

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

US CONEC LTD.,
Petitioner

v.

SENKO ADVANCED COMPONENTS, INC.,
Patent Owner

Case IPR2024-00117
U.S. Patent No. 11,333,836

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,333,836**

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PETITIONER'S EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 11,333,836 to Wong et al. (“’836 patent”)
1002	File History of U.S. Patent No. 11,333,836 to Wong <i>et al.</i>
1003	Declaration of William Singhose, Ph.D.
1004	<i>Curriculum Vitae</i> of William Singhose, Ph.D.
1005	U.S. Publication No. 2016/0161680 (“Nguyen”)
1006	International Publication No. WO 2017/127208 (“Lee”)
1007	U.S. Publication No. 2005/0135752 (“Kiani”)
1008	U.S. Patent No. 6,331,079 to Grois et al.
1009	Japanese Publication No. 2004/354693 to Nakagawa
1010	U.S. Publication No. 2011/0091159 to deJong et al. (“deJong”)
1011	U.S. Publication No. 2004/007,8961 to Chen (“Chen”)
1012	Japanese Publication No. 2004/354693 to Nakagawa (“Nakagawa”) (English translation)
1013	U.S. Patent No. 6,764,222 to Szilagyi (“Szilagyi”)
1014	International Publication No. WO 2013/100892 to Tsuzaki (“Tsuzaki”)
1015	QSPF-DD MSA Group, MDC Receptacle Interface Specification Rev 4, February 2020, (“MDC Receptacle Interface Specification”); [http://www.qsfp-dd.com/wp-content/uploads/2020/02/MDC-Receptacle-Interface-Specification-Rev-4.pdf]
1016	Exhibit J of Complaint – Claim Chart U.S. Patent No. 11,333,836 and MMC Adapters, <i>Senko Advanced Components, Inc. v. US Conec, Ltd.</i> , No. 1:23-cv-00083 (D. Del. Jan. 24, 2023), ECF No. 1-1
1017	U.S. Provisional Application No. 62/546,920
1018	U.S. Provisional Application No. 62/485,042
1019	U.S. Provisional Application No. 62/463,901

Exhibit No.	Description
1020	U.S. Provisional Application No. 62/463,898
1021	U.S. Provisional Application No. 62/457,150
1022	Moxel Adaptor
1023	“HDI-45 Connector,” Wikipedia, accessed at https://en.wikipedia.org/wiki/HDI-45_connector
1024	Jenkins, A., et al., “Controlling Human Perception of Haptic Profiles Using Contextual Cues,” IEEE (July 2023)
1025	“QSFP-DD MSA Group offers rev 6.0 specifications for QSFP-DD800, QSFP112,” Lightwave, accessed at https://www.lightwaveonline.com/optical-tech/transmission/article/14204021/qsfp-dd-msa-group-offers-rev-60-specifications-for-qsfp-dd800-qsfp112
1026	“QSFP-DD MSA Group intros new specs, plus white paper,” Cabling Installation Maintenance, accessed at https://www.cablinginstall.com/standards/article/14203903/qsfp-dd-msa-group-intros-new-specs-plus-white-paper
1027	“QSFP-DD releases Interface Specification,” Fiberroad, accessed at https://fiberroad.com/400g-qsfpdd-dco-standards/

I. STATEMENT OF PRECISE RELIEF REQUESTED AND REASONS THEREFOR (37 C.F.R. §42.22(A))

US Conec Ltd. petitions for *inter partes* review, seeking cancellation of claims 1-13 of U.S. Patent No 11,333,836 (“the ’836 patent”; EX1001), assigned to Senko Advanced Components, Inc. The challenged claims are unpatentable under 35 U.S.C. § 102(a) and § 103(a).

II. MANDATORY NOTICES (37 C.F.R. § 42.8(A)(1))

Real Party-in-Interest (37 C.F.R. § 42.8(b)(1)): The real party-in-interest is US Conec Ltd.

Related Matters (37 C.F.R. § 42.8(b)(2)): The ’836 patent is asserted against US Conec Ltd. in *Senko Advanced Components, Inc. v. US Conec Ltd.*, 1:23-cv-00083 (D. Del.), filed on January 24, 2023, stayed through at least December 20, 2023.

Lead and Back-up Counsel: Pursuant to 37 C.F.R. §§ 42.8(b)(3) and 42.10(a), Petitioner appoints **Jason D. Eisenberg (Reg. No. 43,447)** as its lead counsel and **Kristina Caggiano Kelly (Reg. No. 58,164)** as its back-up counsel, all at the address: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1101 K St., N.W., Washington, D.C. 20005; phone number: (202) 371-2600.

Service Information (37 C.F.R. § 42.8(b)(4)): Please direct all correspondence regarding this Petition to counsel at the email addresses: jasone-PTAB@sternekessler.com, kckelly-PTAB@sternekessler.com, and

PTAB@sterneckessler.com. US Conec Ltd. consents to service by email at the addresses above.

III. CERTIFICATION AND STANDING (37 C.F.R. § 42.104(A))

Petitioner certifies that the '836 patent is available for IPR and Petitioner is not barred or estopped from requesting IPR of any '836 patent claim.

IV. IDENTIFICATION OF THE CHALLENGE (37 C.F.R. §42.104(B))

Petitioner requests IPR based on the grounds summarized below.

