

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

US CONEC LTD.,
Petitioner,

v.

SENKO ADVANCED COMPONENTS, INC.,
Patent Owner.

IPR2024-00121
Patent 11,181,701 B2

Before BARBARA A. PARVIS, ELIZABETH M. ROESEL, and
BRIAN D. RANGE, *Administrative Patent Judges*.

PARVIS, *Administrative Patent Judge*.

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

I. INTRODUCTION

US Conec Ltd. (“Petitioner”) filed a Petition (Paper 2 (“Pet.”)) requesting *inter partes* review of claims 1–53 (“challenged claims”) of U.S. Patent No. 11,181,701 B2 (Ex. 1001, “the ’701 patent”). 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 and any response “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.” For the reasons below, we determine that Petitioner establishes a reasonable likelihood that it would prevail with respect to at least one claim, and we institute an *inter partes* review as to all challenged claims of the ’701 patent.

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 will 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.

II. BACKGROUND

A. *Related Matters*

The parties identify the following matter as related to this proceeding: *Senko Advanced Components, Inc. v. US Conec Ltd.*, 1:23-cv-00083 (D. Del.) (filed January 24, 2023). Pet. 101; Paper 3, 2.¹

¹ Petitioner states that “[i]f 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.” Pet. 100. In view of Petitioner’s stipulation, we do not discretionarily deny institution. Katherine K. Vidal,

B. The '701 Patent

The '701 patent is titled “Optical Connectors with Reversible Polarity and Method of Use.” Ex. 1001, code (54). The '701 patent “relates generally [to] optical connectors with reversible polarity.” *Id.* at 1:24–25.

The '701 patent explains that “[i]n communication networks, such as data centers and switching networks, numerous interconnections between mating connectors may be compacted into high-density panels,” and that “[p]anel and connector producers may optimize for such high densities by shrinking the connector size and/or the spacing between adjacent connectors on the panel.” *Id.* at 1:61–66. According to the '701 patent, “[i]n a high-density panel configuration, adjacent connectors and cable assemblies may obstruct access to the individual release mechanisms,” which can “impede the ability of an operator to minimize the stresses applied to the cables and the connectors.” *Id.* at 2:4–8. The '701 patent indicates that “[o]verstressing the cables and connectors may produce latent defects, compromise the integrity and/or reliability of the terminations, and potentially cause serious disruptions to network performance.” *Id.* at 2:12–16. The '701 patent aims to address this issue with “smaller fiber optic connectors that will meet the needs of future developments . . . and are reconfigurable for flexible deployment.” *Id.* at 2:17–19.

Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022), at 3–4, available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to section II.A).

Figures 1A and 1B of the '701 patent are reproduced below.

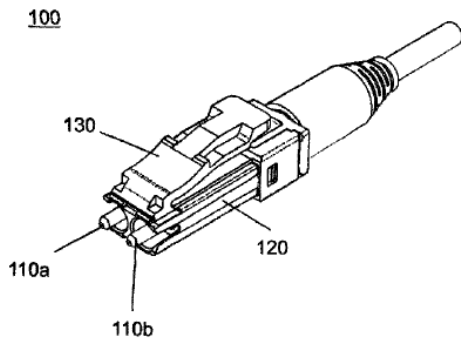


FIG. 1A

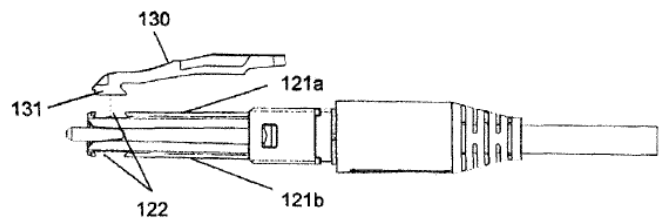


FIG. 1B

Figures 1A and 1B “depict a fiber optic connector with reversible polarity.” *Id.* at 6:33–34.

According to the '701 patent, “a reversible polarity fiber optic connector may include 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 6:35–38. Further “[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 6:38–40.²

Figures 2A–2D of the '701 patent are reproduced below.

² The challenged patent and prior art references use articles, such as “a” and “the” before connector elements. We include that usage in our quotations of those documents, but we otherwise do not use articles when we reference a specific connector element, such as “removable latch 130.”

