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Paper 6
Entered: July 9, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

US CONEC LTD.,
Petitioner,

v.

SENKO ADVANCED COMPONENTS, INC.,
Patent Owner.

IPR2024-00120
Patent 10,191,230 C1

Before BARBARA A. PARVIS, JOHN A. HUDALLA, and BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

US Conec Ltd. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1, 2, 6, 9, 11, and 26–34 ("the challenged claims") of U.S. Patent No. 10,191,230 C1 (Ex. 1001, "the '230 patent").[1] Paper 2 ("Pet."). Senko Advanced Components, Inc. ("Patent Owner") did not file a Preliminary Response.

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition "shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." The following findings of fact and conclusions of law are not final, but are made for the sole purpose of determining whether Petitioner meets the threshold for initiating review. Any final decision shall be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely-filed response may be deemed waived.

For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We hereby institute an *inter partes* review as to claims 1, 2,

[1] USPTO records show that challenged claims 1, 2, 6, 9, 11, and 26–34 are the result of an Ex Parte Reexamination Certificate issued November 16, 2020 for Reexamination No. 90/014,456. *See* Ex. 1004, 275–277; *see also* Ex. 1001 (U.S. 10,191,230 B2) with the reexamination certificate provided at the end of the exhibit. The certificate refers to U.S. Patent 10,191,230 C1, using the type code for reexamination certificates. *See id.* at 275, code (10). We will herein, when referring to the '230 patent, reference the claims of U.S. Patent 10,191,230 C1 (i.e., of the Certificate and as also set forth in the Petition's listing of claims (Pet., App. A)) and the disclosure of U.S. Patent 10,191,230 B2 (*see* Ex. 1001).

6, 9, 11, and 26–34 of the ’230 patent based upon Petitioner’s asserted grounds of unpatentability.

II. BACKGROUND

A. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 158. Petitioner also identifies the following entities as each owning 10% or more of its stock, without admitting or conceding that they are real parties-in-interest or in privity with US Conec Ltd.: Corning Optical Communications, LLC; Fujikura Ltd.; and NTT Advanced Technology Corporation. *Id*.

In identifying the real parties-in-interest, Patent Owner states that “Senko Advanced Components, Inc. is a wholly owned subsidiary of Senko Advance Co., Ltd., a Japanese corporation.” Paper 3, 2.

B. Related Matters

> The parties identify the following matter that involves the ’230 patent: *Senko Advanced Components, Inc. v. US Conec Ltd*., No. 1:23-cv-00083 (D. Del.) (filed Jan. 24, 2023).

Pet. 158–59; Paper 3, 2.[2]

[2] While the ’230 patent is currently involved in a parallel district-court case, Petitioner argues that “[i]nstitution is appropriate under *Fintiv* . . . .” Pet. 157. Petitioner also states that “if this proceeding is instituted, Petitioner stipulates not to pursue in the district court the grounds in the Petition or any ground that reasonably could have been raised in the Petition.” *Id*. Patent Owner does not challenge Petitioner’s argument. Accordingly, and in view of Petitioner’s stipulation, it is not necessary to reach Petitioner’s discretionary denial arguments. *See Sotera Wireless, Inc. v. Masimo Corp*., IPR2020-01019, Paper 12 at 18–19 (PTAB Dec. 1, 2020) (precedential as to section II.A)).

C. The ’230 patent

The ’230 patent, titled “Optical Connectors with Reversible Polarity,” issued January 29, 2019, with claims 1–25. Ex. 1001, B2, codes (54), (45), 13:61–16:64.[3] The ’230 patent claims priority to

> Provisional application No. 62/581,961, filed on Nov. 6, 2017,
> provisional application No. 62/546,920, filed on Aug. 17, 2017,
> provisional application No. 62/485,042, filed on Apr. 13, 2017,
> provisional application No. 62/463,901, filed on Feb. 27, 2017,
> provisional application No. 62/463,898, filed on Feb. 27, 2017,
> provisional application No. 62/457,150, filed on Feb. 9, 2017,
> and
> provisional application No. 62/452,147, filed on Jan. 30, 2017.

Id. at code (60).

The ’230 patent explains that “[i]n current designs, if a fiber optic connector, particularly a duplex connector, needs to have the ferrules rotated or swapped, for example, for exchanging transmit and receive optical fibers, it can be a time consuming and difficult process.” Ex. 1001, B2, 5:65–6:2. The ’230 patent aims to address this issue by “allow[ing] for easy, quick, and safe swapping of the left and right side ferrules in a connector” and “a change in polarity of the duplex connector without twisting the fibers or performing any complex disassembly of the duplex connector.” *Id*. at 6:16–21.

[3] Petitioner’s Exhibit 1001 includes copies of both U.S. Patent 10,191,230 B2 (the original patent as issued) and U.S. Patent 10,191,230 C1 (the reexamination certificate) but does not provide page numberings for the exhibit. *See generally* Ex. 1001. To avoid confusion, when we cite to U.S. Patent 10,191,230 B2 herein, we add “B2” before citations of columns and lines for U.S. Patent 10,191,230 B2, and when we cite to U.S. Patent 10,191,230 C1 herein, we add “C1” before citations of columns and lines for U.S. Patent 10,191,230 C1.

Figures 1A and 1B of the ’230 patent, reproduced below, “depict a fiber optic connector with reversible polarity.” Ex. 1001, B2, 6:22–24.

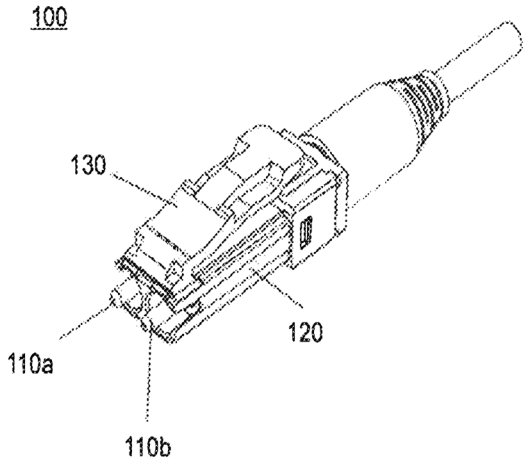


FIG. 1A

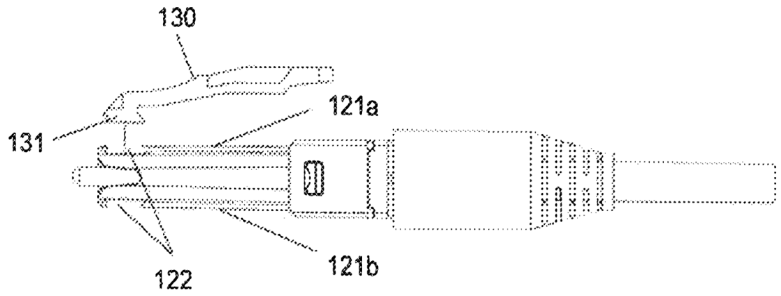


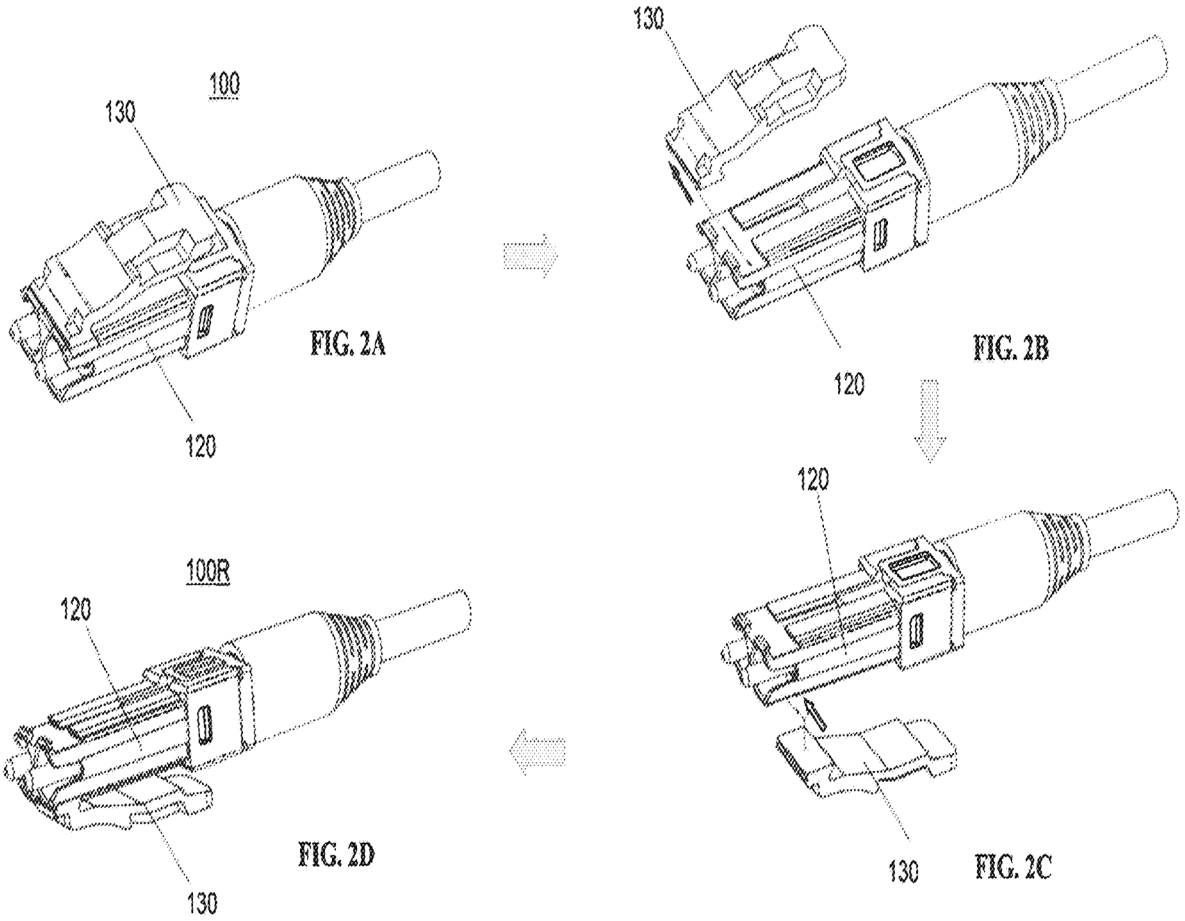
FIG. 1B

Figure 1A shows “first and second optical ferrules 110a and 110b and a connector housing 120 at least partially surrounding the first and second optical ferrules.” *Id*. at 6:24–27. According to the ’230 patent, “[a] removable latch 130 is depicted in FIG. 1A in its assembled state and in FIG. 1B removed from the connector housing 120.” *Id*. at 6:27–29. The ’230 patent further describes the connector housing and removable latch as follows:

> [T]he connector housing 120 may have a first exterior wall 121a positioned above the first and second optical ferrules and a second exterior wall 121b positioned beneath the first and second optical ferrules. A latch coupling 122 is positioned on each of the first and second exterior walls of the housing. The removable latch 130 may include a protrusion 131 for engaging the housing latch coupling 122. In particular, the latch coupling 122 may include angled walls that interact with slanted edges of the protrusion 131 to prevent accidental disassembly of the latch 130.