Ground	Basis	Reference(s)	Claims
1	§ 102(a)(1)	MDC Receptacle Specification (EX1015)	1-9 and 13
2	§ 102(a)(2)	Nguyen (EX1005)	1-3, 6-10 and 13
3	§ 103(a)	Nguyen and Lee (EX1006)	3-5, 8 and 10-12
4	§ 102(a)(2)	Nakagawa (EX1009)	1-2 and 6-12
5	§ 103(a)	Nakagawa and deJong (EX1010)	3-5 and 13
6	§ 103(a)	Kiani (EX1007), Szilagyi (EX1013), and Tsuzaki (EX1014)	1-13

V. INTRODUCTION

Push-pull fiber-optic connectors, adapters, and cable assemblies have been known in the art for a long time. EX1003 ¶¶46-60. High-density interconnect panels are commonly found in data centers and switching networks, where interconnections between numerous different mating connectors and adapters provide routing for internet communications. EX1003 ¶¶65-69. The basic concept

for all connectors, which has driven design choices in this industry since the early 2000s, is to have fiber-optic connectors that can be (1) pushed into a port or adapter and click securely into place, and then (2) easily removed by depressing a latch-release mechanism and pulling the connector out. EX1003 ¶¶51-52.

As network capacity grows, there is a desire to fit more connectors into smaller spaces. That desire is balanced against the competing concerns of physical integrity and reliability of the connectors and latches. Failure or defect can cause network performance disruptions. EX1003 ¶¶46-69. To that end, there are a variety of design choices, all of which balance competing concerns for durability, reliability, and density. Connectors may have different shapes or sizes, latches may have different mechanisms or releases, and adapters may be configured to receive one or more connectors in different ways. *Id.*

VI. THE '836 PATENT

The '836 patent issued May 17, 2022, from U.S. Patent Application No. 17/375,856, and (wrongly, discussed below) claims priority to January 30, 2017, through a chain of provisional and non-provisional applications. It relates to an adapter for joining optical connectors. Claim 1, the sole independent claim, provides:

1. An adapter for mating with optical fiber connectors, the adapter comprising:

an outer housing having a first end portion and a second end portion spaced apart along a longitudinal axis, the outer housing comprising a first side wall and a second side wall spaced apart along a lateral axis perpendicular to the longitudinal axis, the outer housing having a width extending along the lateral axis from the first side wall to the second side wall, the outer housing comprising an upper wall and a lower wall spaced apart along a transverse axis oriented perpendicular to the lateral axis and perpendicular to the longitudinal axis, each of the upper wall and the lower wall having an inner surface, the outer housing defining a plurality of channels spaced apart along the width, each of the channels being configured to receive an optical fiber connector, the plurality of channels including first and second channels; and

a first longitudinal rib formed on the inner surface of the upper wall at a location spaced apart along the width of the outer housing between the first side wall and the second side wall and *a second rib* formed on the inner surface of the lower wall at a location spaced apart along the width of the outer housing between the first side wall and the second side wall, the first and second ribs being aligned along the width of the outer housing, the first rib being spaced apart from the second rib along the transverse axis by a transverse gap,

wherein *the first longitudinal rib* and *the second longitudinal rib* are located between the first and second channels.

EX1001, 18:12-42 (emphases added).

The '836 patent specification, which has supported multiple patents, focuses mainly on a connector with reversible polarity. *Id.*, 1:24-25, 2:23-5:58. Indeed, the first 24 of 28 figures do not relate to the adapter recited in claims 1-13. The claimed “adaptor” is introduced in later-filed Figures 25-28. *Id.*, 5:60-6:6.

A. Prosecution History

Claims 1-16 as originally filed were similar to the issued (presently challenged) claims, except that the “longitudinal rib” limitation was recited in a dependent claim (original claim 8), and not the independent claim. EX1002, 0035-0039. Original claims 17-21 generally tracked original claims 1-7, except that the “longitudinal rib” limitation was recited in independent claim 17. *Id.*

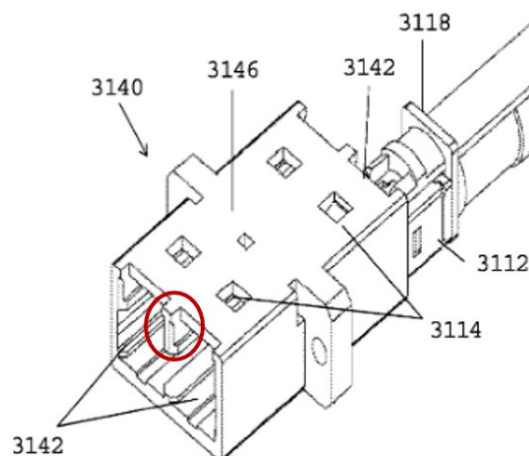
Original claims 1-7 and 13-16 were rejected as anticipated by U.S. Patent Publication No. 2005/0135752 to Kiani. 0248. The Examiner found original claims 17-21 allowable over Kiani, based solely on the “longitudinal rib” limitation. *Id.*, 0251. The Examiner’s rejection of original claims 1-7 and 13-16 specified where in Kiani each limitation (other than the “longitudinal ribs”) of every independent and dependent claim could be found. *Id.*, 0248-0250 (walking through each limitation of the original claims and citing specific disclosures in Kiani). In response, Patent Owner (“PO”) canceled original claims 1-16 and proceeded with original claims 17-21. 0266-0268. PO added claims 22-29, which tracked the subject matter of the dependent claims that previously depended from claim 1. *Id.* PO redrafted those

claims to depend from original claim 17, thereby adding the longitudinal rib limitation to all claims. No other subject matter was added. The resulting claims were renumbered and issued as claims 1-13 of the '836 patent.

B. “Longitudinal Ribs”

The claimed first and second longitudinal ribs, which provided the sole basis for allowance of the claims, are not described anywhere in the specification of the '836 patent. EX1001, 18:30-42. The words “longitudinal” or “rib,” alone or in combination, do not appear outside the claims, and the specification does not describe a “longitudinal rib” structure or function using any other language. None of the figures expressly identify a longitudinal rib.