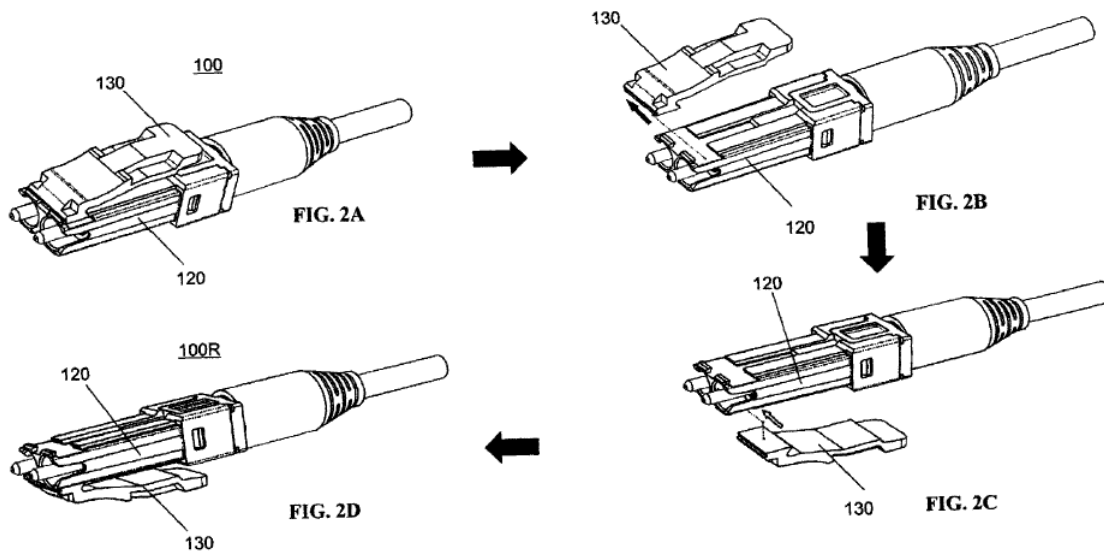


Figure 2A–2D of the '701 patent depict the process for changing the polarity of the fiber optic connector of FIG. 1A from a first polarity, FIG. 2A, to a second, opposite polarity, FIG. 2D. *Id.* at 7:4–6. According to the '701 patent,

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.

Id. at 7:6–16.

Figures 3A and 3B of the '701 patent are reproduced below.

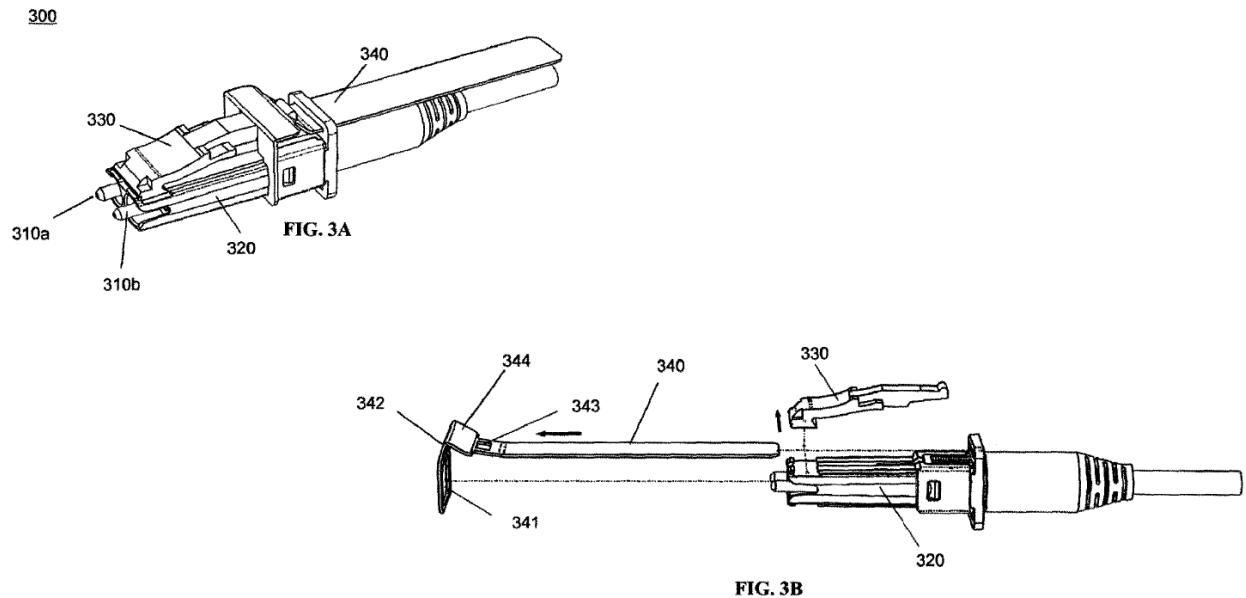


Figure 3A depicts a perspective view of “a reversible polarity fiber optic connector 300,” and Figure 3B depicts “an exploded view of the reversible polarity fiber optic connector.” *Id.* at 7:39–40; 7:45–46. Figures 3A and 3B depict “a pull tab 340 for engaging a removable latch 330.” *Id.* at 7:40–42. “[P]ull tab 340 depresses the latch 330 as the tab is pulled in a direction away from the fiber optic ferrules.” *Id.* at 7:42–44.

C. Illustrative Claims

Petitioner challenges claims 1–53 of the '701 patent. Pet. 1. Claims 1, 20, and 36 are the only independent challenged claims. Claims 2–19 depend, directly or indirectly, from claim 1. Claims 21–35 depend, directly or indirectly, from claim 20. Claims 37–53 depend, directly or indirectly, from claim 36. Independent claims 1, 20, and 36, reproduced below, are illustrative of the claimed subject matter.

1. [1.P³] A 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 such that the exterior portion circumscribes a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall and a second exterior wall on an opposite side of the space from the first exterior wall;
 - [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, whereby the removable latch couples to the respective latch coupling;wherein each latch coupling comprises a groove extending along the axis and having an open axial end; and
wherein the removable latch comprises a protrusion for being inserted into the open axial end of the groove by movement relative to the housing along the axis.

Ex. 1001, 14:9–29.

