reliance on *Xerox Corp.* is misplaced. Expert testimony is not conclusory just because it reads the same as the statements in the Petition. Rather, the critical inquiry is whether a declaration discloses underlying facts or data on which the opinion is based. *Xerox Corp.*, Paper 9, 15. Here, Dr. Eldering's Declaration includes detailed explanations and analyses that, based on the current record, are supported by the asserted art of record.

Additionally, as we noted in our Institution Decision, "Petitioner's reliance on the modified Figure 2 diagram not explicitly shown in Winkler is not *per se* improper, so long as the skilled artisan would have reasonably understood that that is what Winkler discloses." Dec. 26 (citing *Acoustic Tech., Inc. v. Itron Networked Solutions, Inc.*, 949 F.3d 1366, 1373 (Fed. Cir. 2020)) ("In an anticipation analysis, the dispositive question is whether a skilled artisan would 'reasonably understand or infer' from a prior art reference that every claim limitation is disclosed in that single reference. . . . Expert testimony may shed light on what a skilled artisan would reasonably understand or infer from a prior art reference." (citations omitted)). Dr. Eldering testifies that the diagram was "created based on FIG. 2 of *Winkler* and developed by taking the components of each half of the connector and recreating them in a separated state." Ex. 1003 ¶ 80. Dr. Eldering explains, in greater detail during his deposition:

[t]o be accurate, my instruction was to take Figure 2 and annotate it such that it would show what would happen if the

two connectors were separated by simply moving them in the longitudinal direction, and counsel created such an illustration by simply taking the elements of Figure 2 directly out of Winkler and moving the elements of the connector on the right further towards the right and moving the elements of the connector on the left, if you will, a first connector and a second connector, and essentially pulling them apart to create the annotated diagram.

Ex. 2002, 155:21–156:11. We reproduce, below, a side-by-side comparison of Winkler's Figure 2 and the diagram.



Shown above are Figure 2 of Winkler (top) and Petitioner's diagram (bottom) created according to Dr. Eldering's instructions. Patent Owner and Mr. Locati do not provide a different diagram that may have been envisaged by an ordinarily skilled artisan. *See generally* PO Resp.; Ex. 2001. Furthermore, rather than opining as to what an ordinarily skilled artisan would have reasonably understood or inferred regarding a partially disconnected state of Winkler's first and connectors, Mr. Locati cabins his testimony to only Winkler's express disclosures. *See* Ex. 1022, 77:4–87:15;

Ex. 2001 ¶ 102. Accordingly, we find Dr. Eldering’s testimony persuasive as to this issue and determine that the diagram shows what an ordinarily skilled artisan would have reasonably inferred Winkler to disclose when the connectors are partially disconnected. *Compare* Ex. 1004, Fig. 2, with Pet. 33; *see also* Ex. 1004, 3:14–27 (discussing the process by which the connectors are engaged with each other).

Dr. Eldering further testifies that Winkler discloses the “blocking substantially” limitation because the limitation “is in fact accomplished by 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,’” as recited in claim 1. Ex. 1003 ¶ 82. In this regard, we understand Petitioner to rely on alleged similarities between its modified Figure 2 diagram and Figure 2B of the ’017 patent only to show similar relative positions of the insulating barriers which, according to Petitioner, thereby accomplish the claimed “blocking substantially” function. *See* Pet. 33–34; Ex. 1003 ¶ 83.

Furthermore, although Petitioner’s diagram does not show Winkler’s insulating barriers at other locations along the width of the connector pair, it is implicit in Petitioner’s contentions and reasoning that the same illustrated structure exists at other locations sufficient to block all through-air arcing paths. We are persuaded, on the complete record, that Petitioner persuasively shows this, particularly in view of Figures 1 and 3 of Winkler, which appear to show, for example, no gaps or discontinuities along the widths of the barriers. *See* Ex. 1004, Figs. 1, 3.

As for Winkler’s disclosures that allegedly contradict what is shown

in Petitioner’s diagram, these do not undermine sufficiently Petitioner’s showing with respect to limitation 1[i]. First, as Petitioner notes, Patent Owner has taken the position in the related district court litigation that the claims do not require blocking “all” through-air arcing paths, and “the claimed insulating barriers need not be in physical contact with each other to block substantially all through-air arcing paths,” but only “very near to” or “in close proximity with” each other. Ex. 1026, 8; *see also* Tr. 44:25–45:22 (Patent Owner’s counsel arguing that the claim does not preclude “gaps” between the insulating barriers). As such, whether Winkler discloses *any* through-air arcing paths between the insulating barriers is not dispositive as to whether Winkler “block[s] substantially all through-air arcing paths.”

Second, whether Winkler discloses electrical arcing and pitting of the electrical contacts is also not dispositive of whether Winkler “block[s] substantially all through-air arcing paths between the first and second electrical contacts,” as recited. Notably, we are not apprised of how the existence of arcing and pitting is indicative of whether substantially all through-air *paths* are blocked. For example, Winkler’s arcing could occur via a single through-air arcing path, despite substantially all other through-air arcing paths being blocked by the insulating barriers. Relatedly, Petitioner relies on its diagram to illustrate blocking of substantially all through-air paths, not blocking of substantially all electrical arcing, which the claim does not require.

We acknowledge that Mr. Locati opines,

[a] POSITA . . . 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 because Winkler discloses that electrical arcing occurs and is so pervasive as to cause “pitting” that must be addressed

with a “self-cleaning” mechanism.

Ex. 2001 ¶ 106 (citing Ex. 1004, 1:54–61, 3:40–47). However, rather than disclosing that electrical arcing is “pervasive,” Winkler discloses that “*any* pitting of the terminals caused by arcing” is alleviated by its self-cleaning mechanism. Ex. 1004, 1:54–61, 3:40–47 (emphasis added). Mr. Locati also does not explain how the existence of pitting in Winkler is attributable to there being not-substantially-all through-air arcing paths blocked, rather than substantially all, though not all, paths being blocked.

Third, to the extent Petitioner’s diagram appears to show no gap or space between the insulating barriers, Dr. Eldering explains that Petitioner created the diagram by pulling apart the elements of each connector as shown in Winkler’s Figure 2. *See* Ex. 2002, 155:21–156:11. We are cognizant that we should not assume figures are drawn to scale unless so indicated. *Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000) (“Under our precedent, . . . it is well established that 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.” (citations omitted)). Thus, we attribute any inconsistency between the diagram and Winkler’s disclosures—which acknowledge and show at least some through-air electrical arcing path(s) between its connectors (*see* Ex. 1004, Figs. 3–4, 1:54–61, 3:40–47)—to Figure 2 not being drawn to scale. As Dr. Eldering testifies, the diagram shows the insulation barriers “in close proximity to one another” (Ex. 1003 ¶ 81), which is sufficient to meet the claim limitation. Because any inconsistency in Petitioner’s diagram is reasonably attributable to Winkler’s Figure 2 not being drawn to scale, and because, based on the

record before us, we determine that an ordinarily skilled artisan viewing Figure 2 would have reasonably viewed Petitioner's diagram to be what Winkler discloses when the connectors are partially disconnected, we do not discern the diagram to be sufficiently inaccurate so as to doom Petitioner's showing with respect to limitation 1[i].