Id. at 6:32–42.

Figures 2A–2D of the ’230 patent, reproduced below, “depict the process for changing the polarity of the fiber optic connector of FIG. 1A from a first polarity, FIG. 2A to a second, opposite polarity, FIG. 2D.” Ex. 1001, B2, 6:60–61.



According to the ’230 patent,

> The removable latch 130 may be removed from the latch coupling on the first exterior wall of the connector housing, FIG. 2B, positioned adjacent the second exterior wall on beneath the ferrules, FIG. 2C, and then coupled with the latch coupling on the second exterior wall of the connector housing to yield a connector 100R, FIG. 2D, having the opposite polarity of connector 100. In this manner, transmit and receive optical fibers may be reversed without necessitating any fiber twist or complex repositioning of the optical ferrules.

Id. at 6:62–7:5.

D. Illustrative Claims

Of the challenged claims, claims 1 and 9 are independent. *See* Ex. 1001, C1, 1:22–2:5. The other challenged claims (claims 2, 6, 11, and 26–34) depend directly or indirectly from either claim 1, or claim 9. *See* Ex. 1001, B2, 14:13–23, 14:45–53, 15:26–30; Ex. 1001, C1, 3:18–4:36.

Claim 1 (with identifiers of claim elements, *see, e.g.*, Pet., App. A) is illustrative and reproduced below. According to the reexamination certificate, "[m]atter enclosed in heavy brackets **[ ]** appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent." Ex. 1001, C1, 1:7–10 (emphasis removed).

> [1.P] A reversible polarity fiber optic connector comprising:
>
> [1.1] at least first and second optical ferrules;
>
> [1.2] a connector housing *having a longitudinal axis and comprising an exterior portion* at least partially surrounding the first and second optical ferrules **[**and having**]** *such that the exterior portion extends 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received, the exterior portion comprising* a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules;
>
> [1.3] a latch coupling positioned on each of the first and second exterior walls of the connector housing;
>
> [1.4] a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing;
>
> [1.5] wherein positioning the removable latch on the first exterior wall of the connector housing yields a fiber optic connector with a first polarity and positioning the removable latch on the second exterior wall of the connector housing

yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.

Ex. 1001, C1, 1:22–2:5.

E. Asserted Grounds of Unpatentability

Petitioner, supported by the Declaration of Dr. William Singhose (Ex. 1004), asserts the following grounds of unpatentability (Pet. 2–3):[4]

Claims Challenged	35 U.S.C. §	References/Basis
1, 6, 9, 11, 27, 30, 32–34	103	Veatch,[5] Nguyen,[6] Soubh[7]
2, 26	103	Veatch, Nguyen, Soubh, Suzic[8]
28, 29	103	Veatch, Nguyen, Soubh, Lee[9]
31	103	Veatch, Nguyen, Soubh, Peng[10]
1, 2, 9, 27, 32–34	103	Nehler,[11] Limbert[12]
6, 11, 30	103	Nehler, Limbert, Soubh
26	103	Nehler, Limbert, Soubh, Suzic
28, 29	103	Nehler, Limbert, Lee
31	103	Nehler, Limbert, Peng

[4] The relevant sections of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, took effect on March 16, 2013. The filing date and earliest possible priority date for the '230 patent are after this date. *See* Ex. 1001, B2, codes (22), (60). Thus, AIA statutes apply to the claims of the '230 patent.

[5] US 9,684,130 B2, issued June 20, 2017, Ex. 1007 ("Veatch").

[6] US 2017/0343740 A1, published Nov. 30, 2017, Ex. 1008 ("Nguyen").

[7] US 2013/0122745 A1, published May 16, 2013, Ex. 1017 ("Soubh").

[8] US 2017/0363818 A1, published Dec. 21, 2017, Ex. 1010 ("Suzic").

[9] WO 2017/127208 A1, published July 27, 2017, Ex. 1009 ("Lee").

[10] US 2012/0177326 A1, published July 12, 2012, Ex. 1011 ("Peng").

[11] US 8,061,906 B2, issued Nov. 22, 2011, Ex. 1012 ("Nehler").

[12] US 8,834,038 B2, issued Sept. 16, 2014, Ex. 1013 ("Limbert").

III. ANALYSIS

A. Legal Standard

A patent claim is unpatentable under 35 U.S.C. § 103 "if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103 (2018). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.[13] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In order to determine whether an invention would have been obvious at the time the application was filed, we consider the level of ordinary skill in the pertinent art at the critical time. *Graham*, 383 U.S. at 17. The resolution of this question is important because it allows us to "maintain[] objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc*., 950 F.2d 714, 718 (Fed. Cir. 1991). In assessing the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quotation omitted). Generally, it is easier to

[13] The present record does not include objective evidence of nonobviousness.

establish obviousness under a higher level of ordinary skill in the art. *Innovention Toys, LLC v. MGA Entm't, Inc*., 637 F.3d 1314, 1323 (Fed. Cir. 2011) ("A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.").

Petitioner contends that a person of ordinary skill in the art (POSITA) "would have had a bachelor's degree (B.S.) in mechanical engineering, industrial engineering, or a closely related field and one year of experience working with connectors." Pet. 7 (citing Ex. 1004 ¶¶ 5–17, 79–84).

For purposes of this Decision, we adopt Petitioner's proposal as reasonable and consistent with the '230 patent specification and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

Petitioner contends that "[w]ithout waiver, Petitioner does not believe any claim terms require specific construction and thus should receive their

plain and ordinary meaning, in the context of the [] patent specification, under the *Phillips* standard." Pet. 7 (citing Ex. 1004 ¶¶ 85–87).

For purposes of this Decision, we do not discern a need to construe explicitly any claim language because doing so would have no effect on our analyses below of Petitioner's asserted grounds. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Overview of the Asserted Art

1. Veatch (Exhibit 1007)

Veatch relates to "a push-pull LC duplex fiber connector that allows the connector to be more easily unlatched from its mating adapter when compared with a traditional LC connector." Ex. 1007, 2:6–9. According to Veatch, its connector "includes a separate latch clip that enables the polarity to be changed without rotating the individual connectors, eliminating the need to twist the fibers, resulting in easier field polarity changes and a more reliable connection." *Id*. at 2:9–13. Connector 100 is shown in Figures 1 and 2 of Veatch, reproduced below.

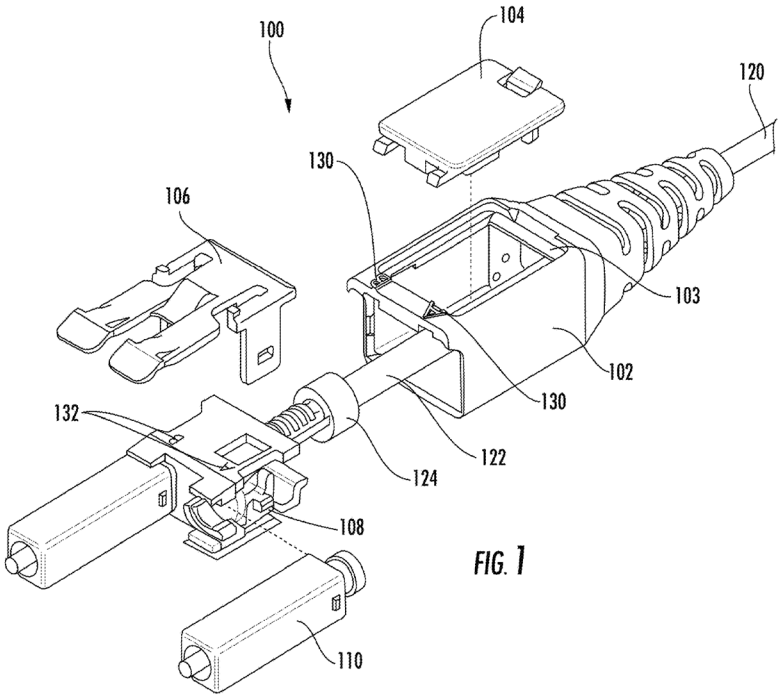


FIG. 1

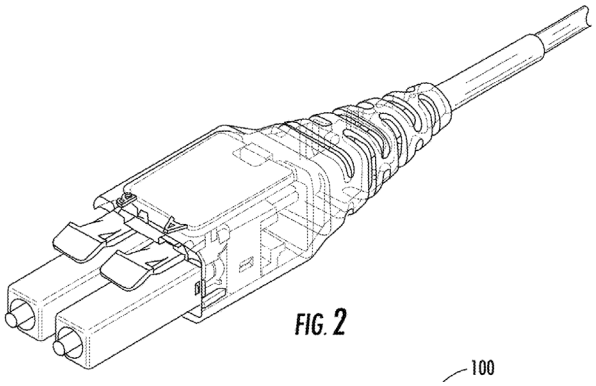


FIG. 2

Figure 1 shows "an exploded, perspective view of a connector 100 including a boot 102, cover 104, latch 106, fiber holder 108, and connector bodies 110." Ex. 1007, 2:14–16. Figure 1 also shows that "[a] cable 120 runs through boot 102 and includes two optical fibers." *Id*. at 2:19–20. Figure 2 depicts "a perspective view of the assembled connector 100." *Id*. at 2:37–38.

Veatch explains that its invention has "the ability to change polarity of the connector without applying undue stress on the optical fibers in cable 120." Ex. 1007, 3:8–10; *see also id*. at 3:20–32. Figures 7–10, reproduced below, "illustrates changing connector polarity." *Id*. at 1:44–45.