20. [20.P] A reversible polarity fiber optic connector comprising:
 - [20.1] at least first and second optical ferrules, each of the first and second ferrules comprising a ferrule flange;
 - [20.2] first and second ferrule springs received on the first and second optical ferrules, respectively;
 - [20.3] a connector housing comprising an exterior portion at least partially surrounding the first and second optical ferrules such that the exterior portion circumscribes a space in which each of the first and second optical ferrules are

³ Herein we use Petitioner's designations for the limitations of claims 1, 20, and 36. Pet. 21–31, 50–51, 53–54.

received, the exterior portion comprising a first exterior wall and a second exterior wall on an opposite side of the space from the first exterior wall, [20.4] the connector housing comprising a single front body and a single back body, the single front body comprising a transverse wall configured to simultaneously engage the ferrule flanges of the first and second optical ferrules, the single back body being configured to attach to the single front body such that the back body simultaneously compresses each of the first and second ferrule springs between the back body and the first and second ferrule flanges engageable with the transverse wall;

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

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

[20.7] 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 housing yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.

Id. at 15:50–16:16.

36. [36.P] A fiber optic connector comprising:

[36.1] at least first and second optical ferrules;

[36.2] a connector housing comprising an exterior portion at least partially surrounding the first and second optical ferrules such that the exterior portion circumscribes a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall and a second exterior wall on an opposite side of the space from the first exterior wall;

[36.3] a removable latch configured to selectively and releasably couple to each of the first and second exterior walls of the housing, [36.4] the removable latch comprising a base

portion and a depressible latch arm connected to the base portion, [36.5] the depressible latch arm having a front end portion connected to the base portion, a free rear end portion spaced apart from the front end portion along the axis, and an outward facing longitudinal surface extending along the axis from the front end portion to the free rear end portion, [36.6] the free rear end portion of the latch arm being configured to be received in an opening of a receptacle and comprising a rearward facing surface that is configured to engage the receptacle when received in the opening to inhibit removal of the fiber optic connector from the receptacle, [36.7] the free rear end portion of the depressible latch arm being raised relative to the front end portion, the removable latch being bendable such that the free rear end portion can be depressed toward the base portion to remove the free rear end portion from the opening and unlatch the fiber optic connector from the receptacle; and

[36.8] a remote release including an elongate front section configured to extend longitudinally along the connector housing and engage the depressible latch arm and an elongate rear section extending rearward from the elongate front section, the elongate front section of the remote release being slidably connected to the removable latch and the connector housing such that the elongate front section can move rearward relative to removable latch and the connector housing, [36.9] the elongate front section comprising an opening configured to receive the depressible latch arm, [36.10] the elongate front section comprising a front end portion having a rearward facing surface defining a front end of the opening, the rearward facing surface being configured to oppose the outward facing surface of the depressible latch arm when the depressible latch arm is received in the opening;

[36.11] wherein the free rear end portion of the depressible latch arm is configured to be raised in relation to the front end portion of the elongate front section when the depressible latch arm is received in the opening,

[36.12] wherein the front end portion of the elongate front section is configured to slide rearward along the outward facing surface when the elongate front section moves rearward to depress the depressible latch arm.

Id. at 17:26–18:15.

D. Evidence

Petitioner relies on the prior art references in the table below.

Name	Reference	Exhibit
Lee	WO 2017/127208 A1, published July 27, 2017	1005
Raven	US 9,557,495 B2, issued Jan. 31, 2017	1006
Nguyen	US 2017/0343740 A1, published Nov. 30, 2017	1007
Connelly	US 6,511,230 B1, issued Jan. 28, 2003	1008
Lin '658	US 9,625,658 B1, issued Apr. 18, 2017	1009
Lin '293	US 8,641,293 B2, issued Feb. 4, 2014	1010

Petitioner also relies on the Declaration of William Singhose, Ph.D. (Ex. 1003) to support its contentions that the challenged claims are unpatentable.

E. Asserted Grounds

Petitioner asserts that the challenged claims of the '701 patent are unpatentable based on the grounds in the table below (Pet. 18–19):

Claims Challenged	35 U.S.C. §⁴	Reference/Basis
1–15, 19–31, 35, 36, 46, 47, 53	103	Lee, Raven
16–18, 32–34, 37–45, 48–52	103	Lee, Raven, Nguyen
1–6, 12–15, 19–26, 35	103	Connelly, Lin '658
7–11, 27–31, 36, 46, 47, 53	103	Connelly, Lin '658, Lin '293
16–18, 32–34	103	Connelly, Lin '658, Nguyen
37–45, 48–52	103	Connelly, Lin '658, Lin '293, Nguyen

III. ANALYSIS

A. Legal Standards

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

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the challenged claims of the '701 patent have an apparent effective filing date after March 16, 2013, the AIA version of § 103 applies.

nonobviousness, i.e., secondary considerations.⁵ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art would have had “at least an undergraduate degree in mechanical engineering, industrial engineering, or a closely related field and one year of experience working with connectors.” Pet. 4 (citing Ex. 1003 ¶¶ 117–128). Petitioner adds that “[a]dditional relevant experience can compensate for a lack of relevant education, and vice versa.” *Id.*

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the ’701 patent specification and the prior art.

C. Claim Construction

We interpret the challenged claims

using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

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.

Phillips v. AWH Corp., 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc).