(xii) *Conclusion*

In light of the foregoing, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 would have been anticipated by Winkler.

(b) Dependent Claim 2: "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."

Regarding dependent claim 2, Petitioner avers that Winkler teaches leaf spring 36 that presses convex end portion 34 of the second electrical contact against convex end portion 34 and elongated flat portion 32 of the first electrical contact when the connectors are connected. Pet. 34–35 (citing Ex. 1004, Fig. 2, 2:10–14, 2:39–43, 3:24–27, 4:41–43; Ex. 1003 ¶¶ 85–86).

Patent Owner does not specifically challenge Petitioner's showing with respect to claim 2. *See generally* PO Resp.; Sur-reply. Accordingly, Patent Owner has forfeited any argument regarding Petitioner's contentions for this claim. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (explaining that a patent owner forfeits an issue presented in its preliminary response if it fails to renew the issue in its response after trial is instituted). We have reviewed Petitioner's arguments regarding claim 2, which Patent Owner does not contest, and find them persuasive. Accordingly, we adopt

Petitioner's contentions as our own. Based on Petitioner's arguments and accompanying evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 2 would have been anticipated by Winkler.

(c) Dependent Claim 3: "The connector pair of claim 2, wherein the contact tensioning mechanism includes a spring."

As for dependent claim 3, Petitioner argues that Winkler's contact tensioning mechanism is a leaf spring. Pet. 35–36 (citing Ex. 1004, 2:14–17, 2:28–32, 2:39–43, 3:23–27, 3:31–34; Ex. 1003 ¶ 87).

Patent Owner does not specifically challenge Petitioner's showing with respect to claim 3. *See generally* PO Resp.; Sur-reply. Accordingly, Patent Owner has forfeited any argument regarding Petitioner's contentions for this claim. *See In re Nuvasive, Inc.*, 842 F.3d at 1381. We have reviewed Petitioner's arguments regarding claim 3, which Patent Owner does not contest, and find them persuasive. Accordingly, we adopt Petitioner's contentions as our own. Based on Petitioner's arguments and accompanying evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 3 would have been anticipated by Winkler.

(d) Dependent Claim 4: "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."

In asserting Winkler would have anticipated dependent claim 4, Petitioner relies on its diagram showing the connectors in a partially disconnected state, and annotates it with additional pink coloring, as shown

below. *See* Pet. 36–37.



According to Petitioner, the diagram, above, shows pink highlighted portions of the connector housings that correspond to the claimed “barrier tensioning mechanism” because: (1) “they cause the first insulating barrier and the second insulating barrier to press against each [other]”; and (2) “[t]he ’017 patent does not appear to require anything more than what *Winkler* discloses.” *Id.* (citing Ex. 1001, 3:37–40; Ex. 1003 ¶¶ 89–90).

Patent Owner argues that, “[a]s 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.” PO Resp. 46 (citing Ex. 2001 ¶ 114; Ex. 1004, Figs. 1–4). Patent Owner additionally reiterates its argument that “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.” *Id.* at 45 (citations omitted).

Petitioner responds that “Patent Owner again criticizes the petition’s diagram based on *Winkler*’s figures, while relying on *Winkler*’s figures as precise representations of what *Winkler* discloses,” and that Mr. Locati does explain what he would have understood from *Winkler*’s disclosures. Reply 19–20. Petitioner further argues, “[a]s explained by Dr. Elderling, *Winkler* anticipates claim 4 because the ‘outer portions of each connector housing in *Winkler* form narrow openings in the connectors, such that the

first and second insulating barriers are pressed together when the connectors are partially disconnected.” *Id.* at 20 (citing Ex. 1003 ¶¶ 89–90).

For the reasons discussed above with respect to claim 1, we disagree with Patent Owner’s arguments regarding the impropriety of Petitioner relying on its diagram to demonstrate unpatentability. We agree, however, that Petitioner has not shown sufficiently that Winkler’s insulating barriers are “presse[d] . . . 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,” as required by claim 4. Here, Patent Owner points persuasively to portions of Winkler that disclose a gap or space between the insulating barriers when the connectors are partially disconnected. *See* Ex. 1004, 1:54–61, 3:40–47, Figs. 3, 4, *cited in* PO Resp. 42–44, 46; *see also* Ex. 2001 ¶¶ 105–109, 114. Petitioner does not explain how, despite such a gap or space, the insulating barriers are nevertheless pressed together.

Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that claim 4 would have been anticipated by Winkler.

(e) Dependent Claim 9: “The connector pair of claim 1, wherein at least one of the first and second electrical contacts includes a terminal for soldering a wire or and electrical component to the contact.”

With respect to dependent claim 9, Petitioner alleges that Winkler’s contact members 22 “are terminals formed as first and second electrical contacts” and each provided with an end portion to receive an end of an electricity-transferring cable, to which it may be soldered. Pet. 37–38 (citing Ex. 1004, 2:8–10; Ex. 1003 ¶¶ 91–92; Pet. 21–22, 27–28).

Patent Owner does not specifically challenge Petitioner's showing with respect to claim 9. *See generally* PO Resp.; Sur-reply. Accordingly, Patent Owner has forfeited any argument regarding Petitioner's contentions for this claim. *See In re Nuvasive, Inc.*, 842 F.3d at 1381 (explaining that a patent owner forfeits an issue presented in its preliminary response if it fails to renew the issue in its response after trial is instituted). We have reviewed Petitioner's arguments regarding claim 9, which Patent Owner does not contest, and find them persuasive. Accordingly, we adopt Petitioner's contentions as our own. Based on Petitioner's arguments and accompanying evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 9 would have been anticipated by Winkler.

(f) Conclusion as to Alleged Anticipation by Winkler

In light of the foregoing, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–3 and 9 would have been anticipated by Winkler. On the other hand, Petitioner has not shown by a preponderance of the evidence that claim 4 would have been anticipated by Winkler.

2. Alleged Obviousness Over Winkler and Winkler2: Dependent Claim 7

Dependent claim 7 recites, “[t]he connector pair of claim 1, wherein at least one of the first and second electrical contacts includes a terminal for crimping to a wire.” Ex. 1001, 5:1–3.