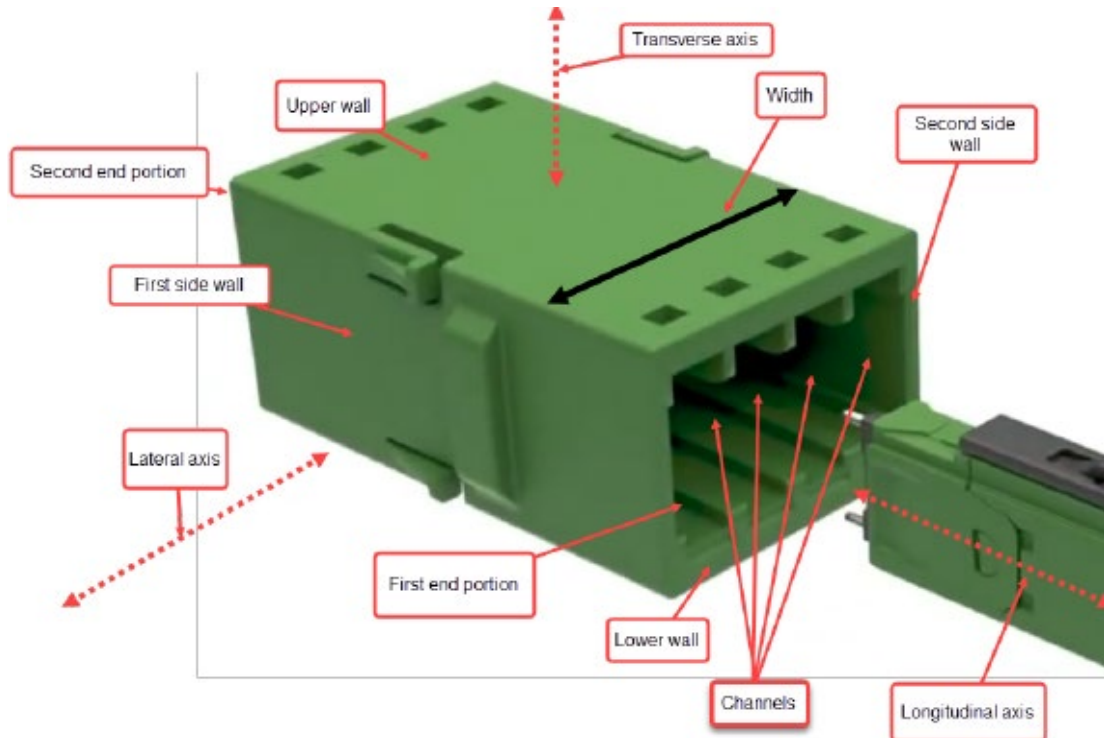
Based on the description in the claim itself, it appears that a portion of the longitudinal ribs are visible in Figure 25. The “first longitudinal rib formed on the inner surface of the upper wall” is circled in red:



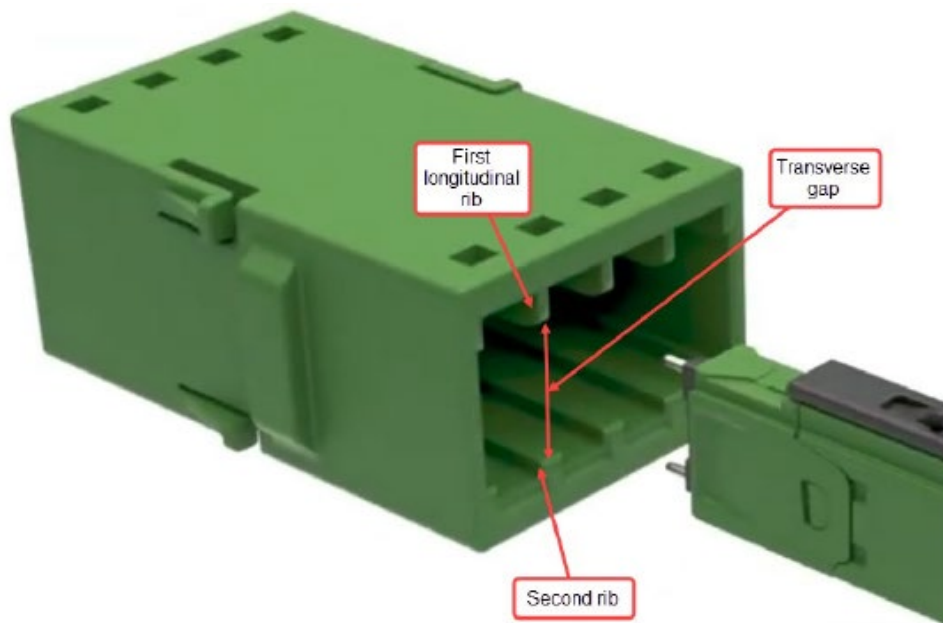
EX1001, FIG. 25 (cropped, annotated).

Because of the multiple unlabeled contour lines on the inner surface of the lower wall, it is difficult to discern the second longitudinal rib, but it is presumably opposite the first rib. EX1001, 18:36-37 (“the first and second ribs being aligned along the width of the outer housing”). Notably, none of the formations on the inner surfaces of the adapter walls except the channels (3142) are labeled in any figure. Nor are any of the structures on the inner surfaces of the walls identified in the detailed description. *Id.*, 15:35-16:16. Nor are their functions or purpose described.