“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”

⁵ The present record does not include any objective evidence of nonobviousness.

Realtime Data, LLC v. Iancu, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner asserts that the Petition “affords all terms their ordinary and customary meaning.” Pet. 4 (citing Ex. 1003 ¶¶ 129–131). For purposes of this Decision, no claim terms require express construction.

D. Asserted Obviousness over Lee and Raven

Petitioner argues that claims 1–15, 19–31, 35, 36, 46, 47, and 53 are unpatentable as obvious over Lee and Raven. Pet. 18–19. We begin with an overview of Lee and Raven and then turn to Petitioner’s arguments.

1. Lee

Lee is titled “Fiber Optic Connector with Small Profile, and Cable Assemblies, Systems, and Methods Including the Same.” Ex. 1005, code (54). Lee relates to “fiber optic connectors suitable for use in data centers or the like.” Ex. 1005 ¶ 2.

Fiber optic connector 10 is illustrated in Figure 1, which is reproduced below.

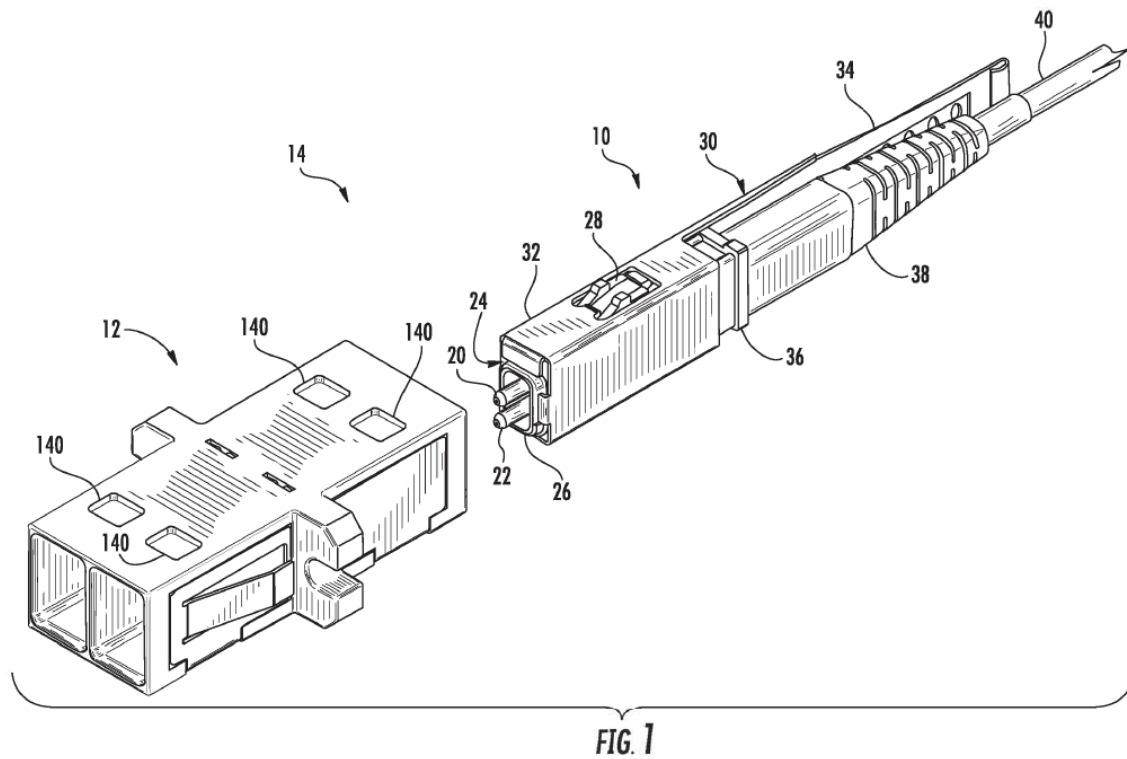


Figure 1 shows a perspective view of fiber optic connector system 14 that includes fiber optic connector 10 and adapter 12, where fiber optic connector 10 is shown removed from adapter 12. *Id.* ¶¶ 15, 29. Connector 10 includes first and second ferrules 20, 22, inner connector body 24, latch arm 28, and handle 30. *Id.* ¶ 30. Handle 30 includes housing portion 32 that receives inner connector body 24 and grip portion 34 that extends rearwardly from housing portion 32. *Id.* Handle 30 can move relative to inner connector body 24 so that housing portion 32 causes latch arm 28 to flex toward the inner connector body. *Id.*

Figure 3 is reproduced below.