Petitioner argues that claim 7 would have been obvious over the combined teachings of Winkler and Winkler2. Pet. 38–43. Petitioner points to Winkler's teaching that cable 26 is soldered to cylindrical end portion 30 of contact member 22. *Id.* at 38–39 (citing Ex. 1004, 2:8–10, Figs. 1, 2;

Ex. 1008, 21, 27; Ex. 1003 ¶ 94). Petitioner contends that, although Winkler does not teach “a terminal for crimping to a wire,” as claimed, an ordinarily skilled artisan would have found such a long-standing feature to be obvious. *Id.* at 39–40 (citing Ex. 1008, 13, 32; Ex. 1003 ¶¶ 95, 168). Moreover, Petitioner argues that Winkler2 teaches a similar type of electrical connector that includes a similar electrical contact, terminal member 16, and “[a]n electrical cable 22 is mechanically and electrically secured to the rigid terminal member 16 by conventional means, such as, by crimping and/or soldering.” *Id.* at 40–41 (citing Ex. 1004, 1:15, Figs. 1, 3; Ex. 1006, 1:5–8, 2:12–14, Fig. 1; Ex. 1003 ¶¶ 96–97). Petitioner posits that an ordinarily skilled artisan would have modified Winkler’s contact member 22 to include Winkler2’s terminal by using known, conventional wire crimping techniques with minimal modifications to Winkler to yield predictable results, “ensur[e] a reliable and physical electrical connection,” and strengthen Winkler’s mechanical connection, with an expectation of success. *Id.* at 41–43 (citing Ex. 1003 ¶ 98–101).

Patent Owner does not specifically challenge Petitioner’s showing with respect to claim 7. *See generally* PO Resp.; Sur-reply. Accordingly, Patent Owner has forfeited any argument regarding Petitioner’s contentions for this claim. *See In re Nuvasive, Inc.*, 842 F.3d at 1381 (explaining that a patent owner forfeits an issue presented in its preliminary response if it fails to renew the issue in its response after trial is instituted). We have reviewed Petitioner’s arguments regarding claim 7, which Patent Owner does not contest, and find them persuasive. Accordingly, we adopt Petitioner’s contentions as our own. Based on Petitioner’s arguments and accompanying

evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 7 would have been anticipated by Winkler.

3. Alleged Obviousness Over Winkler and Handbook: Dependent Claims 8 and 10

Petitioner argues that dependent claims 8 and 10 would have been obvious over the combined teachings of Winkler and Handbook. Pet. 43–55. Having considered the arguments and evidence before us, we determine Petitioner has shown by a preponderance of the evidence that claims 8 and 10 would have been unpatentable over Winkler and Handbook.

(a) Dependent Claim 8: “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.”

Regarding dependent claim 8, Petitioner contends Winkler’s contact members 22 each have a cylindrical end portion 30, i.e., a terminal, for soldering to a cable. Pet. 43 (citing Ex. 1004, 1:16–20, 2:6–10; Ex. 1003 ¶ 102; Pet. 38–43). As such, Petitioner argues, Winkler’s terminal is capable of being soldered to a printed circuit or wiring board. *Id.* (citing Ex. 1003 ¶ 103). Petitioner turns to Handbook as teaching that soldering to a printed wiring board was a well-known, established technique for permanently attaching electronics to a printed wiring board. *Id.* at 43–44 (citing Ex. 1008, 21–22, 74–77; Ex. 1003 ¶ 104).

Petitioner argues that modifying Winkler with Handbook’s teachings would have yielded either: (1) a printed circuit or wiring board soldered to Winkler’s cylindrical end portion and inserted within the end of each of the housing portions; or (2) a printed circuit or wiring board soldered to Winkler’s cylindrical end portion and positioned perpendicular to a

longitudinal axis of the connector pair. *Id.* at 44–46 (citing Ex. 1008, 21–22, 74–77; Ex. 1003 ¶¶ 105–106). According to Petitioner, such modifications would have used known techniques and components to yield predictable results. *Id.* at 46–47 (citing Ex. 1003 ¶ 107). Further according to Petitioner, the modification would have required either no modification to Winkler’s connector, or shortening or lengthening Winkler’s cylindrical end portion (for soldering to a perpendicularly-positioned printed circuit or wiring board), which “would not affect the design or functionality of contact members 22 and insulation barriers at the front end.” *Id.* at 45, 47 (citing Ex. 1003 ¶ 108). Petitioner additionally argues that Patent Owner and Mr. Locati assume without explanation that Winkler’s electrical contacts require freedom of movement, but that Winkler, instead, teaches that each cylindrical end portion is bored to receive an end of a cable to which it may be soldered. Reply 20–21.

Relying on Mr. Locati’s testimony, Patent Owner alleges that “Winkler’s electrical contacts require freedom of movement within the housing to effect engagement of the connectors 10, 12,” but that soldering the cylindrical end portion of Winkler to a printed circuit board or wiring board would have interfered with, if not prevented, such freedom of movement. PO Resp. 47–48 (citing Ex. 2001 ¶¶ 119–120; Ex. 1004, 1:47–55, 3:14–39); Sur-reply 16. Further, Patent Owner argues, Petitioner’s argument that Winkler contradicts Patent Owner’s freedom-of-movement argument constitutes attorney argument. Sur-reply 17. Patent Owner additionally argues that mating of Winkler’s connectors would have caused stress to and risked breaking the solder joint. PO Resp. 48 (citing Ex. 2001 ¶ 121). For these reasons, Patent Owner contends, an ordinarily

skilled artisan would not have had a reasonable expectation of success in implementing Petitioner’s proposed modification.

Winkler teaches that its terminals are “movably and yieldable mount[ed]” to allow them to be “resiliently interlocked” against “inadvertent disengagement thereof during normal use.” Ex. 1004, 1:47–55. Specifically, each of the “spring-pressed terminal[s]” undergoes “*downward movement . . . in [its] respective pocket[]* against the spring[] 36” as the connectors are slidably engaged, and as the curved portions of the terminals pass each other, “the springs 36 effect *upward movement of the terminals in their pockets* to present the curved portions 34 in hooked or interlocked relationship to each other.” *Id.* at 3:14–27 (emphases added). Winkler further explains,

the terminals [are] movably supported . . . to permit lateral movement of the terminals toward and away from each other, . . . and in practice, the terminals may effect a slight rocking movement about their respective curved leaf springs 36 as the terminals are engaged. It will also be observed *that the transversely extended wall portions 58 serve to limit the upward movement of the terminals in their respective pockets when the contacts are disengaged.*

Id. at 3:27–37 (emphasis added). These wall portions 58 are located between the distal ends of the terminals and where Petitioner proposes to add a printed circuit board or wiring board to Winkler. *See id.* at Fig. 2; Pet. 44–46 (diagrams showing Winkler as modified to have a printed circuit board or wiring board). As such, movement of Winkler’s terminals appears to be mostly limited to within their respective receiving pockets. Given the above teachings, we fail to see how Petitioner’s proposed modification would have meaningfully interfered with the degree of freedom of movement required

by Winkler's terminals. Notably, Mr. Locati's testimony regarding this issue is conclusory. *See* Ex. 2001 ¶ 120.