Because the ’836 patent has no written description or labeled depiction of the longitudinal ribs that formed the basis for allowance, it is informative to consider PO’s current infringement allegations in district court to confirm what the claimed longitudinal ribs are and what kinds of structures PO alleges satisfy the claims. *Bumble Trading LLC v. KinectUS LLC*, IPR2021-00765, Paper 13 (P.T.A.B. Oct. 21, 2021) (considering the consistency of positions the parties advanced in a parallel district court litigation as relevant to PTAB proceedings). Specifically, PO provided the following annotated figures to illustrate its interpretation of the claims and their scope.



EX1016, 2.



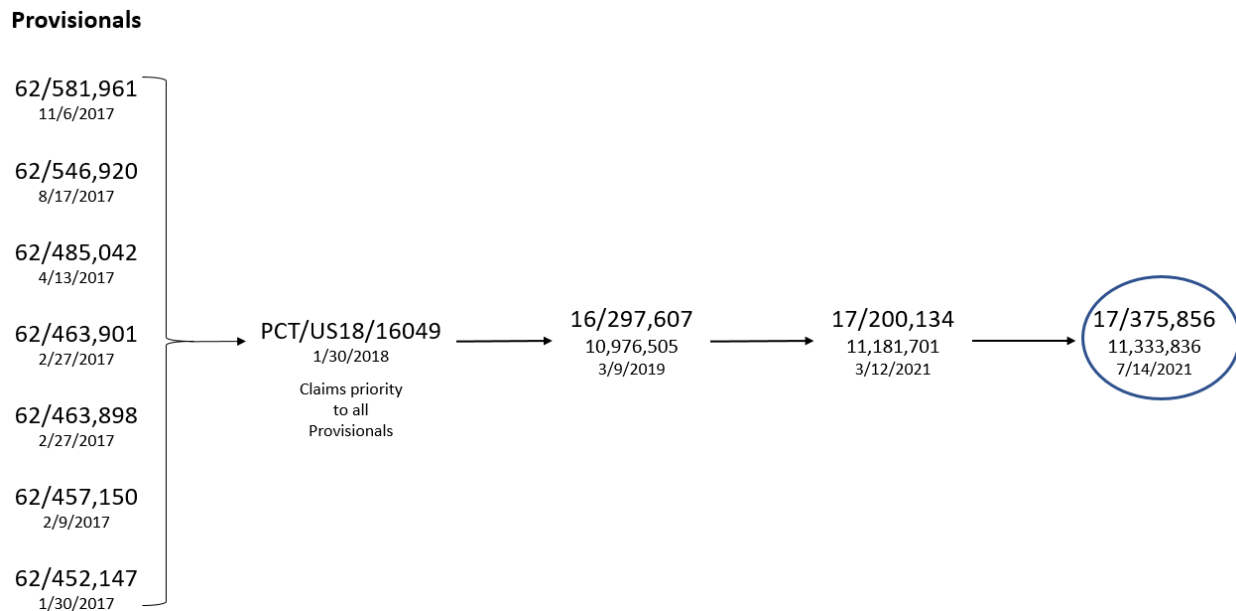
EX1016, 3.

Petitioner's understanding of the plain meaning of the claim terms, the correspondence between claim terms and physical structures, and the scope and

content of the prior art throughout this Petition are all consistent with PO's positions as articulated in the parallel district court litigation.

C. Priority Claim

The '836 patent claims priority to 2017 through a series of provisional and non-provisional applications:



Importantly, *none* of the applications in this chain mention a “longitudinal rib,” nor do any describe or label such a structure using those or any other words. The claim language directed to the longitudinal ribs does not appear in any application prior to the application that issued to become the '836 patent.

At most, it appears that five of the seven provisional applications include one or more figures in which portions of longitudinal ribs *might* be visible, though the structures are not labeled and the disclosures of the applications do not identify these structures (as longitudinal ribs or otherwise) or their functions. EX1017, FIG.

34; EX1018, FIG. 3; EX1019, FIGs. 37A-C, 38A, 39B, 44A-C, 48A-B, 50A-B, 51A-B, 52B; EX1020, FIGs. 37A-C, 38A, 39B, 44A-C, 48A-B, 50A-B, 51A-B, 52B; EX1021, FIGs. 37A-C, 38A, 39B, 44A-C.

Regardless, none of this (albeit minimal) disclosure is reproduced in the PCT or non-provisional applications to which the '836 patent claims priority. In other words, to the extent the provisional applications disclose longitudinal ribs, that disclosure is not carried through the priority chain.