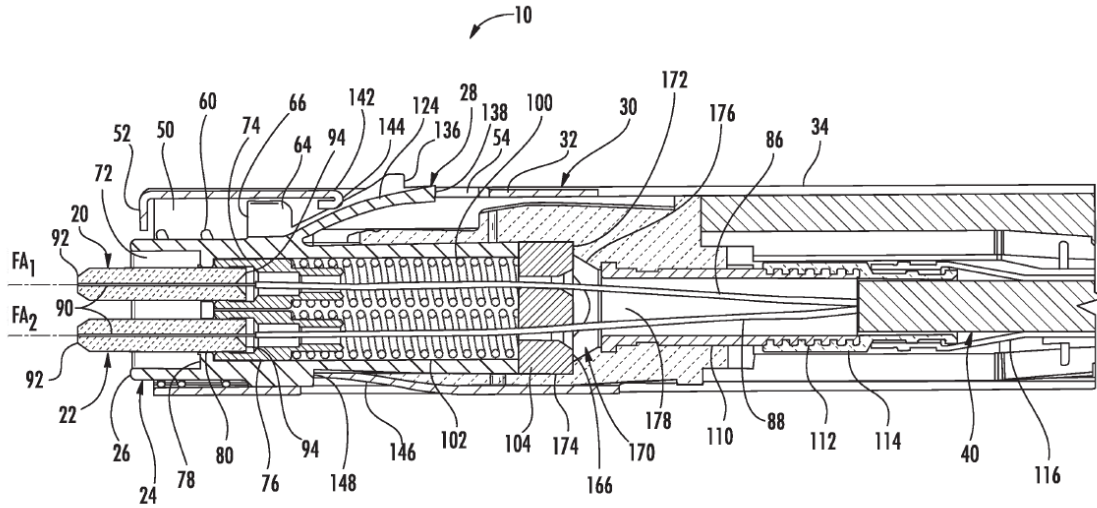


FIG. 3

Figure 3 is a cross-sectional view of fiber optic connector 10 of Figure 1 and shows first and second ferrules 20, 22, inner connector body 24, latch arm 28, and handle 30. Ex. 1003 ¶¶ 17, 35, 47.

Housing portion 32 is illustrated in Figure 5, which is reproduced below.

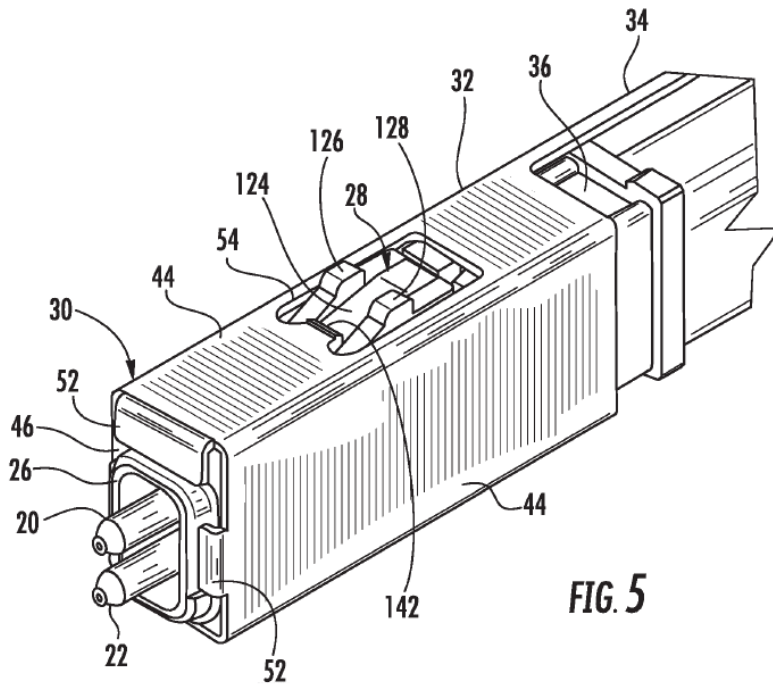


FIG. 5

Figure 5 shows housing portion 32 of handle 30, which “includes an opening 54 for through which the latch arm 28 extends when the connector 10 is assembled.” *Id.* ¶ 47. “The housing portion 32 also includes a pushing feature 142 adjacent the opening 54 for contacting the latch arm 24.” *Id.*

Lee describes that “[t]o remove the connector 10 from the adapter 12,” an individual uses handle 30. *Id.* ¶ 65. According to Lee, “[w]hen the handle 30 is pulled rearwardly, the pushing feature 142 on the housing portion 32 contacts and slides along the ramp 124 of the latch arm 128,” which “results in the housing portion 32 causing the latch arm 28 to flex back toward the inner connector body 24, which in turn causes the first and second latching features 124,126 to disengage the latching feature 140 on the adapter body 180.” *Id.* “Thus, the rearward-facing surfaces 136 of the first and second latching features 126,128 are no longer positioned to engage the adapter body 180 such that the connector 10 can be pulled back out of the port 182.” *Id.*