Because movement of Winkler's terminals occurs primarily in the receiving pockets, we also do not discern how the solder joint of Petitioner's proposed modification would experience undue stress or risk breaking due to that movement. *See* Ex. 1004, 1:47–55, 3:14–37, Fig. 2; Pet. 44–46. This is particularly true in view of Winkler's teaching that each cylindrical end portion may be soldered to a cable. *See id.* at 2:6–10; *see also* Pet. 43 (arguing that Winkler teaches soldering to a cable but not specifically to a printed circuit or wiring board).

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claim 8 would have been obvious over the combined teachings of Winkler and Handbook.

(b) Dependent Claim 10: “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.”

For dependent claim 10, Petitioner contends that Winkler's contact members each have a cylindrical end portion, i.e., terminal, for soldering a wire to the contact member. Pet. 47. Petitioner argues that “[a] POSITA would have understood that soldering involves removing some insulation from cable 26 and attaching the cable wire to the terminal using solder,” which would have “involve[d] cable insulation ‘displacement,’” though “*Winkler* does not use the exact ‘displacement’ wording as claim 10 does.” *Id.* at 47–48 (citing Ex. 1004, 2:4–10, Figs. 2, 3, 6, 7; Ex. 1003 ¶ 110). Petitioner argues, however, that Handbook teaches the recited “terminal using insulating displacement” technique for attaching a wire to a contact.

Pet. 48–49 (citing Ex. 1008, 13–14, 56, Figs. 1.2(b), 9.26, 9.32(b), 9.32(c)). Petitioner further contends that “the ’017 patent does not mention ‘insulation displacement’ besides claim 10,” and “[n]othing in the ’017 patent distinguishes claim 10 from Handbook’s disclosure.” *Id.* at 50.

According to Petitioner, an ordinarily skilled artisan would have either modified or replaced Winkler’s cylindrical end portion with an insulation displacement terminal, as taught by Handbook. Pet. 50–55 (citing Ex. 1003 ¶¶ 113–117). If modifying the cylindrical end portion, Petitioner argues, one would have used known techniques and components and minor modifications with an expectation of success to “close the end of the terminal and include a slot for inserting a wire/cable.” *Id.* at 50–52, 55. Likewise, replacing the cylindrical end portion would have required minor modifications within the capabilities of an ordinarily skilled artisan. *Id.* at 50–55. Supported by Handbook’s teachings and Dr. Eldering’s testimony, Petitioner further avers that using an insulation displacement technique would have simplified Winkler’s attachment of a wire to the connector because it requires minimal equipment, steps, and skill. *Id.* at 51–52 (citing Ex. 1008, 55–69; Ex. 1003 ¶ 114).

Patent Owner responds that modifying Winkler as Petitioner proposes would have interfered with or prevented the required freedom of movement of Winkler’s electrical contacts. PO Resp. 49 (citing Ex. 2001 ¶ 125). Patent Owner also argues that “[a] POSITA also would have recognized insulation displacement is ineffective when the wire inside the insulation displacement terminal moves around,” and movement of Winkler’s electrical contacts would cause such wire movement inside the insulation displacement terminal. *Id.* at 50 (citing Ex. 2001 ¶ 126). For these reasons, Patent Owner

contends, an ordinarily skilled artisan would not have had a reasonable expectation of success in implementing Petitioner's proposed modification. *Id.*

As discussed above in our analysis of claim 8, Winkler teaches that movement of the terminals during engagement and disengagement of the connectors occurs primarily in the connectors' receiving pockets. *See* Ex. 1004, 1:47–55, 3:14–37, Fig. 2. And for claim 10, Petitioner proposes placing the insulation displacement terminal at a location similar to the printed circuit or wiring board of claim 8. *Compare* Pet. 44–47, *with id.* at 50–54. Therefore, for similar reasons as discussed above, we are not apprised that Petitioner's modification would have interfered with Winkler's contacts' freedom of movement, or that there would be any meaningful movement of the wire inside the insulation displacement terminal. Mr. Locati's testimony that an ordinarily skilled artisan would have recognized that: (1) the contacts' freedom of movement would have been hindered by an insulation displacement terminal; and (2) "movement of the electrical contacts would cause movement of the wire inside the insulation displacement terminal" is conclusory and, therefore, unavailing. *See* Ex. 2001 ¶¶ 125–126. Moreover, as Petitioner notes, because the Specification of the '017 patent does not describe any details of the recited "a terminal using insulation displacement," we do not discern any patentably distinct features thereof.

(c) Conclusion

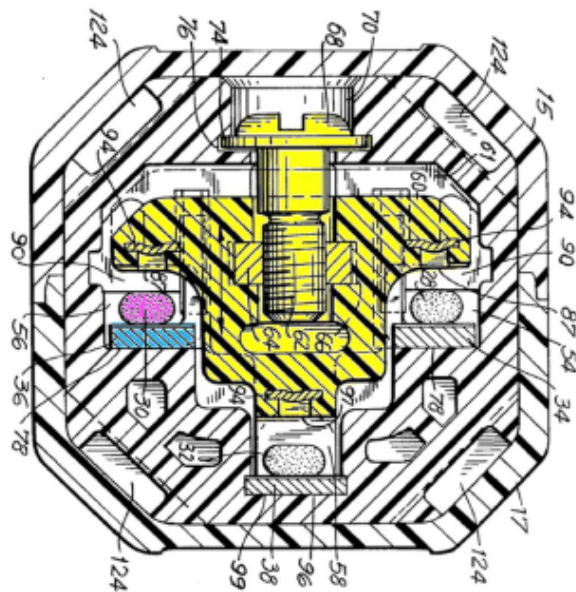
In light of the foregoing, we determine that Petitioner has shown by a preponderance of the evidence that claims 8 and 10 would have been obvious over the combined teachings of Winkler and Handbook.