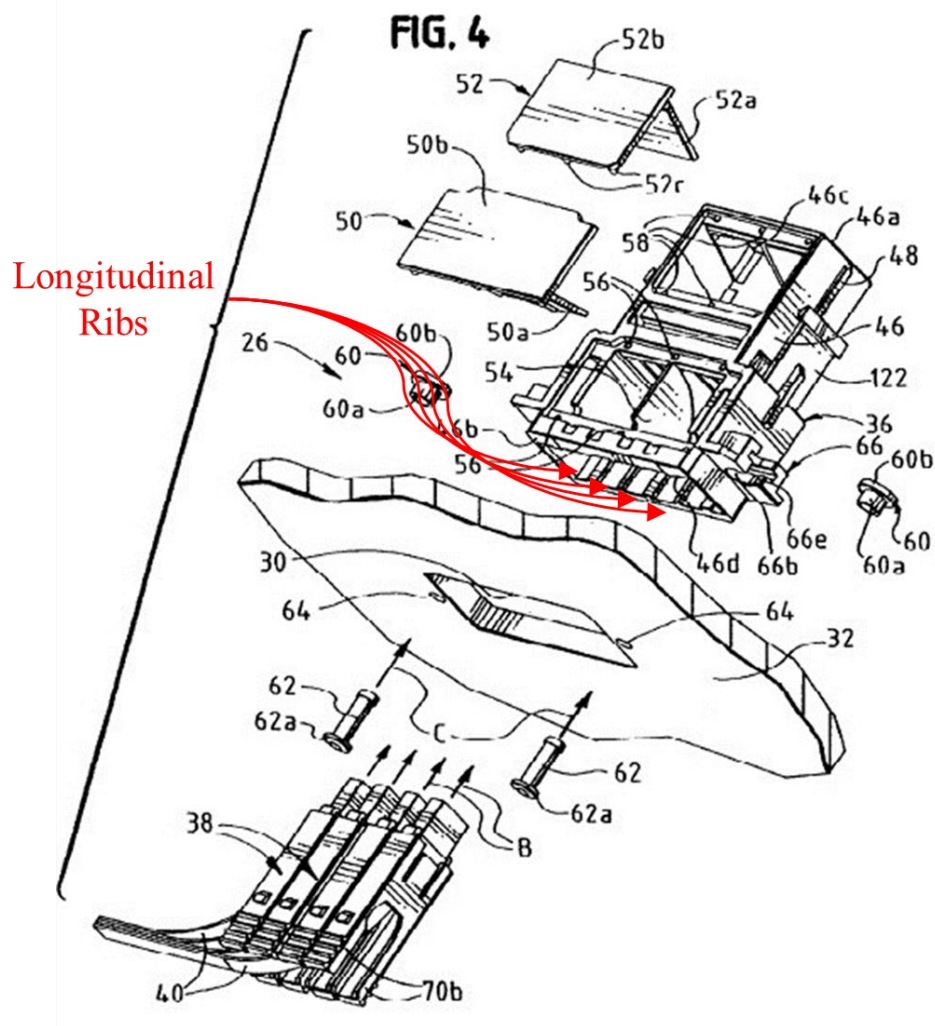
VII. STATE OF THE ART

The structures that the patent appears to call “longitudinal ribs” have long been known in the art. For example, Corning has sold adapters with upper and lower longitudinal ribs since 1999:



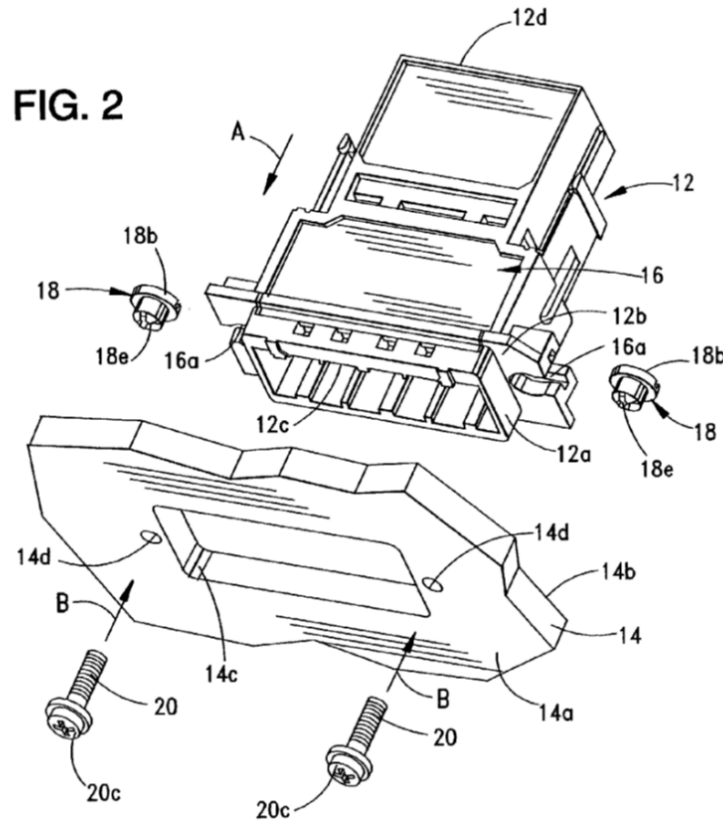
EX1022, 0001 (showing an adapter with four color-coded channels and five sets of longitudinal ribs). The ribs help separate the different channels into which connectors are received.

Additionally, numerous patents long predating the '836 patent disclose adapters with longitudinal ribs as claimed. For example, U.S. Patent No. 6,331,079 to Grois issued in 2001, shows an assembly for mounting an adapter very similar to the adapter shown above, along with connectors having flexible latch arms, and latch openings in the adapter wall that secure those connectors:



EX1008, FIG. 4 (annotated).

As another example, U.S. Publication No. 2004/0078961 published in 2004, and shows a similar adapter, with upper and lower longitudinal ribs. EX1011, FIG. 2.



EX1011, FIG. 2.

Adapters with multiple channels separated by upper and lower longitudinal ribs, having latch openings to receive flexible arm latches for multiple connectors, were well-known devices in the art for over a *decade* before the earliest claimed filing date of the '836 patent.

VIII. PERSON OF ORDINARY SKILL IN THE ART (POSITA)

A POSITA at the time of the earliest effective filing date of the of the '836 patent (January 30, 2017) would typically have an undergraduate degree in mechanical engineering, industrial engineering, or a closely related field and one year of experience working with adapters and connectors.

IX. CLAIM CONSTRUCTION

This Petition affords all terms their ordinary and customary meaning.

X. GROUND 1: CLAIMS 1-9 AND 13 ARE ANTICIPATED BY THE MDC SPECIFICATION.

The Interface Specification for the MDC Receptacle (“*MDC*”) (EX1015) is a commercial whitepaper that defines the optical connector interface for receptacles to be used in QSFP-DD and SFP-DD module applications—well-known commercial products manufactured and sold by Petitioner. Exhibit 1015 is dated January 30, 2019, and was made publicly available on the QSFP-DD MSA website as of February 6, 2020. EX1015, 1, 2. Because the '836 patent claims are not entitled to the claimed 2017 priority date, the '836 patent's filing date of July 14, 2021 qualifies *MDC* as prior art.