2. *Raven*

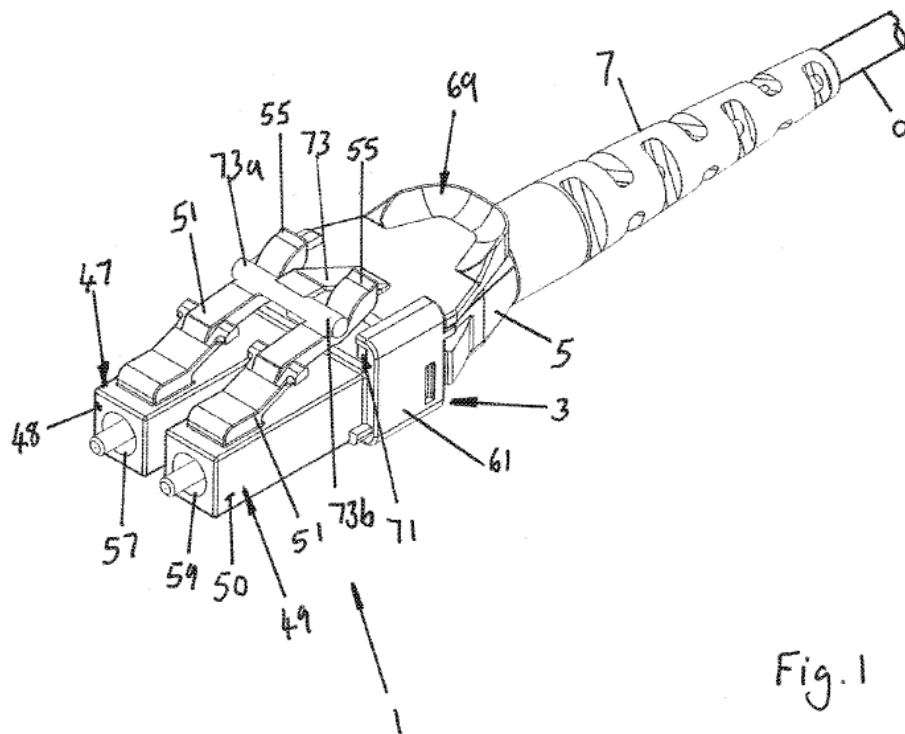
Raven is titled “Fibre Optic Connector Device.” Ex. 1006, code (54).⁶ Raven relates to “a connector device for a fibre optic cable” and “a method for changing the polarity of first and second optical fibres in a fibre optical cable assembly.” *Id.* at 1:5–9.

According to Raven, a fiber optic cable assembly typically includes “a pair of optical fibres, one for transmitting and one for receiving,” and “it is not uncommon for installers to get confused between transmitting and receiving cables.” *Id.* at 1:13–25. According to Raven, this can make it “necessary for the installer to replace the existing cable or remove the

⁶ Raven refers to “fibre,” which we treat as meaning “fiber.”

connecting head from the fibres and effectively remanufacture the cable on site, which is very cumbersome and time consuming.” *Id.* at 1:32–35. To address this, Raven discloses a “fibre optic cable assembly and a method for changing the polarity of first and second optical fibres in a fibre optic cable assembly.” *Id.* at 2:17–19.

Figure 1 of Raven is reproduced below.



According to Raven, Figure 1 “shows a fibre optic cable assembly 1 . . . in the form of a duplex fibre optic cable assembly.” *Id.* at 9:48–50. “The duplex fibre optic cable assembly 1 includes a leading end unit 3, a housing 5, a boot 7, and a duplex fibre optic cable 9.” *Id.* at 9:51–53.

Figure 5 of Raven is reproduced below.

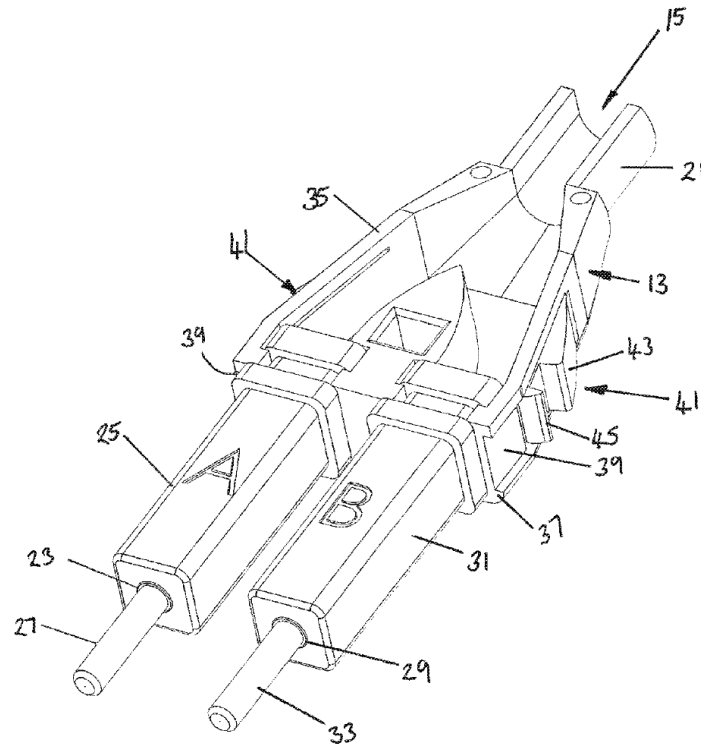


Fig. 5

Figure 5 shows “an enlarged isometric view of part of the fibre optic cable assembly with some components omitted to provide a view of the interior of a housing.” *Id.* at 9:28–30.

The housing 5 includes side walls 35,37. Each of the side walls 35,37 includes a mating groove 39. Each side wall 35,37 includes a latch 41 formed integrally therewith, which is located adjacent its respective groove 39. Each latch 41 is resilient. Each latch 41 is attached to its respective side wall 35,37 in a cantilevered manner. Each latch 41 includes a pressing part 43 and a latching part 45. Each latching part 45 is arranged to engage with a latching formation 65 on the leading end unit 3 in order to attach the leading end unit to the housing 5. The leading end unit 3 can be separated from the housing 5 by depressing the pressing parts 43, which moves the latching

parts 45 out of engagement with their respective latching formations 65 on the leading end unit 3.