4. Alleged Obviousness Over Winkler and Poliak: Dependent Claims 11 and 12

Petitioner argues that dependent claims 11 and 12 would have been obvious over the combined teachings of Winkler and Poliak. Pet. 55–62. Having considered the arguments and evidence before us, we determine that Petitioner has shown by a preponderance of the evidence that claims 11 and 12 would have been unpatentable over Winkler and Poliak.

(a) Dependent Claim 11: “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.”

For dependent claim 11, Petitioner argues initially that the term “screw” does not appear in the Specification of the ’017 patent and that it “never describes or depicts a screw terminal.” Pet. 55; Reply 21. Additionally, Petitioner contends Winkler’s bolts 18 constitute a “screw terminal” as recited because they are threaded screws. *Id.* at 56 (citing Ex. 1004, 1:67–2:3, Figs. 1, 3, 5, 7). Although Petitioner admits that Winkler does not teach a screw terminal “for attaching a wire to the contact,” as claimed, Petitioner points to Poliak as teaching such a screw terminal in the form of screw 62, carriage 60, and biasing spring 90. *Id.* at 57–58 (citing Ex. 1007, code (57), Figs. 3, 5, 10–12, 6:30–34; Ex. 1003 ¶ 122). Petitioner reproduces Figure 5 of Poliak, with coloring to show Poliak’s screw, carriage, biasing spring, conductor 30, and electrical contact 36.



Ex. 1007, Fig. 5 in Poliak (rotated and annotated; screw 62, nut 64, and carriage 60 in yellow, conductor 30 in pink, and electric contact 36 in blue)

Figure 5 of Poliak, above, shows the screw, nut, and carriage colored in yellow; the conductor colored in pink; and the electrical contact colored in blue. *Id.* at 57.

Petitioner alleges that an ordinarily skilled artisan would have modified Winkler's connectors to include Poliak's screw terminal, either by: (1) "modify[ing] 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"; or (2) "modify[ing] *Winkler*'s connectors to incorporate the *Poliak*[] carriage 60 and spring 90, and to add screw 62 and nut 64 of *Poliak*, thereby adding a third screw to *Winkler*'s connector." Pet. 58–59 (citing Ex. 1003 ¶¶ 123–125). For its first proposed modification, Petitioner creates a diagram, reproduced below, to show the modification.

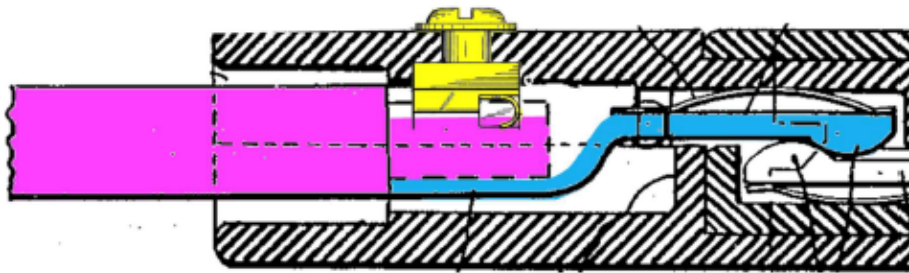


Diagram created based on Ex. 1004, Fig. 2 and Ex. 1007, Fig. 10 (annotated to show electrical contact in blue, cable 26 in pink and modified to add carriage 60 and spring 90 of Poliak in yellow)

Id. at 59. Petitioner's diagram, above, shows Winkler's electrical contact colored in blue and cable colored in pink, as well as a carriage and spring as taught by Poliak colored in yellow. *Id.* According to Petitioner, these modifications would have involved known, conventional techniques and components with the motivation to improve upon Winkler's soldering technique and yield predictable results with an expectation of success and minor modifications. *Id.* at 60–61 (citing Ex. 1007, 1:10–17, 2:15–25; Ex. 1003 ¶¶ 126–129; Ex. 1004, 2:4–10; Ex. 1006, 1:28–29).

Patent Owner avers that claim 11 requires at least one of the electrical contacts, specifically, to include the recited screw terminal, but that Petitioner's modification results in Winkler's housing including the screw terminal. PO Resp. 51 (citing Ex. 1001, 5:14–16; Ex. 2001 ¶¶ 131–133); Sur-reply 17–18.

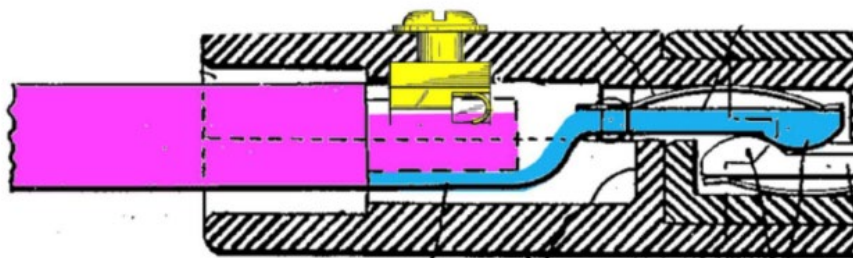
As Petitioner notes, however, the '017 patent does not describe or depict the screw terminal, much less shed light on the specific relationship between the screw terminal and the at least one of the electrical contacts or the positioning of the screw terminal with respect to the at least one of the electrical contacts. *See generally* Ex. 1001; *see also* Ex. 1022, 115:1–116:4.

Given the absence of explanation in the '017 patent as to the scope of the claimed “wherein at least one of the first and second electrical contacts includes a screw terminal,” we determine that at least Petitioner’s diagram (*see* Pet. 59) shows sufficiently that claimed feature.

(b) Dependent Claim 12: “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.”

As for dependent claim 12, Petitioner asserts that Poliak teaches a screw terminal that includes biasing member/spring 90 moved by carriage 60 to press a wire against an electrical contact, which meets the claim limitations. Pet. 62 (citing Ex. 1007, 5:47–58, 6:24–34, 8:10–12, Figs. 3, 5, 10–12). Petitioner argues an ordinarily skilled artisan would have modified Winkler’s connectors to include Poliak’s screw terminal to easily create a strong, quick connection between the wire and the contact using few parts. *Id.* (citing Ex. 1007, 2:2–32, 6:27–32; Ex. 1008, 15; Ex. 1003 ¶¶ 131–132). Petitioner further contends that “[t]he '017 patent never describes or depicts a . . . spring mechanism.” Reply 21. Dr. Eldering illustrates two implementations in Winkler of Poliak’s screw terminal with a spring mechanism. Ex. 1003 ¶¶ 124, 125, 131.