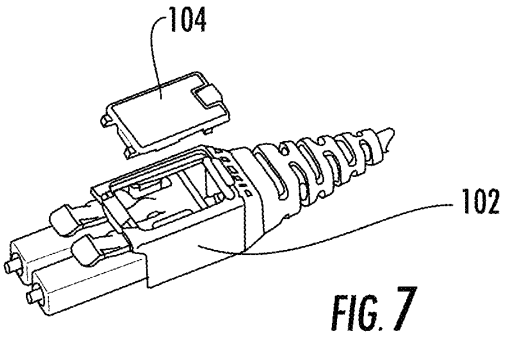


FIG. 7

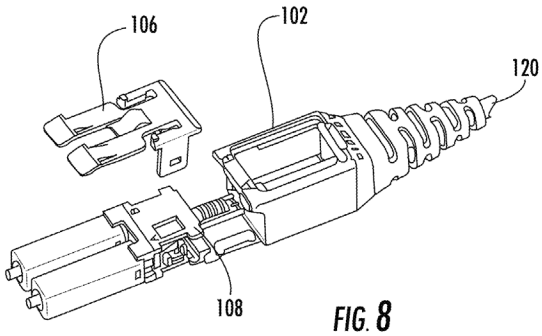


FIG. 8

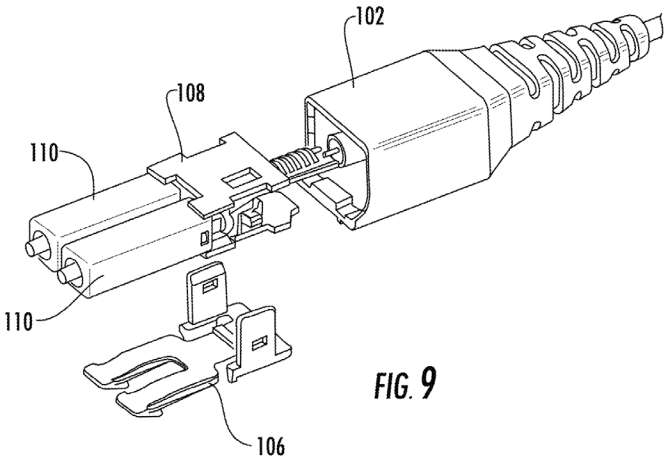


FIG. 9

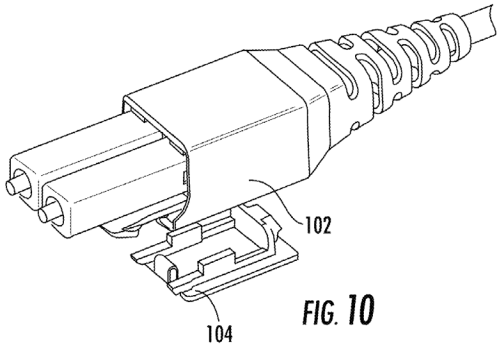


FIG. 10

According to Veatch, Figure 7 "illustrates a first step in changing the connector polarity, which involves removing the cover 104 from boot 102." *Id*. at 3:10–12. Figure 8 "illustrates a second step in changing the connector polarity," wherein "the boot 102 is pulled back along the cable 120 to expose the fiber holder 108" and "[l]atch 106 is removed from the fiber holder 108." *Id*. at 3:12–16. Figure 9 "illustrates a third step in changing the

connector polarity," wherein "the boot 102 is rotated 180 degrees and the latch 106 is moved from a first side of the fiber holder 108 to a second side of the fiber holder 108." *Id*. at 3:17–20. Figure 10 "illustrates a fourth step in changing the connector polarity," wherein "the fiber holder 108 is repositioned in boot 102 and cover 104 snapped back into position." *Id*. at 3:33–36.

2. Nguyen (Exhibit 1008)

Nguyen relates to "a duplex mini lucent connector (LC) connector." Ex. 1008 ¶ 2. By way of background, Nguyen explains that an "optoelectronic transceiver module may include a transmit port and/or a receive port configured to receive the connector of the optical fiber(s)," so that "[o]ptical signals may be received and/or transmitted by the optoelectronic transceiver module via the optical fiber(s)." *Id*. ¶ 5.

Figures 3A and 3B of Nguyen, reproduced below, show "a perspective view and a module-side end view of the connector 110 and optical fibers 112" in one example. Ex. 1008 ¶ 28.

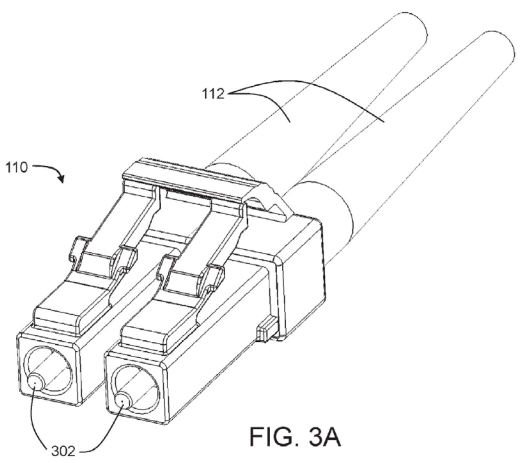


FIG. 3A

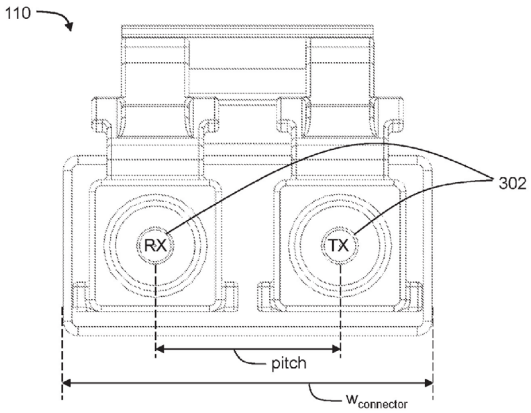


FIG. 3B

Figures 3A and 3B show ferrules 302 of connector 110. *Id*. Figure 3B also "indicates the connector width $w_{connector}$ of the connector 110, which may be

about 12.5 mm, and a pitch (e.g., center-to-center spacing) of the ferrules 302, which may be about 6.25 mm." *Id*.

Figures 6A and 6B of Nguyen, reproduced below, show "a perspective view and a module-side end view of one of the connectors 410 and two of the optical fibers 412" in another example. Ex. 1008 ¶ 37.

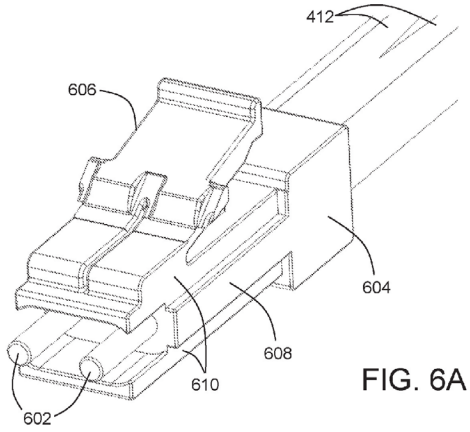


FIG. 6A

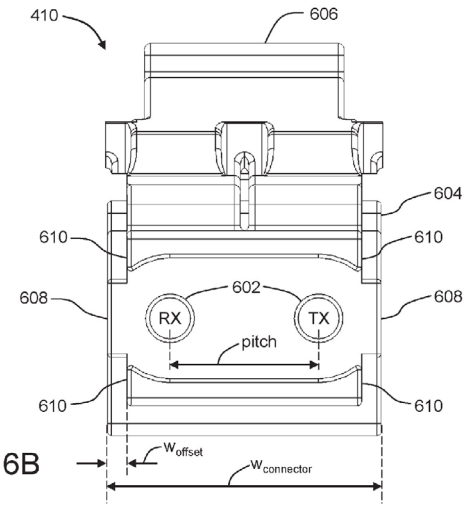


FIG. 6B

Figures 6A and 6B show ferrules 602 of connector 410. *Id*. Figure 6B also "indicates that a width of the connector 410, referred to as the connector width $w_{connector}$, may be about 7 mm, and a pitch (e.g., center-to-center spacing) of the ferrules 602 may be about 3.8 mm." *Id*.

3. Soubh (Ex. 1017)

Soubh "is directed to a low-profile right angle electrical connector assembly having six board-mount connectors that allow for the right angle connection of cable connectors to a low profile Peripheral Component Interconnect Express ("PCIe") card." Ex. 1017 ¶ 3. According to Soubh, "each cable connector includes a replaceable latch that helps secure the cable connectors relative to the board-mount connectors." *Id*.

Figure 3 of Soubh, reproduced below, shows "a top perspective view of a board-mount connector and a cable connector in mating orientation" Ex. 1017 ¶ 20.

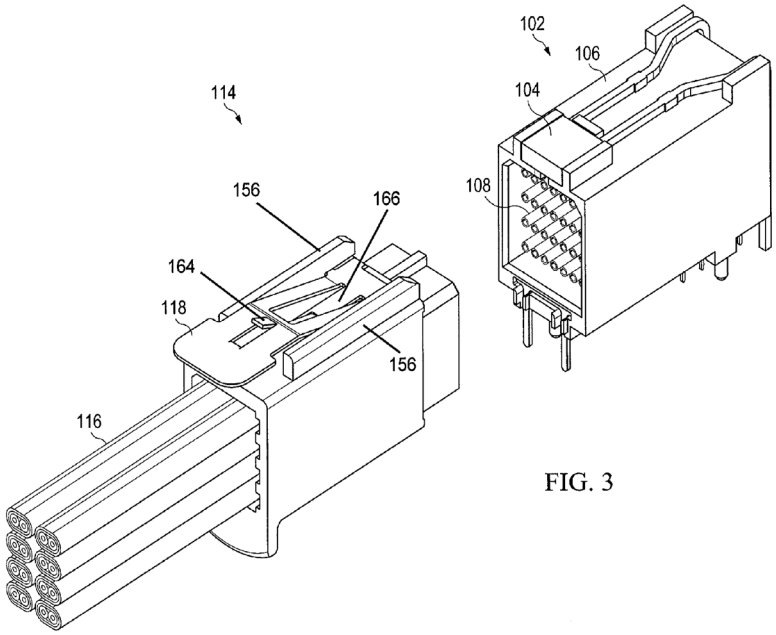


FIG. 3

Figure 3 shows board-mount connector 102 receiving a cable connector 114, which "features a latch 118 and houses the terminal ends of cable members 116." *Id*. ¶ 38.

Figure 15 of Soubh, reproduced below, shows a "close up perspective view of a cable connector of the low-profile right-angle connector assembly with the latch removed from the connector body." Ex. 1017 ¶ 32.