A. The claims are not entitled to a 2017 priority date.

PO bears the burden to establish priority. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379-80 (Fed. Cir. 2015). None of the challenged claims here are entitled to a priority date earlier than the filing date of the '836

patent's application, because none of the applications in the priority chain contain adequate 35 U.S.C. § 112 support for at least the claimed longitudinal-rib.

Disputes over the priority date of a patent often occur where (as here) the patentee has claimed priority to a series of provisional applications or to a non-provisional application. *Butamax Advanced Biofuels LLC v. Gevo, Inc.*, IPR2013-00539, Paper 33 (P.T.A.B. Mar. 3, 2015). Whether the earlier applications provide adequate support for the claims under 35 U.S.C. § 120 proceeds pursuant to the same analysis as other written-description and enablement challenges. *Id.*; *In re Chu*, 66 F.3d 292, 297 (Fed. Cir. 1995) (“a patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112.”).

The PTAB has therefore found it to be within its statutory authority to decide § 112 challenges in the context of challenging priority. *SAP America, Inc. v. Pi-Net Int'l, Inc.*, IPR2014-00414, Paper 11, 13 (P.T.A.B. Aug. 18, 2014) (exercising jurisdiction over a written-description challenge in the priority context). For example, in *Dr. Reddy's Labs. S.A. v. Indivior UK Ltd.*, the PTAB found that the challenged claims were not entitled to the priority date of an earlier-filed application due to lack of written-description support. IPR2019-00329, Paper

21, 19 (P.T.A.B. June 3, 2019) (citing *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1326 (Fed. Cir. 2000)). The PTAB explained:

[O]ne cannot disclose a forest in the original application, and then later pick a tree out of the forest and say here is my invention. In order to satisfy the written description requirement, the blaze marks directing the skilled artisan to that tree must be in the originally filed disclosure.

Purdue, 230 F.3d at 1326-27.

Each application in the priority chain of the '836 patent discloses a forest of connectors, including duplex, simplex, reverse polarity, sheathes, housings, latching mechanisms, and adapters. The purported invention here is an obscure tree in this forest: a longitudinal rib within a particular adaptor. Nowhere in any of the applications to which the '836 patent claims priority are any blaze marks identifying this tree. The claimed longitudinal rib is not identified prior to the claims of the '836 patent. It has no name, index number, label, or functional description anywhere in the priority chain. The patentee cannot now pick this structure out of the forest of connectors and adapters disclosed and say “here is my invention.” *Dr. Reddy's*, IPR2019-00329, Paper 21, 19.

Even if some of the provisional applications to which the '836 patent claims priority (through intervening non-provisional applications) include figures that depict the claimed longitudinal ribs, these structures are not labeled, identified, or

functionally described. That complete lack of description does not satisfy the most basic requirements of § 112.

Furthermore, none of those provisional figures are reproduced in the PCT application or the non-provisional applications in the priority chain. In other words, even if the Board could find that one or more of the provisional applications supported the longitudinal rib limitation, that chain of disclosure is not continuous because the intervening applications do not “carr[y] over” that disclosure. *In re Wertheim*, 646 F.2d 527, 534-35 (C.C.P.A. 1981) (explaining that merely claiming priority is not enough, and matter not carried over from a predecessor application becomes prior art).

For a patent claim to be backdated to a filing date of an earlier application, *each* application leading back to that earlier application must disclose the later-claimed “invention.” *Zenon Environmental, Inc. v. US Filter Corp.*, No. 06-1266 (Fed. Cir. 2007) (invalidating patent due to a break in the chain of disclosure); *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997) (“In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, *each* application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112.”) (emphasis added). There is therefore no priority chain for the ’836 patent sufficient to support

a claim to an earlier filing date. The patentability of the '836 patent should be assessed as of July 14, 2021, including all intervening art.

B. Claim 1

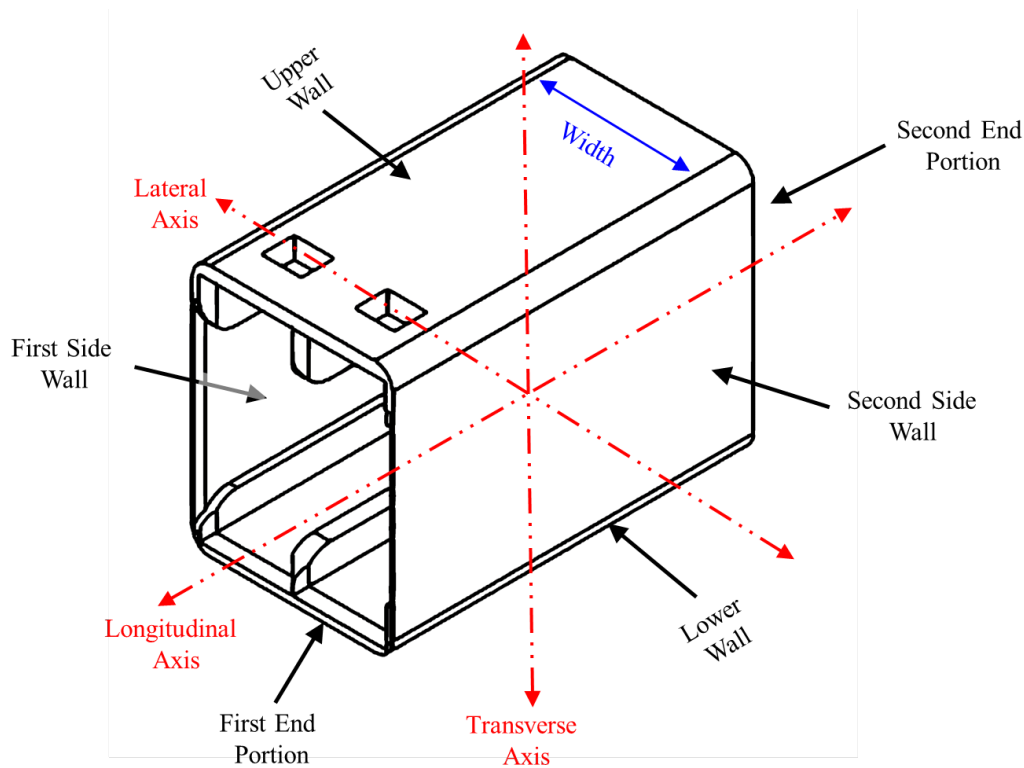
1. Preamble¹ – “An adapter for mating with optical fiber connectors”