Patent Owner responds that the claim requires one of the electrical contacts to be configured with a terminal using a spring mechanism, but that Petitioner instead proposes modifying Winkler’s housing to include the claimed terminal. PO Resp. 52–53; Reply 17–18. Patent Owner produces one of Petitioner’s illustrations (Pet. 59) below:



PO Resp. 53. The illustration depicts Dr. Eldering’s proposed insertion of a screw terminal with a spring mechanism (shown in yellow) as taught by Poliak into Winkler’s connector. Ex. 1003 ¶ 124. According to Patent Owner, because the screw terminal is on the housing, it does not meet the requirement of “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.” PO Resp. 52–53. This argument is unavailing.

We agree with Petitioner that the ’017 patent does not specifically describe or depict a terminal using a spring mechanism, much less shed light on the specific relationship between the terminal or spring mechanism and the at least one of the electrical contacts or the positioning of the terminal or spring mechanism with respect to the at least one of the electrical contacts. *See generally* Ex. 1001; *see also* Ex. 1022, 116:8–117:22. Because the screw terminal illustrated by Dr. Eldering above is specifically for securing a wire (shown in pink) to an electrical contact (shown in blue), we find that the illustrated structure does meet the requirement of “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.” Patent Owner does not point out, nor do we see, any disclosure in the Specification of the ’017 patent that would regard such a structure as not being an arrangement in which an electrical contact is configured with a terminal for attaching at

least one wire to the contact. And as Petitioner notes, an ordinarily skilled artisan would have made the modification depicted above using a single screw to provide quick attachment and “strongly biased connections’ . . . with easy assembly and few parts . . . [to] tightly press[] conductors against the electrical contacts” and “allow[] for the formation of the permanent connections.” Pet. 62 (citing Ex. 1007, 2:2–32, 6:27–32; Ex. 1008, 15; Ex. 1003 ¶¶ 131–132). Such artisan would have had a reasonable expectation of success in doing so. *See id.*; Ex. 1003 ¶ 132.

(c) Conclusion

In light of the foregoing, we determine that Petitioner has shown by a preponderance of the evidence that claims 11 and 12 would have been obvious over the combined teachings of Winkler and Poliak.

5. Alleged Anticipation By Kataoka: Claims 1–4

Petitioner contends that claims 1–4 of the ’017 patent would have been anticipated under 35 U.S.C. §§ 102(a) or 102(e) by Kataoka. Pet. 15, 63–86. In our Institution Decision, we determined that Petitioner had not established a reasonable likelihood that Petitioner would prevail in demonstrating that independent claim 1 of the ’017 patent would have been anticipated by Kataoka. Dec. 29–30.

Having considered the arguments and evidence before us, we determine, on the complete record, that Petitioner has not shown by a preponderance of the evidence that independent claim 1 would have been anticipated by Kataoka.

(a) Independent Claim 1

Patent Owner contends, *inter alia*, that Kataoka does not disclose

limitation 1[i]. PO Resp. 57–66; Sur-reply 22–25. For the reasons discussed below, we agree with Patent Owner that Petitioner has not shown sufficiently that limitation 1[i] would have been disclosed by Kataoka. This issue is dispositive so we do not provide analysis on the other challenged claim limitations.

- (i) *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”*

For limitation 1[i], Petitioner argues Kataoka discloses first and second insulating barriers in the form of first insulating member 43a and second insulating member 43b, respectively. Pet. 78–79. When Kataoka’s first and second connector portions 2, 3 are connected, Petitioner avers that Kataoka’s second insulating member is configured to be in close proximity to the first insulating member. *Id.* at 79 (citing Ex. 1005, Fig. 3, 13:50–52, 14:50–65; Ex. 1003 ¶ 155). Petitioner also creates “[a] diagram based on the cover image of *Kataoka*” to show how the first and second connector portions are connected to each other, as well as a diagram created based on Figure 3 of Kataoka to show the connector portions in a partially connected or disconnected configuration. *Id.* at 79–82. Reproduced below is Petitioner’s diagram created based on Figure 3, with an enlarged portion showing the insulating barriers and electrical contacts.

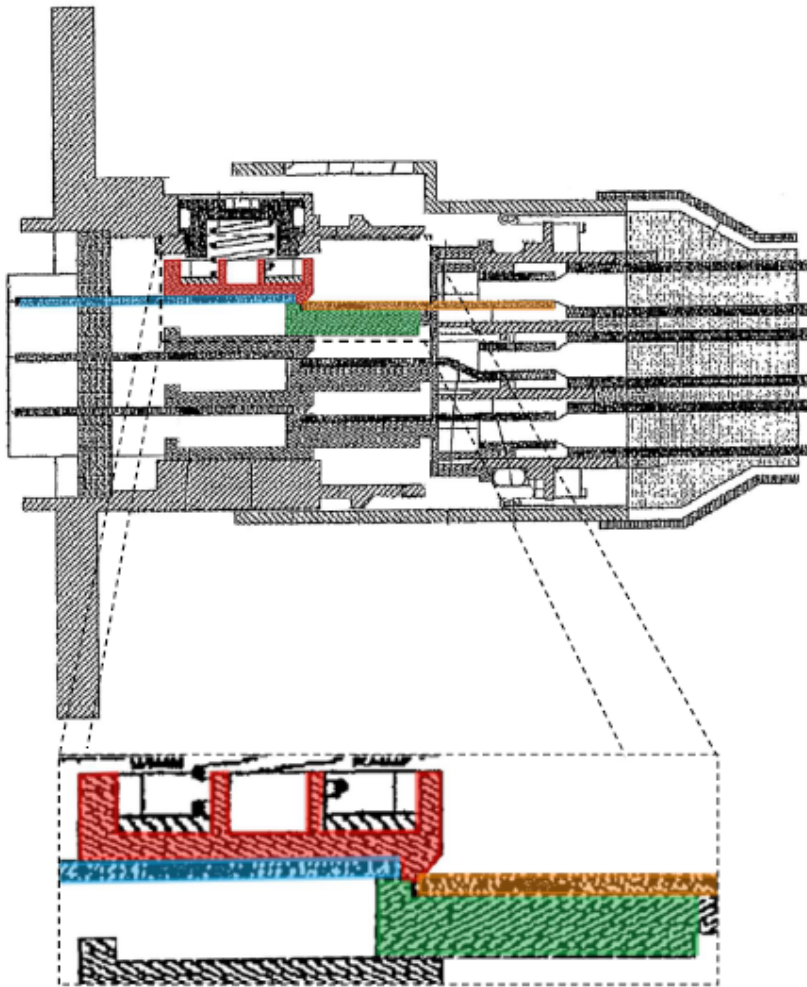


Diagram created based on Ex. 1005, Fig. 3 (top), and enlarged portion (bottom) (showing a **first insulating barrier in red** and a **second insulating barrier in green** of a connector pair in a partially disconnected configuration, a **first electrical contact in blue**, and a **second electrical contact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