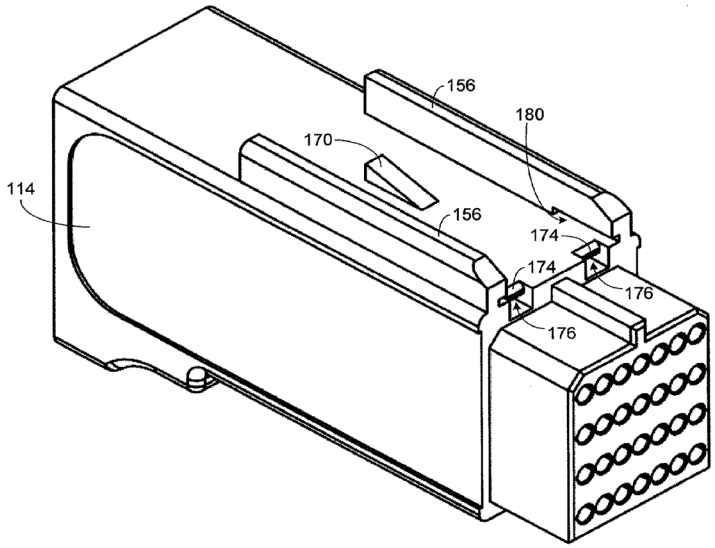


FIG. 15

Figures 13A–13C of Soubh, reproduced below, show "perspective, top, and side views, respectively, of a removable latch for the cable connector." Ex. 1017 ¶ 30.

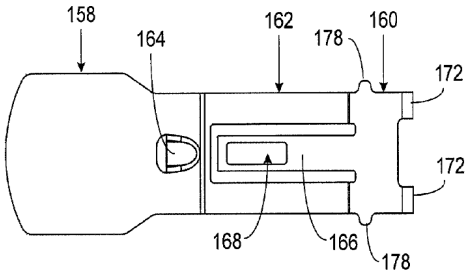


FIG. 13B

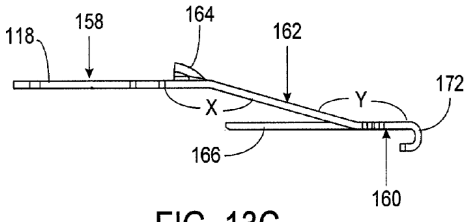


FIG. 13C

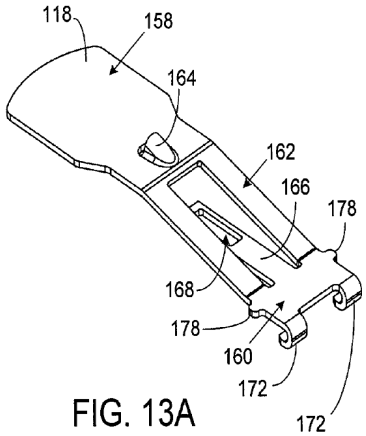


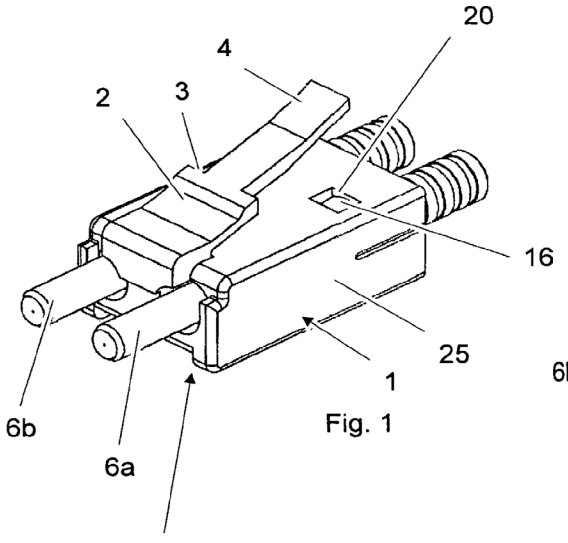
FIG. 13A

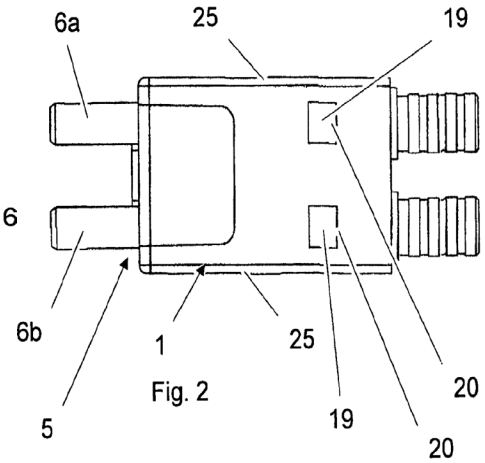
According to Soubh, "the latch 118 may generally be cut, stamped, punched, or the like, from a thin sheet of resilient material, such as metal, metal alloy, plastic, and the like, that imparts a spring-like property to the latch 118." *Id*.

¶ 55. Soubh describes attachment mechanisms "provided on the latch 118 to help secure the latch 118 to the cable connector 114 in a removable manner." *Id*. ¶ 56. For example, "the attachment mechanisms may include an anchor tab 166 on the body section 162 of the latch 118 formed by partially cutting or punching through a geometric shape, such as a rectangle," which "may then be used to secure the latch 118 in place and help prevent unwanted movement of the latch 118 back and forth and side to side." *Id*. In another example, "one or more latch guides 178 may be provided on the sides of the base section 160 as an attachment mechanism." *Id*. ¶ 60. Soubh explains that "[t]he one or more latch guides 178 may then be fitted into and slid along one or more slots 180 formed in the ridges 156 of the cable connector 114, as shown in FIG. 15, to limit the movement of the latch 118 in toward the head section 158." *Id*.

4. Nehler (Exhibit 1012)

Nehler relates to "a connector for the termination of optical transmission media." Ex. 1012, 1:14–15. Nehler's Figures 1 and 2, reproduced below, show a three-dimensional view and a plan view of a connector. *Id*. at 2:54–57.





Figures 1 and 2 depict "a connector for two optical fibres," which "comprises a connector housing 1," and "a locking device 2 with a locking edge 3 which is formed in a spring-elastic manner as a plastic component in the manner of an integral hinge and, with the aid of an actuation bar 4, can be pressed onto the housing in order to unlock a connection with a receptacle." Ex. 1012, 2:66–3:8. The figures also show "[t]wo ferrules, numbered 6a and 6b, project from the connector housing 1 at one end 5 of the connector housing 1." *Id*. at 3:8–10.

5. Limbert (Exhibit 1013)

Limbert relates to "[a] fiber optic connector arranged to be releasably connected to a fiber optic adaptor." Ex. 1013, code (57). Limbert describes a "fiber optic connector includ[ing] a body configured to receive and terminate two optical fibers and a latch mechanism provided on the body," wherein "[t]he latch mechanism is configured for releasable engagement with each one of two sockets of the fiber optic adaptor." *Id*. at 1:25–29.

Figure 3 of Limbert, reproduced below, shows "a perspective view of a fiber optic connector with a latch mechanism." Ex. 1013, 3:35–36.

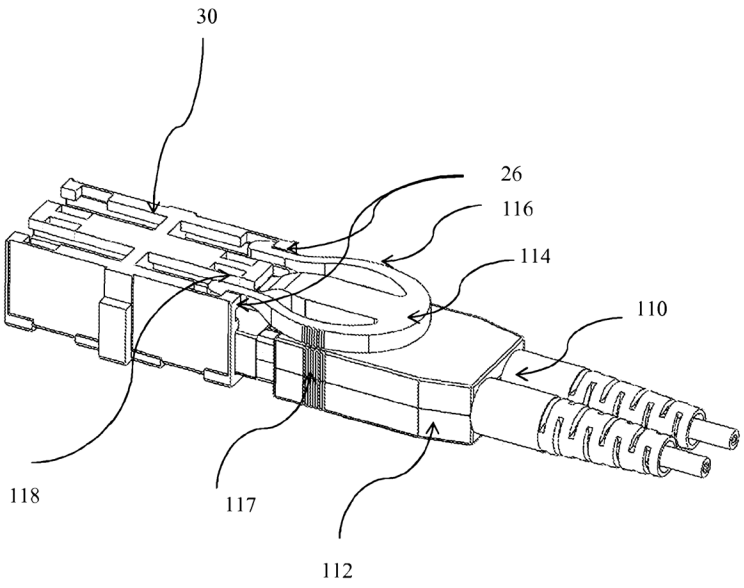


Fig. 3

According to Limbert, "[t]he latch mechanism 114 comprises a pair of latch members, arms 116, mounted on an upper surface of the body 112." *Id*. at 4:42–43. Limbert explains that "[t]he latch mechanism of FIG. 3 operates in the horizontal plane and . . . configured for actuation in a direction laterally across the body." *Id*. at 4:62–64.

Figures 4a and 4b of Limbert show a perspective view and a detailed mounted view of the latch mechanism of Figure 3. Ex. 1013, 3:37–40.

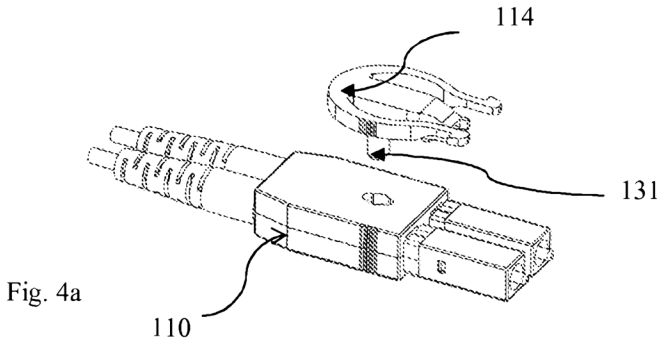


Fig. 4a

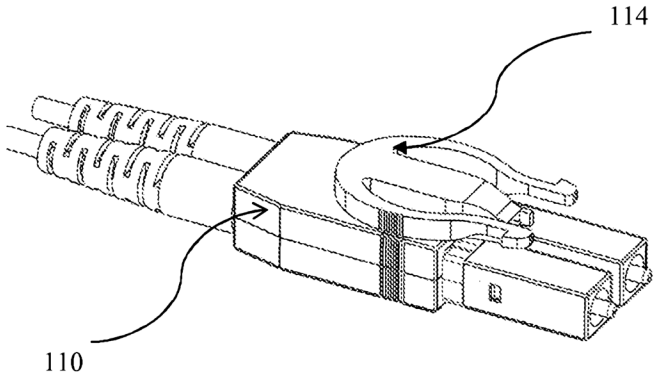


Fig. 4b

According to Limbert, Figures 4a and 4b show "details of the mounting and arrangement of the latch mechanism 114 shown in FIG. 3, in order to accommodate the desire to alter the polarity of the patch cord connection." *Id*. at 5:25–28. Limbert explains that "[t]he latch mechanism 114 is configured to be releasably mountable on each of two opposing faces of the connector body 112 with location spigot 131 for mounting to the top or the bottom face of the body 112." *Id*. at 5:28–31.