MDC discloses an adapter for mating with optical fiber connectors. Section 4 describes that “[t]he MDC receptacle for SFP-DD module applications (Figure 4.1) will allow access for up to (2) MDC two-fiber optical connectors.” EX1015, 6; EX1003, ¶¶187-189.

2. [1.1] – “outer housing”

MDC discloses an outer housing having a first and second end portion, a first and second side wall, an upper wall, and a lower wall. EX1003, ¶¶190-194.

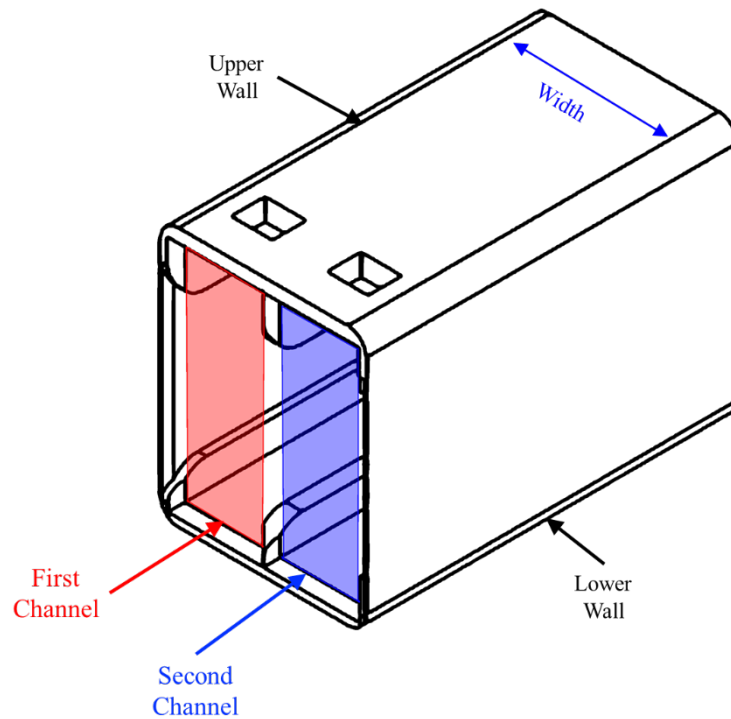
¹ Petition will assuming without agreeing the preamble is limiting.



EX1015, FIG. 4.1 (annotated).

3. [1.2] – “plurality of channels”

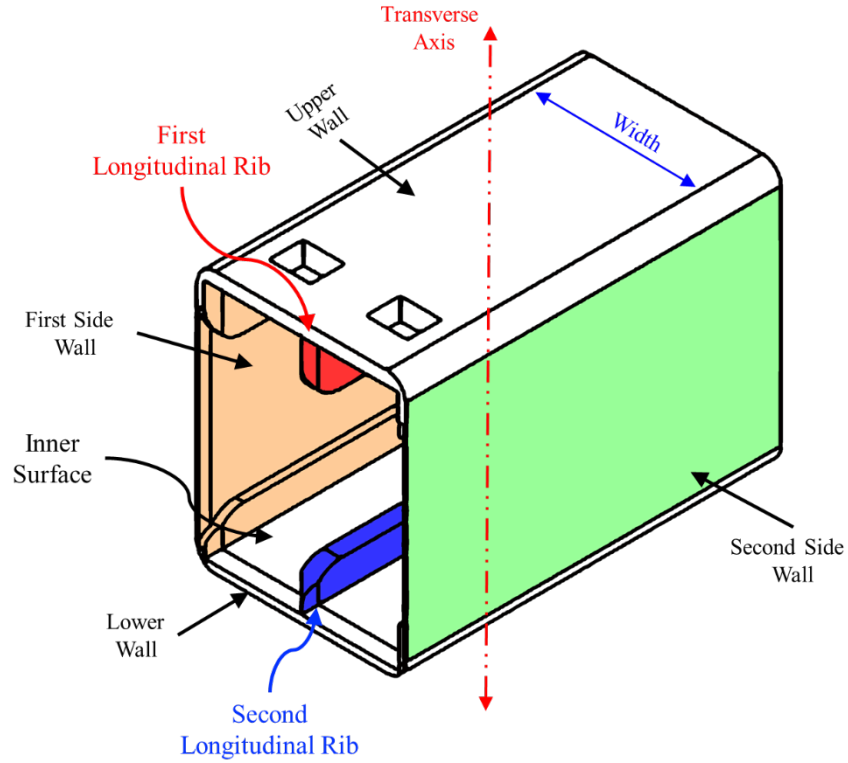
MDC discloses that the receptacle depicted in Figure 4.1 allows “access for up to (2) MDC two-fiber optical connectors.” EX1015, 6. Figures 3.1 and 4.1 illustrate “a plurality of channels,” where each channel is “configured to receive an optical fiber connector.” EX1003, ¶¶195-198.