Petitioner's diagram, above, shows Kataoka's connector pair in a partially disconnected configuration, with the first insulating barrier colored in red, the second insulating barrier colored in green, a first electrical contact colored in blue, and a second electrical contact colored in orange. Pet. 82. According to Petitioner, its diagram shows the first and second electrical contacts separated by a short distance and the first and second insulating barriers in close proximity. *Id.* at 81. Further according to Petitioner, "there

is no air gap or other through-air arcing path between the first insulating barrier and the second insulating barrier,” such that they block substantially all through-air arcing paths between the electrical contacts. *Id.* at 83 (citing Ex. 1003 ¶ 156). Moreover, Petitioner contends, its diagram “is consistent with *Kataoka*’s disclosure of preventing electric shock by fixing first insulating members 43a and second insulating member 43b to the surfaces of first connecting terminal 4a and second connecting terminal 6a, respectively, so that the terminals are ‘not exposed in the non-fitted state.’” *Id.* at 83 (citing Ex. 1005, 15:12–22).

Patent Owner argues, in part, that “Petitioner’s counsel’s made-up diagram does not accurately reflect *Kataoka*’s connectors 2, 3 in the partially disconnected state” because, “contrary to Petitioner’s counsel’s made-up diagram, connecting member 9 is not tightened in the partially disconnected state.” PO Resp. 65 (citing Ex. 2001 ¶ 157) (emphasis omitted). Specifically, Patent Owner contends *Kataoka* discloses gaps between the insulating members to “allow connectors 2, 3 to be fitted together without causing undesirable abrasion to the electrical contacts,” and “[i]t 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.” *Id.* at 64–65 (citing Ex. 2001 ¶ 156; Ex. 1005, 2:49–52, 3:22–26, 4:60–63, 6:9–14, 7:56–67, 8:10–12, 8:38–49, 14:49–65)). Patent Owner contends *Kataoka* shows that when the connecting member is not tightened, there is an “increased space” between the first and second insulating members. *Id.* at 65–66 (citing Ex. 1005, Figs. 3, 4A). As a result, Patent Owner argues, an ordinarily skilled artisan would not have reasonably understood the diagram to be what *Kataoka* discloses, and an

ordinarily skilled artisan would not have envisaged the diagram from Kataoka's disclosures. *Id.* at 58 n.11, 66; Sur-reply 23–24.

Petitioner responds, in relevant part, that Patent Owner “could not explain what is added or made up [in Petitioner's diagram] when two connectors are simply pushed toward each other,” and that Mr. Locati does not “explain[] why he would not ‘envisage’ the diagram in the petition.” Reply 24. Petitioner contends that none of the portions of Kataoka that Patent Owner refers to “state or suggest that connecting member 9 is only tightened when the connectors are fully fitted together,” and that Kataoka, likewise, does not disclose the gaps allowing the connectors to be mated without abrading the electrical contacts. *Id.* at 25–26. Furthermore, Petitioner argues that the claims do not preclude a gap between the insulating barriers. *Id.* at 25.

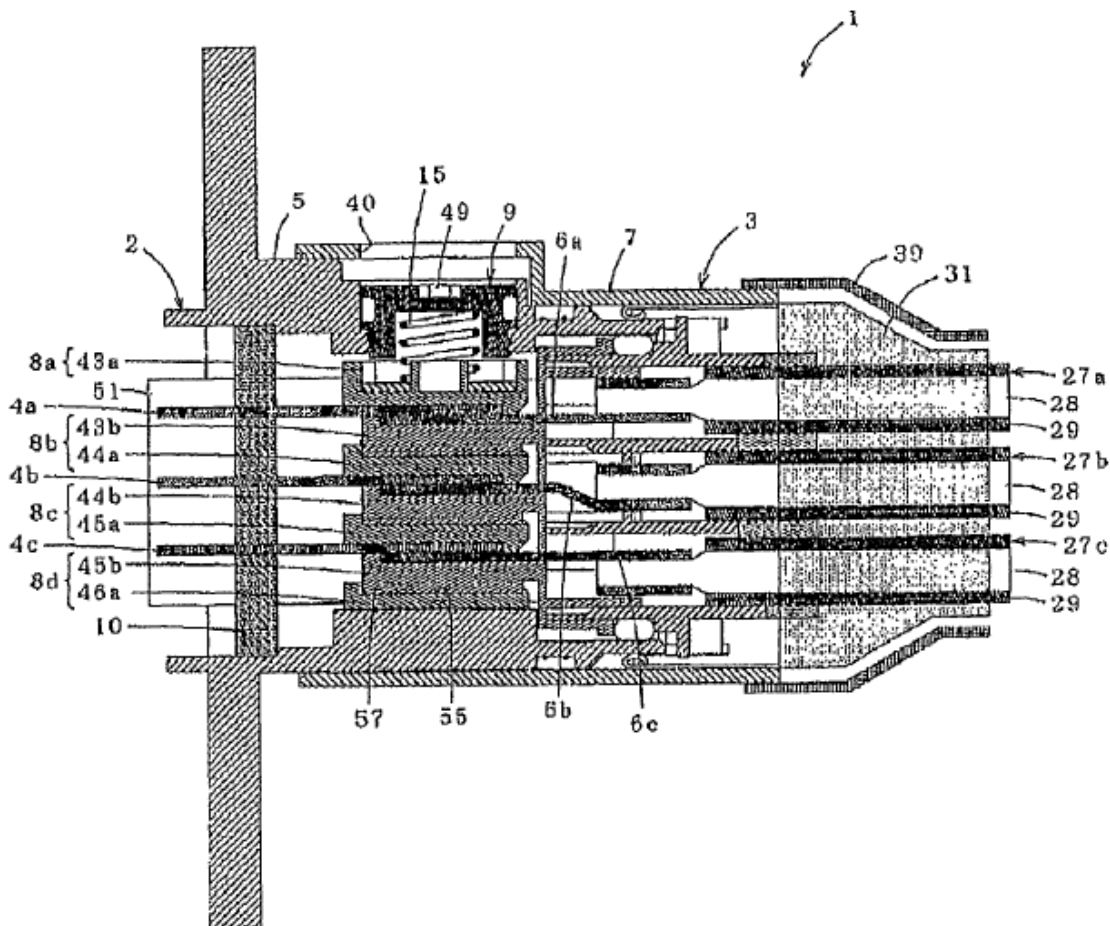
Here, we agree with Patent Owner's argument that an ordinarily skilled artisan would not have reasonably inferred Petitioner's diagram to be what Kataoka discloses. *See Acoustic Tech.*, 949 F.3d at 1373 (“In an anticipation analysis, the dispositive question is whether a skilled artisan would ‘reasonably understand or infer’ from a prior art reference that every claim limitation is disclosed in that single reference.” (citations omitted)). In particular, Kataoka describes first fitting together the first and second connector portions such that second connecting terminals 6a–6c and second insulating members 43b–45b are inserted into gaps between first connecting terminals 4a–4c and first insulating members 43a–46a. *See Ex. 1005*, 13:37–14:48. Then, Kataoka discloses,