Id. at 10:51–63.

Raven teaches that leading end unit 3 may be “separated from the housing 5 by actuating latches 41,” rotated 180 degrees, and “reattached to the housing 5 in a second orientation that is inverted with respect to the initial orientation.” *Id.* at 12:35–39. Therefore, according to Raven

a user is able to easily change the polarity of the duplex fibre optic cable assembly by simply removing the leading end unit 3 and changing its orientation with respect to the housing assembly, thereby changing the polarity of the transmitting and receiving fibre optic cables with respect to the complementary connector.

Id. at 12:47–52.

3. *Independent Claim 1*

a) *Reasons to Combine*

Petitioner argues that it would have been obvious “to modify Lee’s latch arm 28 to be removable” in view of Raven’s teaching of a removable latch. Pet. 19, 27 (citing Ex. 1005 ¶¶ 30, 34; Ex. 1006, 10:51–63, 11:13–32, 11:44–51; Ex. 1003 ¶¶ 193–200, 223–224, 228–231). Petitioner further argues that it would have been obvious to modify Lee’s structure to make Lee’s latch arm 28 removable, specifically, by including (1) “latch couplings on the first and second side walls to engage a removable latch,” (2) “latching formations 65” that “are arranged to ‘engage with respective latching parts 45,’” and (3) ribs 67 that “are arranged to ‘engage with the mating grooves 39 on the housing [5]’ when the leading end unit 3 slides onto the leading end of the housing 5.” *Id.* at 26–28, 31 (quoting Ex. 1006, 11:13–32; citing Ex. 1003 ¶¶ 221, 232, 238–239). Petitioner’s proposed modifications relate to limitations 1.3 and 1.4 below.

Petitioner argues that “the prior art provides a motivation” to make Petitioner’s modifications. *Id.* at 20. In particular, Petitioner relies on Raven’s teaching (discussed above in Section III.D.2) that “it is not uncommon for the installers to get confused between transmitting and receiving cables.” Ex. 1006, 1:13–25. Raven continues that this can make it “necessary for the installer to replace the existing cable or remove the connecting head from the fibres and effectively remanufacture the cable on site, which is very cumbersome and time consuming.” *Id.* at 1:32–35. Raven describes that it addresses the problem by disclosing a “fibre optic cable assembly and a method for changing the polarity of first and second optical fibres in a fibre optic cable assembly.” *Id.* at 2:17–19. Petitioner argues a person of ordinary skill in the art would have been motivated to make the modifications to “Lee’s connector to change polarity easily.” Pet. 19 (citing Ex. 1003 ¶¶ 193–200); *see also id.* at 27 (citing Ex. 1003 ¶ 221) (arguing the proposed modifications would have allowed “the polarity of Lee’s connector to be altered easily without the need to remanufacture the cable.”).

Petitioner also argues the following:

[T]his modification involves applying a *known technique* (Raven’s removable latch configuration) to a *similar device* (Lee’s connector) in *the same way* (providing latch couplings on exterior walls of a connector housing to receive a removable latch). A POSITA would have understood that there are a finite number of ways of making Lee’s latch arm 28 removably coupled to the exterior walls of its connector housing.

Pet. 20–21 (citing Ex. 1003 ¶¶ 205, 206; Ex. 1005 ¶¶ 34, 43–45; Ex. 1006, 10:51–63, 11:13–32).

We find that Petitioner’s asserted rationale for modifying Lee in view of Raven, as it relates to claim 1, is adequate for purposes of institution.

b) Limitation 1.P

The preamble of claim 1 recites “[a] fiber optic connector comprising.” Petitioner argues that the preamble is disclosed by Lee. Pet. 21 (citing Ex. 1005, code (54), ¶ 2; Ex. 1003 ¶¶ 210–211).

We find that Petitioner’s contention for the claim 1 preamble is adequate for purposes of institution.

c) Limitation 1.1

Claim limitation 1.1 recites “at least first and second optical ferrules.” Relying on the testimony of Dr. Singhose, Petitioner argues that limitation 1.1 is taught by Lee’s disclosure that its connector 10 “includes first and second ferrules 20, 22.” Pet. 22 (citing Ex. 1005 ¶ 30; Ex. 1003 ¶¶ 212–213).

We find that Petitioner’s contentions for claim limitation 1.1 are adequate for purposes of institution.

d) Limitation 1.2

Claim limitation 1.2 recites

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 circumscribes a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall and a second exterior wall on an opposite side of the space from the first exterior wall.

Relying on the testimony of Dr. Singhose, Petitioner argues that limitation 1.2 is taught by Lee’s connector 10. Pet. 22–24 (citing Ex. 1005 ¶¶ 30, 39, 44, 57, Figs. 2, 4, 5; Ex. 1003 ¶¶ 214–217). Petitioner argues that a person of ordinary skill in the art would have understood that the “exterior of the outer connector body 36 coupled to the inner connector body 24,

which includes front portion 68 of the inner connector body 24” teaches the “exterior portion” recited in limitation 1.2. *Id.* at 23 (citing Ex. 1003 ¶¶ 216–217). Petitioner provides annotated versions of Figures 2, 4, and 5 of Lee identifying the longitudinal axis, exterior portion, first and second exterior walls, and first and second optical ferrules. *Id.* at 23–24 (citing Ex. 1003 ¶¶ 216–217).