6. Suzic (Ex. 1010)

Suzic relates to an optical plug connector for data transmission and/or telecommunication. Ex. 1010 ¶ 3. Figures 1 and 3 of Suzic, reproduced

below, provide a perspective view and an exploded view of an optical plug connector. *Id.* ¶ 27.

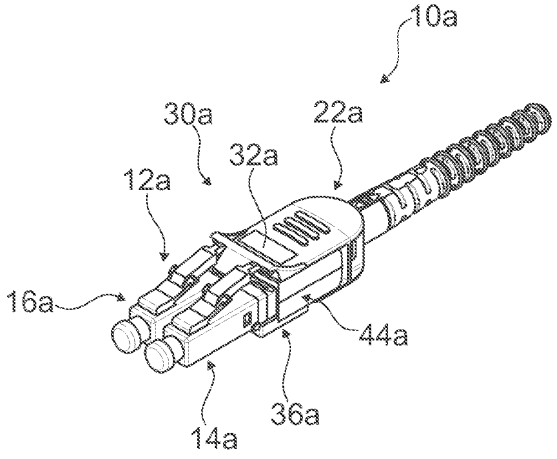


Fig. 1

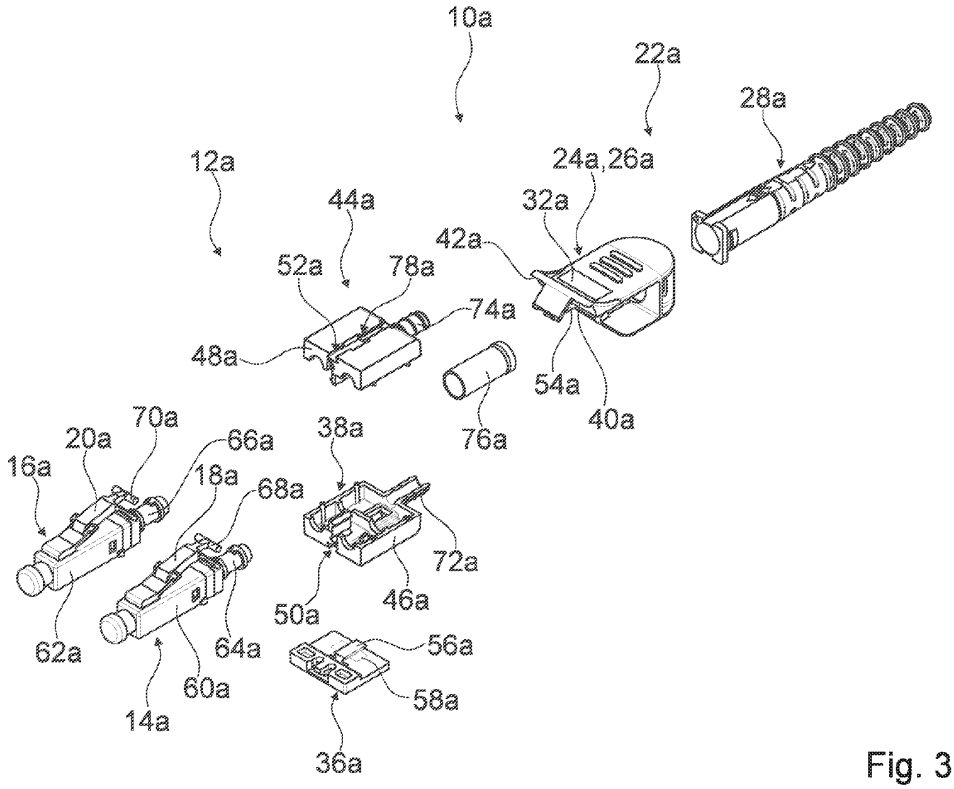


Fig. 3

Figures 1 and 3 depict plug connector 10a comprising a plug unit 12a, which "is provided for establishing an optical connection between two objects." Ex. 1010 ¶ 28. Suzic explains that "the plug unit 12a comprises

two plug elements 14a, 16a," which "are at least substantially structurally identical" and "respectively embodied as LC plug elements." *Id*. ¶ 29. As shown in Figure 3, "base plug bodies 60a, 62a respectively define a longitudinal extension direction of the respective plug element 14a, 16a." *Id*. ¶ 30. Figure 3 also shows connection elements 64a, 66a "provided for coupling the respective plug element 14a, 16a with a holding unit 44a," which "comprises two holding parts 46a, 48a." *Id*. ¶¶ 31, 36. According to Suzic, "[t]he holding parts 46a, 48a are in a connected state provided for holding the plug elements 14a, 16a . . . in such a way that the plug elements 14a, 16a are rotatable." *Id*. ¶ 36.

According to Suzic, "the plug unit 12a comprises precisely two dovetail-connection elements 50a, 52a," which "are in an assembled state arranged on respectively opposite sides of the plug unit 12a" and "are each embodied as a dovetail guidance." Ex. 1010 ¶ 38. "The dovetail-connection elements 50a, 52a further respectively extend over an entire longitudinal extension of the holding parts 46a, 48a." *Id*. ¶ 39. Suzic explains that actuation element 24a of plug connector 10a is connected to holding unit 44a of plug unit 12a by connecting dovetail-connection element 54a to dovetail-connection elements 50a, 52a of plug unit 12a. *Id*. ¶ 43. In this way, "[t]he actuation element 24a is linearly movable and/or displaceable in a longitudinal extension direction of the plug element 14a." *Id*.

7. Lee (Exhibit 1009)

Lee relates to "fiber optic connectors suitable for use in data centers or the like." Ex. 1009 ¶ 2. Figure 1 of Lee, reproduced below, provides "a perspective view of . . . a fiber optic connector system that includes a fiber

optic connector and an adapter, wherein the fiber optic connector is shown removed from the adapter." *Id.* ¶ 15.

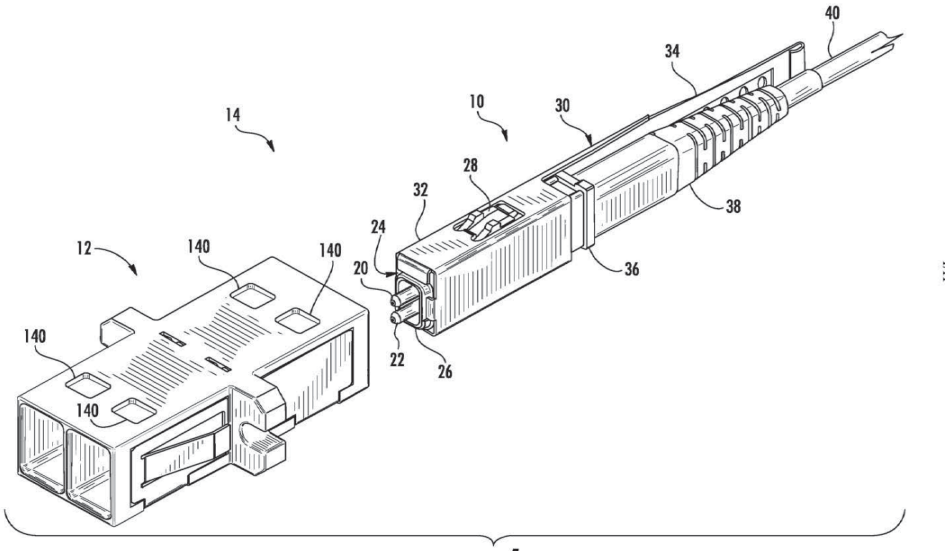


FIG. 1

Figure 1 depicts "a fiber optic connector 10 . . . and an adapter 12, which together represent a fiber optic connector system 14." Ex. 1009 ¶ 29. Lee describes connector 10 including

> first and second ferrules 20, 22, an inner connector body 24 having a front end 26 from which the first and second ferrules extend, a latch arm 28 extending outwardly from the inner connector body 24, and a handle 30 that cooperates with the inner connector body 24 and latch arm 28.

Id. ¶ 29.

According to Lee, "the handle 30 includes a housing portion 32 in which the inner connector body 24 is received and a grip portion 34 extending rearwardly from the housing portion 32," and "can move relative to the inner connector body 24 so that the housing portion 32 can cause the latch arm 28 to flex toward the inner connector body 24." *Id*.

Figure 2 of Lee, reproduced below, provides "an exploded perspective view of the fiber optic connector of Fig. 1." Ex. 1009 ¶ 16.

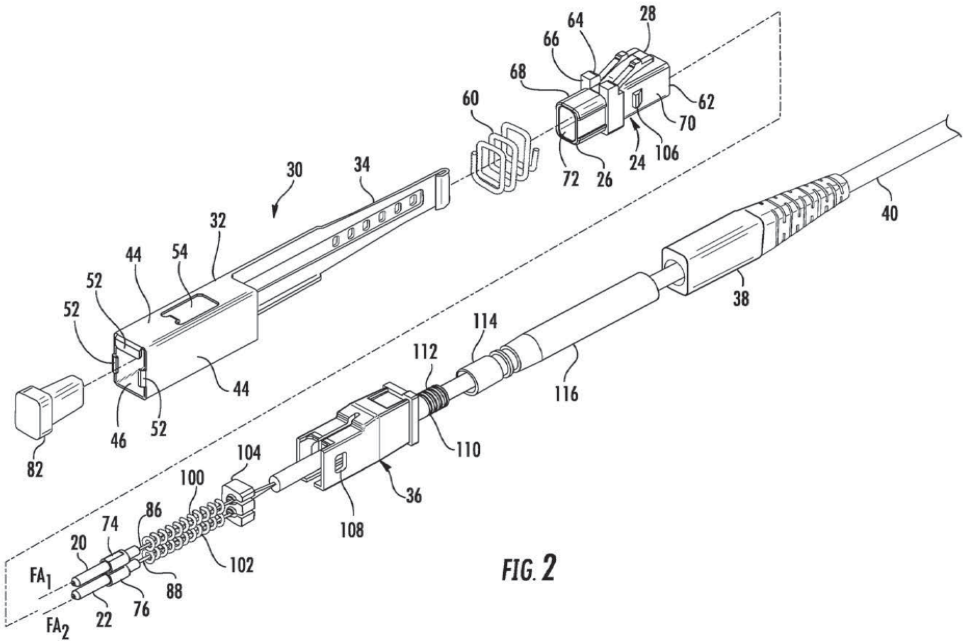


FIG. 2

Figure 2 shows housing portion 32 of handle 30 in the form of a tubular body and grip portion 34 of handle 30 in the form of a plate-like extension. *Id*. ¶¶ 31, 32.