[a]fter that, as shown in FIG. 3, when the male screw 48 of the connecting member 9 and the female screw 47 of the first terminal housing 5 are joined together and tightened by

manipulating the connecting member 9 through the connecting member manipulating hole 40, the connecting member 9 is turned and pushed into the first terminal housing 5, and then, the insulator 8a, the insulator 8b, the insulator 8c and the insulator 8d are pressed in this order by the elastic member 15 so that any two of the insulators 8a-8d sandwich each contact point and come in contact therewith in a state that the contact points are insulated from each other.

Id. at 14:49–59. Figure 3 of Kataoka is reproduced below.

FIG.3



Id. at Fig. 3. Accordingly, Kataoka discloses that Figure 3 illustrates the connector portions fitted together *and pressed together* by the connecting member. *See id.* at Fig. 3, 14:49–59. As such, Kataoka’s Figure 3 (and

Petitioner's resultant diagram) does not show Kataoka's connector portions "simply pushed toward each other," as Petitioner avers. Reply 24. Moreover, we observe that Figure 4A of Kataoka, which shows a cross-sectional view of the first connector portion in an un-joined configuration, illustrates the connecting member in a relaxed, loosened state. *See* Ex. 1005, Fig. 4A; *see also* PO Resp. 66 (reproducing for side-by-side comparison Figures 3 and 4A of Kataoka). In view of Kataoka's disclosure that the connecting member is tightened when the connector portions are fitted together and is loosened when the connector portions are not fitted together, Petitioner does not explain adequately how its diagram accurately depicts Kataoka's connector portions when they are partially disconnected.

Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that claim 1 would have been anticipated by Kataoka.

(b) Claims 2–4

Claims 2–4 each depend, directly or indirectly, from claim 1 and, therefore, incorporate the contested limitation discussed above. Petitioner relies on its analysis of claim 1 for the common elements. *See* Pet. 83–86. Because we determine Petitioner has not shown adequately that claim 1 would have been anticipated by Kataoka, we, likewise, determine Petitioner also has not shown adequately that claims 2–4 would have been anticipated by Kataoka.

(c) Conclusion

In light of the foregoing, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–4 would have been anticipated by Kataoka.

6. Alleged Obviousness Over Kataoka and Handbook: Claims 7–10

Petitioner contends claims 7–10, which each depend directly from claim 1, would have been obvious over the combined teachings of Kataoka and Handbook. Pet. 86–99. Petitioner relies on its analysis of claim 1 for the common elements. *See id.* Because we determine Petitioner has not shown adequately that claim 1 would have been anticipated by Kataoka, we, likewise, determine Petitioner also has not shown adequately that claims 7–10 would have been obvious over the combined teachings of Kataoka and Handbook.

7. Summary

For all of the foregoing reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–3 and 7–12 would have been unpatentable. We, however, determine that Petitioner has not shown by a preponderance of the evidence that claim 4 would have been unpatentable.

F. Patent Owner’s Motion to Strike

Patent Owner moves to strike three portions of Petitioner’s Reply as advancing improper new arguments and evidence with respect to demonstrating anticipation of claim 1 of the ’017 patent: (1) Petitioner’s argument that Winkler’s “connecting surface” includes both elongated flat portion 32 and convex end portion 34; (2) Petitioner’s argument and evidence that Kataoka’s “second housing” is “electrically insulating”; and (3) Petitioner’s argument that “insulating housing” should be construed to mean a “protective housing.” PO MTS 1–2. Petitioner opposes Patent Owner’s positions. Pet. MTS Opp. 1–2. Patent Owner, as the moving party,

bears the burden to establish that it is entitled to the requested relief.
37 C.F.R. §§ 42.20(c).

As discussed above in our analysis of limitation 1[f], we disagree with Patent Owner that argument (1) above constitutes an improper new argument. *See* § II.E.1.a.xi.a., *supra*. With respect to argument (2) above, we need not reach this issue because we determine, for other reasons, that Petitioner has not shown adequately that Kataoka discloses all of the limitations of claim 1. *See* § II.E.5.a.i., *supra*. As for argument (3) above, to the extent Petitioner may have advanced a new claim construction argument in its Reply, Petitioner was permitted to do so in response to our claim construction analysis in the Institution Decision and Patent Owner’s claim construction arguments in the Response. *See Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1382 (Fed. Cir. 2023) (“[W]e have continued to recognize that a petitioner is entitled under the APA to respond to new claim construction arguments made by a patent owner or adopted by the Board sua sponte.”).

For these reasons, we deny Patent Owner’s Motion to Strike.

III. CONCLUSION¹¹

After reviewing the complete record developed during the course of

¹¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related

the trial, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3 and 7–12 of the '017 patent are unpatentable. Petitioner has not demonstrated by a preponderance of the evidence that claim 4 of the '017 patent is unpatentable.

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not shown Unpatentable
1–4, 9	102(b)	Winkler	1–3, 9	4
7	103(a)	Winkler, Winkler2	7	
8, 10	103(a)	Winkler, Handbook	8, 10	
11, 12	103(a)	Winkler, Poliak	11, 12	
1–4	102(a), (e)	Kataoka		1–4
7–10	103(a)	Kataoka, Handbook		7–10
Overall Outcome			1–3, 7–12	4

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3 and 7–12 of the '017 patent are unpatentable;

FURTHER ORDERED that Petitioner has not demonstrated by a preponderance of the evidence that claim 4 of the '017 patent is unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Strike

matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IPR2024-00687
Patent 8,808,017 B2

(Paper 18) is denied; and

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

IPR2024-00687
Patent 8,808,017 B2

For PETITIONER:

Ming-Tao Yang
Joshua Goldberg
Kai Rajan
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER LLP
ming.yang@finnegan.com
joshua.goldberg@finnegan.com
kai.rajan@finnegan.com

For PATENT OWNER:

James Lukas
Gary Jarosik
Benjamin Gilford
Patrick Owens
GREENBERG TRAURIG, LLP
lukasj@gtlaw.com
jarosikg@gtlaw.com
gilfordb@gtlaw.com
patrick.owens@gtlaw.com