We find that Petitioner’s contentions for claim limitation 1.2 are adequate for purposes of institution.

e) Limitation 1.3

Claim limitation 1.3 recites “a latch coupling positioned on each of the first and second exterior walls of the connector housing.”

Relying on the testimony of Dr. Singhose, Petitioner argues that limitation 1.3 is taught by the combination of Lee and Raven. Pet. 24–27 (citing Ex. 1005 ¶ 34, Fig. 4; Ex. 1006, 1:13–46, 10:51–63, Fig. 5; Ex. 1003 ¶¶ 218–221). Petitioner argues a person having ordinary skill in the art “would have understood that the mating groove 39 and the latch 41, which includes the pressing part 43 and the latching part 45, on each of the side walls 35, 37 are latch couplings used to couple Raven’s removable latch (e.g., leading end unit 3) with housing 5.” *Id.* at 26 (citing Ex. 1003 ¶ 220). Petitioner also relies on its reasons to combine, which we discuss above. *See* § III.D.3.a.

We find that Petitioner’s contentions for claim limitation 1.3 are adequate for purposes of institution.

f) Limitation 1.4

Claim limitation 1.4 recites

a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing, whereby the removable latch couples to the respective latch coupling; wherein each latch coupling comprises a groove extending along the axis and having an open axial end; and wherein the removable latch comprises a protrusion for being inserted into the open axial end of the groove by movement relative to the housing along the axis.

Relying on the testimony of Dr. Singhose, Petitioner argues that limitation 1.4 is taught by the combination of Lee and Raven. Pet. 27–31 (citing Ex. 1005 ¶ 34; Ex. 1006, 10:51–63, 11:13–32, 11:44–51, Figs. 4, 5, 6; Ex. 1003 ¶¶ 223–224, 228–239). Petitioner also relies on its reasons to combine (*id.*), which we discuss above. *See* § III.D.3.a.

For “a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing, whereby the removable latch couples to the respective latch coupling” recited in limitation 1.4, Petitioner argues that Raven’s “leading end unit 3 corresponds to the recited ‘removable latch.’” *Id.* at 27 (citing Ex. 1003 ¶¶ 228–231). Petitioner provides an annotated version of Raven’s Figure 6 including an annotation with the statement that Raven’s leading end unit 3 is a “Removable latch” and including an arrow depicting “Movement along the axial.” *Id.* at 31 (citing Ex. 1006, Fig. 6; Ex. 1003 ¶ 237).

For “wherein each latch coupling comprises a groove extending along the axis and having an open axial end” recited in limitation 1.4, Petitioner argues “Raven discloses each of the side walls 35, 37 includes ‘a mating groove 39.’” *Id.* at 28–29 (citing Ex. 1006, 10:51–55; Ex. 1003 ¶¶ 234–235). For “wherein the removable latch comprises a protrusion for being inserted into the open axial end of the groove by movement relative to the housing along the axis,” Petitioner argues a person of ordinary skill in the art “would

have understood that ribs 67 correspond to the recited ‘*protrusion.*’” *Id.* at 29–30 (citing Ex. 1006, 11:13–32, Fig. 4; Ex. 1003 ¶¶ 236–237).

Petitioner also provides an annotated version of Raven’s Figure 4 identifying first and second side walls, a latch coupling, and the groove. *Id.* at 29 (citing Ex. 1006, Fig. 5; Ex. 1003 ¶ 235).

We find that Petitioner’s contentions for claim limitation 1.4 are adequate for purposes of institution.

g) Conclusion—Claim 1

For the foregoing reasons, based on the current record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over the combination of Lee and Raven.

4. Claims 2–15, 19–31, 35, 36, 46, 47, and 53

Petitioner argues that claims 2–15, 19–31, 35, 36, 46, 47, and 53 are unpatentable as obvious over Lee and Raven. Pet. 18. In view of our preliminary determination for claim 1 and the lack of a Patent Owner preliminary response, we decline at this stage to provide an element-by-element analysis for claims 2–15, 19–31, 35, 36, 46, 47, and 53.

E. Petitioner’s Remaining Challenges

Petitioner argues that claims 16–18, 32–34, 37–45, and 48–52 are unpatentable as obvious over Lee, Raven, and Nguyen. Pet. 19. Petitioner argues that claims 1–6, 12–15, 19–26, and 35 are unpatentable as obvious over Connelly and Lin ’658. *Id.* Petitioner argues that claims 7–11, 27–31, 36, 46, 47, and 53 are unpatentable as obvious over Connelly, Lin ’658, and Lin ’293. *Id.* Petitioner argues that claims 16–18 and 32–34 are unpatentable as obvious over Connelly, Lin ’658, and Nguyen. *Id.* Petitioner argues that

claims 37–45 and 48–52 are unpatentable as obvious over Connelly, Lin '658, Lin '293, and Nguyen. *Id.* In view of our preliminary determination for claim 1 and the lack of a Patent Owner preliminary response, we decline at this stage to provide additional analysis for these challenges.

IV. CONCLUSION

For the reasons above, we determine that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim of the '701 patent. At this stage, we have not made a final determination with respect to the patentability of the challenged claims.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–53 of the '701 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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