Lee describes "additional details of the inner connector body 24" in Figures 4 and 5, reproduced below, "to better understand how the handle 30 cooperates with the inner connector body 24." Ex. 1009 ¶ 41.

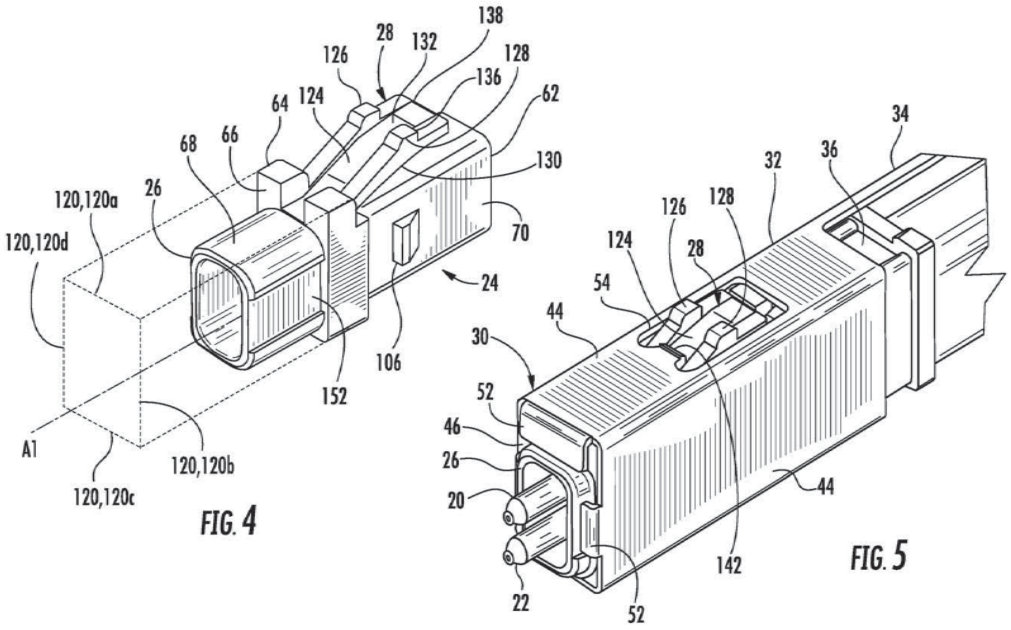
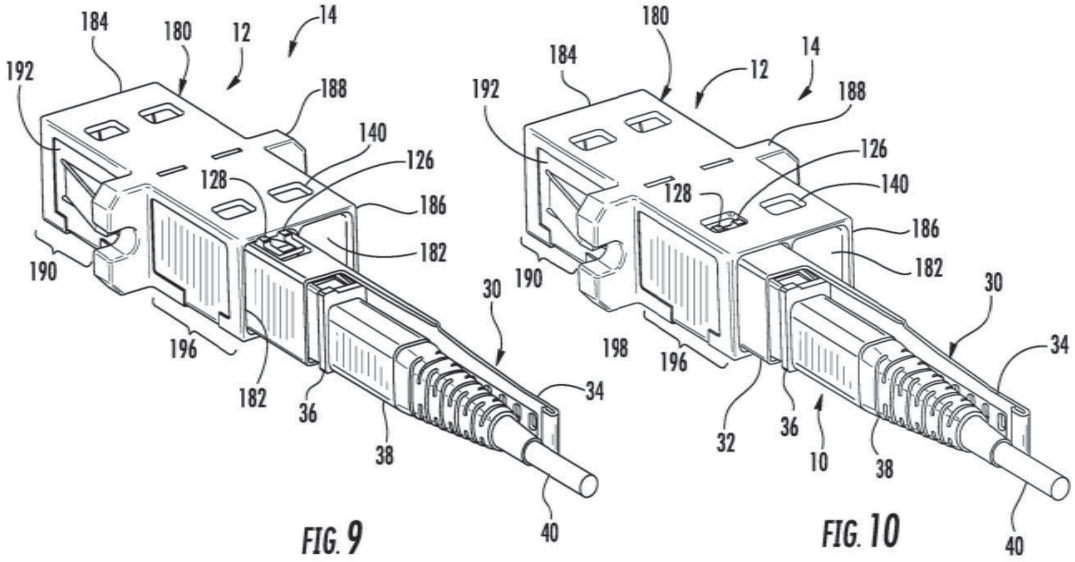


Figure 4 provides "an enlarged perspective view showing only the inner connector body 24," and Figure 5 provides "an enlarged perspective view of the portion of the assembled connector 10 including the inner connector body 24 and housing portion 32 of the handle 30." *Id*. As shown in Figure 5, "the housing portion 32 of the handle 30 includes an opening 54 for through which the latch arm 28 extends when the connector 10 is assembled." *Id*. ¶ 47. Lee also describes pushing feature 142:

> The housing portion 32 also includes a pushing feature 142 adjacent the opening 54 for contacting the latch arm 24. In the embodiment shown, the pushing feature 142 is in the form of a finger extending into the opening 54. The finger is bent back to define a rounded surface 144, as best seen in Fig. 3. When the handle 30 is moved rearwardly relative to the inner connector body 24, the rounded surface 144 contacts and slides along the ramp 124 to cause the latch arm 28 to flex toward the inner connector body 24.

Ex. 1009 ¶ 41.

Figures 9 and 10 of Lee, reproduced below, "illustrate how the connector 10 can cooperate with the adapter 12." Ex. 1009 ¶ 63.



Figures 9 and 10 provide perspective views of the fiber optic connector of Figure 1 partially and fully inserted into the adapter of Figure 1. *Id*. ¶¶ 23, 24. According to Lee:

> an individual may use the handle 30 to insert the connector 10 into one of the ports 182 of the adapter 12. During the insertion, the latch arm 28 contacts the adapter body 180, as shown in Fig. 9. The latch arm 28 then flexes toward the inner connector body 24 to allow further insertion of the housing portion 32 of the handle 30 and the inner connector body 24 into the port 182. . . . Additionally, the first and second latching features 126, 128 on the latch arm 28 engage the latching feature 140 on the adapter body 180 that is associated with the port 182, as shown in Fig. 10.

Id. ¶ 63.

8. Peng (Exhibit 1011)

Peng relates to "a mini double-core optical fiber connector." Ex. 1011 ¶ 2. Peng notes that "[i]n an optical fiber transmission link, in order to

achieve the need of flexible connection between a module, a device and a system, an optical fiber connector is required to complete detachable connection between optical fiber and optical fiber." *Id*. ¶ 4.

Figures 3 and 5 of Peng, reproduced below, provide "[a] three-dimensional diagram . . . and a three-dimensional exploded diagram of the double-core optical fiber connector 30." Ex. 1011 ¶ 28.

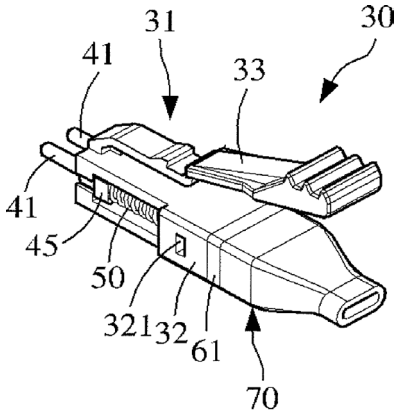


FIG. 3

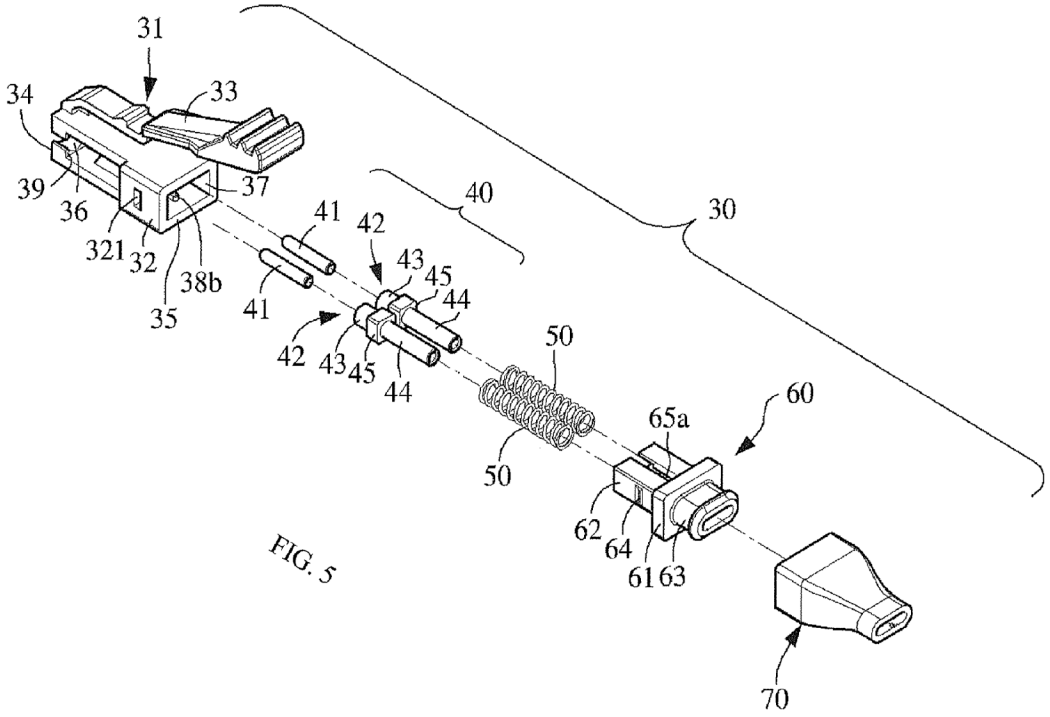


FIG. 5

As shown in Figures 3 and 5, "the double-core optical fiber connector 30 includes: a shell 31 having a containing body 32, a ferrule assembly 40 having a pair of ferrules 41 and a pair of ferrule handles 42, a pair of elastic elements 50 and a tail cover 60." *Id*. ¶¶ 28–29. Peng further describes that "[t]he tail cover 60 includes a connection portion 61 and a tube portion 62 located at the front end of the connection portion 61." *Id*. ¶ 34.

Figure 8 of Peng, reproduced below, provides "a sectional view of the mini double-core optical fiber connector with an optical fiber." Ex. 1011 ¶ 25.

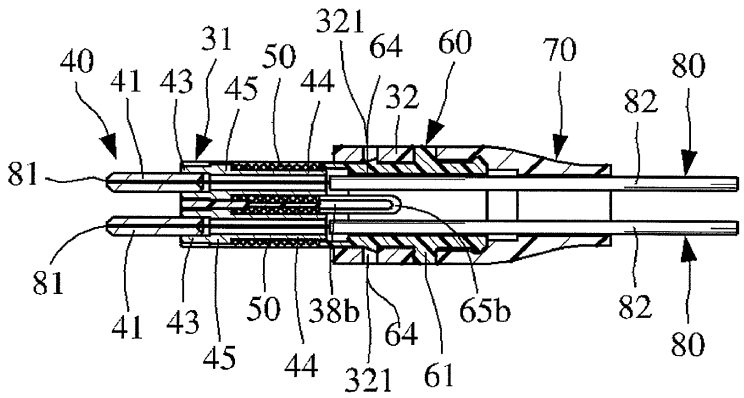


FIG. 8

As shown in Figure 8,

> When the mini double-core optical fiber connector 31 is connected to the optical fiber 80, . . . the front end face of the tube portion 62 is butted against the tail end of an elastic element 50, and the tube portion 62 may be further used to contain second tubular end portions 44 of a pair of ferrule handles.

Id. ¶ 34.

Peng further explains:

> outer wall surfaces at two sides of the tube portion 62 each have a clamping key 64, and the clamping key 64 corresponds to a positioning hole 321 of the containing body 32; when the tube portion 62 is mounted into the containing groove 37 of the containing body 32, the clamping key 64 is fastened into the positioning hole 321, so that the tail cover 60 and the shell 31 are firmly combined.

Id. ¶ 34.

E. Unpatentability Grounds

1. Unpatentability over Veatch, Nguyen, and Soubh (Ground 1)

Petitioner asserts claims 1, 6, 9, 11, 27, 30, and 32–34 are unpatentable under 35 U.S.C. § 103 as obvious over Veatch, Nguyen, and Soubh. Pet. 2, 21–68 (citing Ex. 1004) (Petitioner's Ground 1).

a. *Combining Veatch and Nguyen*

Petitioner argues that Veatch and Nguyen are both directed to duplex fiber optic LC connectors. Pet. 21 (citing Ex. 1007, 2:6–13; Ex. 1008 ¶ 2; Ex. 1004 ¶ 149). Petitioner argues that Nguyen discloses altering the housing configuration from dual connector bodies to a single housing to reduce pitch between ferrules. *Id.* at 23 (citing Ex. 1008 ¶¶ 28, 37). Petitioner argues that combining Nguyen's unitary housing with Veatch would allow reducing footprint, would avoid twisting separate connectors, and would be the integration of a well-known design strategy for reducing product size and simplifying assembly. *Id.* at 23–24 (citing Ex. 1004 ¶¶ 150–154; Ex. 1007, 1:7–17, 2:9–13; Ex. 1008 ¶ 44). Petitioner also provides argument and evidence as to why a person having ordinary skill in the art would have had a reasonable expectation of success in combining the

references' teachings. *Id.* at 24 (citing Ex. 1004 ¶¶ 155–158).

Based on the evidence presented, Petitioner adequately establishes that a person having ordinary skill in the art would have had reason to combine the teachings of Veatch and Nguyen with a reasonable expectation of success.

b. *Combining Veatch, Nguyen, and Soubh*

Petitioner argues that Veatch, Nguyen, and Soubh all relate to connectors for fiber optic/electrical cables. Pet. 25 (citing Ex. 1004 ¶¶ 159–162; Ex. 1007, 2:6–13; Ex. 1008 ¶ 2; Ex. 1017 ¶ 12). Petitioner argues that Soubh describes a latch removably coupled to the top wall of the connector. *Id.* at 26 (citing Ex. 1017 ¶¶ 49, 57; Ex. 1004 ¶¶ 163–166). Petitioner argues that a person having ordinary skill in the art would have recognized that Soubh's single snap-fit arrangement is less inconvenient and complicated than Veatch's mounting tabs and the use of Soubh's arrangement would streamline production and assembly. *Id.* at 28 (citing Ex. 1004 ¶¶ 164–165, 167–169).

Petitioner also argues that a person of ordinary skill in the art would have had reason to modify Veatch's latch 106 to extend rearward in order to reduce the total number of connector parts. Pet. 29–32. Petitioner's argument is supported by the evidence. *Id.* (citing Ex. 1004 ¶¶ 170–179; Ex. 1007, 2:56–58, 2:64–3:6; Ex. 1009 ¶¶ 42–46; Ex. 1017 ¶¶ 53, 62).

Petitioner also provides argument and evidence as to why a person having ordinary skill in the art would have had a reasonable expectation of success in combining the references' teachings. Pet. 33–34 (citing Ex. 1004 ¶¶ 180–186); Ex. 1009 ¶¶ 42–66.

Based on the evidence presented, Petitioner adequately establishes

that a person having ordinary skill in the art would have had reason to combine the teachings of Veatch, Nguyen, and Soubh with a reasonable expectation of success.

c. *Claim 1*

[1.P]: A reversible polarity fiber optic connector comprising:

Petitioner argues that, to the extent the preamble is limiting, Veatch discloses this recitation. Pet. 35. Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1007, code (54), 2:6–13; Ex. 1004 ¶¶ 188–189.

[1.1]: at least first and second optical ferrules;

Petitioner argues that Veatch discloses this recitation. Pet. 35. Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1007, Figs. 1, 11, 2:23–34, 10:4–5; Ex. 1004 ¶¶ 190–193.

[1.2]: a connector housing having a longitudinal axis and comprising an exterior portion at least partially surrounding the first and second optical ferrules such that the exterior portion extends 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules;

Petitioner argues that Veatch discloses a connector housing having a longitudinal axis and comprising an exterior portion at least partially surrounding the first and second optical ferrules in the form of fiber holder 108 holding connector bodies 110. Pet. 36 (citing Ex. 1007, 2:14–23, 3:37–45, Figs. 1–3, 11). Petitioner argues that Veatch's fiber holder includes

an exterior wall positioned above the ferrules and a second exterior wall positioned beneath the bundles. *Id.* (citing Ex. 1004 ¶¶ 194–196).

Petitioner also argues that Nguyen discloses a connector housing with an exterior portion having an "exterior portion extend[ing] circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received." Pet. (citing Ex. 1004 ¶ 197). Petitioner annotates Nguyen Figures 6A and 6B to illustrate this point. *Id.* at 37–38. Petitioner argues that a person having ordinary skill in the art would have replaced Veatch's holder with Nguyen's single housing "to provide a connector with fewer parts and reduced footprint" and would have had a reasonable expectation of success in doing so. *Id.* at 38 (citing Ex. 1004 ¶¶ 204–205).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 194–205; Ex. 1007, Figs. 1–3, 11, 2:14–23, 3:37-45; Ex. 1008 ¶ 40, Figs. 6A, 6B.

[1.3]: a latch coupling positioned on each of the first and second exterior walls of the connector housing;

Petitioner argues that Veatch teaches latch couplings that may be selectively coupled to the fiber holder's top or bottom wall. Pet. 38–40 (citing Ex. 1007, 2:61–63, Figs. 1–2, 6–9; Ex. 1004 ¶¶ 206–208). Petitioner also argues that Soubh discloses "latch coupling" on a connector housing's top wall. *Id.* at 40–42 (Ex. 1004 ¶¶ 209; Ex. 1017, Figs. 12, 13A, 15, ¶¶ 56, 60). Petitioner also argues that a person having ordinary skill in the art would have had reason to combine Soubh's anchor and slots with Veatch's housing (as modified by Nguyen). *Id.* at 42 (citing 1004 ¶¶ 210–211).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 206–211; Ex. 1007, 2:61–63, Figs. 1–2, 6–9; Ex. 1017 ¶¶ 56, 60, Figs. 12, 13A, 15.

[1.4]: a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing;

Petitioner argues that Veatch discloses a removable latch. Pet. 42–43 (citing Ex. 1007, 3:13–16, Figs. 2, 7–10; Ex. 1004 ¶¶ 212–216). Petitioner also argues that Soubh discloses a removable latch that engages a latch coupling on the housing's top wall. *Id.* at 43–44 (citing Ex. 1017 ¶ 62, Figs. 12, 13A, 15; 1004 ¶ 218). Petitioner argues that a person having ordinary skill in the art would have modified Veatch's latch based on Soubh to secure the latch with less manipulation. *Id.* at 44 (citing Ex. 1004 ¶¶ 219–220).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 212–220; Ex. 1007, Figs. 2, 7–10, 3:13–16; Ex. 1017, Figs. 12, 13A, 15, ¶ 62).

[1.5]: wherein positioning the removable latch on the first exterior wall of the connector housing yields a fiber optic connector with a first polarity and positioning the removable latch on the second exterior wall of the connector housing yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.

Petitioner argues that Veatch discloses that its latch106 can be coupled to yield a first or second polarity. Pet. 45 (citing Ex. 1004 ¶ 221; Ex. 1007, 3:8–36, Figs. 7–10). Petitioner also argues that once the Veatch-Nguyen-Soubh combination is made, latch 106 would be removably coupled to top and bottom walls of a connector housing. *Id.* (citing Ex. 1004 ¶¶ 222–226; Ex. 1007, Figs. 7–10).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 221–226; Ex. 1007, Figs. 7–10, 3:8–36).

Conclusion as to claim 1

Based on the evidence in the present record, we determine that Petitioner has shown sufficiently for purposes of this Decision that the combination of Veatch, Nguyen, and Soubh teaches or suggests all elements of claim 1 and that Petitioner sufficiently shows that a person of ordinary skill in the art would have had reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine Petitioner has established a reasonable likelihood of prevailing in showing that claim 1 is unpatentable over the combination of Veatch, Nguyen, and Soubh.

d. *Claims 6, 9, 11, 27, 30, and 32–34*

Petitioner accounts for the limitations recited in claims 6, 9, 11, 27, 30, and 32–34 (which depend from claim 21). Pet. 46–68. Petitioner shows sufficiently for purposes of this Decision that each element of claims 6, 9, 11, 27, 30, and 32–34 is taught or suggested by the combined teachings of Veatch, Nguyen, and Soubh and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has established a reasonable likelihood of establishing that claims 6, 9, 11, 27, 30, and 32–34 would have been obvious in view of Veatch, Nguyen, and Soubh.

2. Unpatentability over Veatch, Nguyen, and Soubh and additionally Suzic (Ground 2), Lee (Ground 3), or Peng (Ground 4)

Petitioner asserts claims 2 and 26 are unpatentable under 35 U.S.C. § 103(a) as obvious over Veatch, Nguyen, Soubh, and Suzic. Pet. 68–77. Petitioner asserts claims 28 and 29 are unpatentable under 35 U.S.C. § 103(a) as obvious over Veatch, Nguyen, Soubh, and Lee. *Id.* at 77–89. Petitioner asserts claim 31 is unpatentable under 35 U.S.C. § 103(a) as obvious over Veatch, Nguyen, Soubh, and Peng. *Id.* at 90–95.

Petitioner accounts for the limitations recited in claims 2, 26, 28, 29, and 31. Pet. 69–95. Petitioner shows sufficiently for purposes of this Decision that each element of claims 2, 26, 28, 29, and 31 is taught or suggested by the combined teachings of Veatch, Nguyen, and Soubh along with either Suzic, Lee, or Peng, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. *Id.* Thus, we determine that Petitioner has established a reasonable likelihood that claims 2, 26, 28, 29, and 31 would have been obvious in view of Veatch, Nguyen, and Soubh along with either Suzic, Lee, or Peng.

3. Unpatentability over Nehler and Limbert (Ground 5)

Petitioner asserts claims 1, 2, 9, 27, and 32–34 are unpatentable under 35 U.S.C. § 103 as obvious over Nehler and Limbert. Pet. 2, 95–122 (citing Ex. 1004) (Petitioner's Ground 5).

a. *Combining Nehler and Limbert*

Petitioner argues that a person having ordinary skill in the art would have had reason to removably couple the latch of Nehler's connector to the top and bottom walls of the connector housing, as Limbert teaches, to provide cross-polarity adjustment. Pet. 95 (citing Ex. 1004 ¶¶ 397–398).

Petitioner argues that Nehler teaches a housing with a locking device. *Id.* (citing Ex. 1012, 3:1–9, Fig. 1). Petitioner argues that Limbert teaches making a removably coupled latch. *Id.* at 96–97 (citing Ex. 1004 ¶¶ 400–403; Ex. 1013, 4:34–41, 5:25–31, Figs. 3, 4a, 4b). Petitioner argues that a person having ordinary skill in the art would have added latch couplings on Nehler's housing so that Nehler's locking device would be removably engaged, as Limbert teaches, "to accommodate the desire to alter the polarity of the patch cord connection" and because the combination would allow "Nehler's connector to accommodate both straight-through and crossed patch cord connections without replacement equipment." *Id.* at 98 (citing Ex. 1013, 5:25–28; Ex. 1004 ¶¶ 404–407). Petitioner argues that a person having ordinary skill would have had a reasonable expectation of making this modification because similar latches were well-known and the combination would have been the application of a known technique (Limbert's releasably mountable latch) to a similar device (Nehler's connector). *Id.* at 99 (citing Ex. 1004 ¶¶ 408–409; Ex. 1017 ¶ 60).

Based on the evidence presented, Petitioner adequately establishes that a person having ordinary skill in the art would have had reason to combine the teachings of Nehler and Lambert with a reasonable expectation of success.

b. *Claim 1*

[1.P]: A reversible polarity fiber optic connector comprising:

Petitioner argues that, to the extent the preamble is limiting, Nehler discloses a fiber optic connector. Pet. 99–100. As we further address below, Petitioner argues that Limbert teaches a removable latch that renders changing connector polarity obvious. *Id.* at 100. Based on the current record,

we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1012, 2:66–3:3, Fig. 1; Ex. 1004 ¶¶ 410–414.

[1.1]: at least first and second optical ferrules;

Petitioner argues that Nehler discloses this recitation. Pet. 100–101. Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1012, 3:3–9, Fig. 1; Ex. 1004 ¶¶ 415–416.

[1.2]: a connector housing having a longitudinal axis and comprising an exterior portion at least partially surrounding the first and second optical ferrules such that the exterior portion extends 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules;

Petitioner argues that Nehler discloses a connector housing comprising a longitudinal axis and exterior portion at least partially surrounding the two ferrules. Pet. 101 (citing Ex. 1012, 3:1–15, Figs. 1–3; Ex. 1004, ¶¶ 417–418). Petitioner argues that the exterior portion of Nehler's connector housing extends 360° circumferentially with respect to the longitudinal axis about a space in which the ferrules are received. *Id.* at 102 (citing Ex. 1004 ¶¶ 418–420). Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1012, 3:1–15, Fig. 1–3; Ex. 1004 ¶¶ 417–420.

[1.3]: a latch coupling positioned on each of the first and second exterior walls of the connector housing;

Petitioner argues that Nehler teaches a locking device that is "integral[ly] hinge[d]" with the top of the connector housing. Pet. 104 (citing

Ex. 1012, 3:3–8, Fig. 1). Petitioner argues that use of a removably coupled latch was well known. *Id.* (citing Ex. 1004 ¶¶ 421–422). Petitioner argues that Limbert discloses a latch coupling positioned on first and second exterior walls of connector housing with a removable latch. *Id.* at 105 (citing Ex. 1004 ¶ 423; Ex. 1013, 5:25–31; Ex. 1012, Fig. 4a). Petitioner argues that a person having ordinary skill in the art would have combined the teachings of Limbert's latch couplings with Nehler's connector to allow the polarity of Nehler's connector to be altered. *Id.* (citing Ex. 1004 ¶¶ 424–425; Ex. 1013, 2:37–51, 5:25–31).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1012, 3:3–8, Fig. 1; Ex. 1004 ¶¶ 421–425; Ex. 1013, 2:37–51, 5:25–31; Ex. 1012, Fig. 4a.

[1.4]: a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing;

Petitioner argues that Nehler teaches a latch in the form of locking device 2. Pet. 106 (citing Ex. 1012, 3:3–8; Ex. 1004 ¶¶ 426–427). Petitioner argues that Limbert discloses a removable latch mechanism 114 mountable on opposing faces of connector body 112. *Id.* (citing Ex. 1013, 5:25–31, Figs. 4a, 4b; Ex. 1004 ¶ 428). Petitioner argues that a person having ordinary skill in the art would have combined Limbert's removable latch with Nehler's connector to allow polarity to be altered. *Id.* (citing Ex. 1004 ¶¶ 429–430; Ex. 1013, 2:37–51, 5:25–31).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 426–430; Ex. 1013, 2:37–51, 5:25–31, Figs. 4a, 4b).

[1.5]: wherein positioning the removable latch on the first exterior wall of the connector housing yields a fiber optic

> *connector with a first polarity and positioning the removable latch on the second exterior wall of the connector housing yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.*

Petitioner argues that Limbert discloses a removable latch that may be coupled to a top wall or bottom wall to yield a first and second polarity. Pet. 107–108 (citing Ex. 1013, 2:37–46, 5:25–31; Ex. 1004 ¶¶ 433–434). Petitioner argues that a person of ordinary skill in the art would have reached a Nehler-Limbert combination where "Nehler's locking device 2 would have been coupled to the top wall of housing 1 to yield a first polarity and to the bottom wall of housing 1 to yield a second polarity." *Id.* at 108. Petitioner argues that a person having ordinary skill in the art would have combined these teachings to accommodate cross and through patch cord connections. *Id.* (citing Ex. 1004 ¶¶ 435–436; Ex. 1013, 2:37–51, 5:25–31).

Based on the current record, we find Petitioner's argument to be sufficiently supported by evidence. *See, e.g.,* Ex. 1004 ¶¶ 433–436; Ex. 1013, 2:37–51, 5:25–31).

Conclusion as to claim 1

Based on the evidence in the present record, we determine that Petitioner has shown sufficiently for purposes of this Decision that the combination of Nehler and Limbert teaches or suggests all elements of claim 1 and that Petitioner sufficiently shows that a person of ordinary skill in the art would have had reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine Petitioner has established a reasonable likelihood of prevailing in showing that claim 1 is unpatentable over the combination of Nehler and Limbert.

c. *Claim 2, 9, 27 and 32–34*

Petitioner accounts for the limitations recited in claims 2, 9, 27, and 32–34. Pet. 108–122. Petitioner shows sufficiently for purposes of this Decision that each element of claims 2, 9, 27, and 32–34 is taught or suggested by the combined teachings of Nehler and Limbert and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 2, 9, 27, and 32–34 would have been obvious in view of Nehler and Limbert.

2. Unpatentability over Nehler and Limbert and additionally Soubh (Ground 6), Soubh and Suzic (Ground 7), Lee (Ground 8), or Peng (Ground 9)

Petitioner asserts claims 6, 11, and 30 are unpatentable under 35 U.S.C. § 103(a) as obvious over Nehler, Limbert, and Soubh. Pet. 122–137. Petitioner asserts claim 26 is unpatentable under 35 U.S.C. § 103(a) as obvious over Nehler, Limbert, Soubh, and Suzic. *Id.* at 137–145. Petitioner asserts claims 28 and 29 are unpatentable under 35 U.S.C. § 103(a) as obvious over Nehler, Limbert, and Lee. *Id.* at 145–152. Petitioner asserts that claim 31 is unpatentable under 35 U.S.C. § 103(a) as obvious over Nehler, Limbert, and Peng. *Id.* at 152–157.

Petitioner accounts for the limitations recited in claims 6, 11, 26, and 28–31. *Id.* at 122–158. Petitioner shows sufficiently for purposes of this Decision that each element of claims 6, 11, 26, and 28–31 is taught or suggested by the combined teachings of Nehler and Limbert along with either Soubh, Soubh and Suzic, Lee, or Peng, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. *Id.* Thus, we determine that Petitioner has established

a reasonable likelihood of establishing claims 6, 11, 26, and 28–31 would have been obvious in view of Veatch and Nguyen along with either Soubh, Soubh and Suzic, Lee, or Peng.

IV. CONCLUSION

For the reasons above, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail with respect to challenged claims 1, 2, 6, 9, 11, and 26–34 of the '230 patent. At this juncture in the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, or with respect to claim construction.

V. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 2, 6, 9, 11, and 26–34 of the '230 patent is hereby instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this Decision.

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