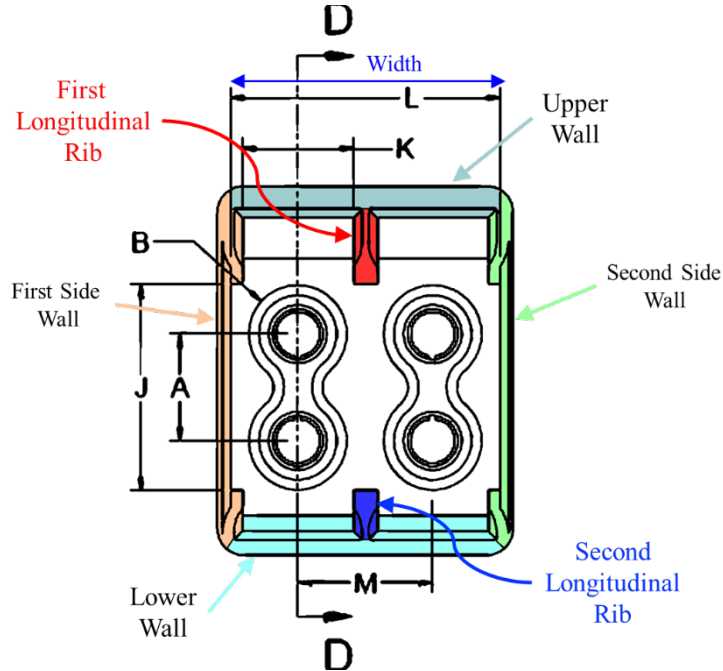
EX1015, FIG. 4.1 (annotated).

4. [1.3] – “first and second [longitudinal] ribs”

MDC discloses a first longitudinal rib extending from the inner surface of the upper wall and a second longitudinal rib extending from the inner surface of the lower wall. EX1003, ¶¶199-202.



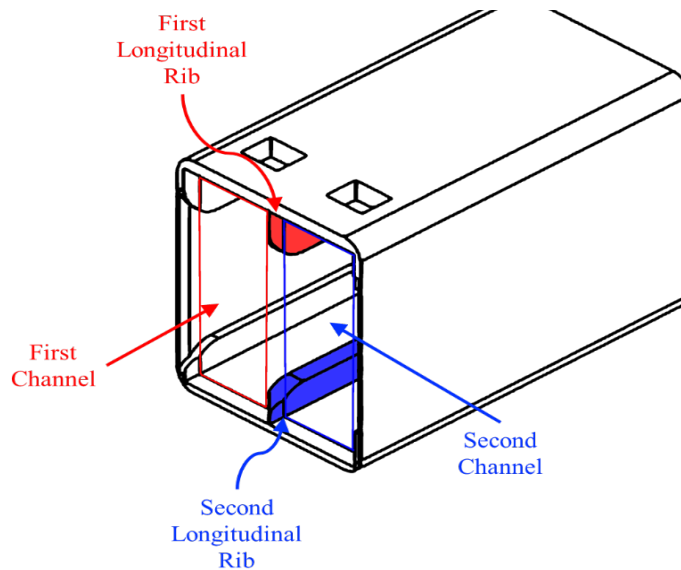
EX1015, FIG. 4.1 (annotated).



EX1015, FIG. 4.2 (cropped, annotated).

5. [1.4] – “between the first and second channels”

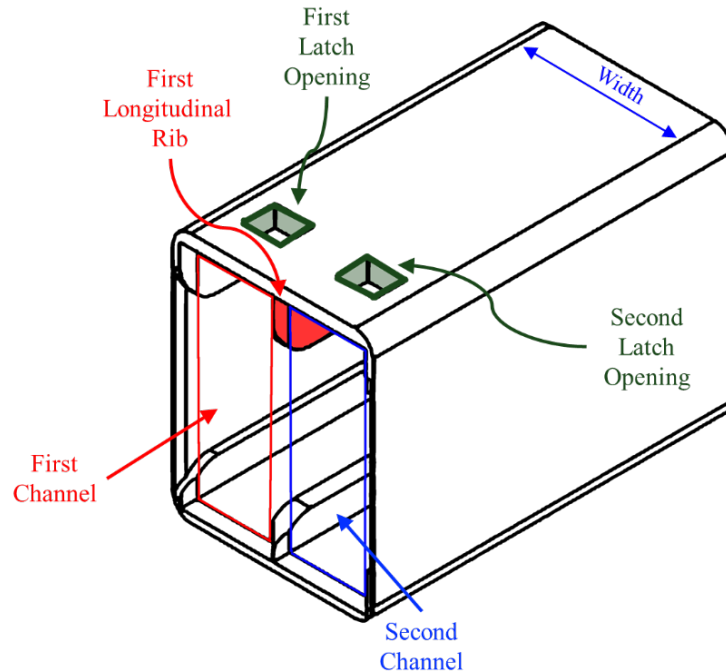
MDC discloses that the first and second longitudinal ribs are located between the first and second channels receiving optical fiber connectors. EX1003, ¶¶203-205.



EX1015, FIG. 4.1 (cropped, annotated).

C. Claim 2 – “a first latch opening aligned with the first channel and a second latch opening aligned with the second channel”

MDC discloses first and second latch openings on the upper wall, aligned with the first and second channels of the adapter, respectively. EX1003, ¶¶206-207.

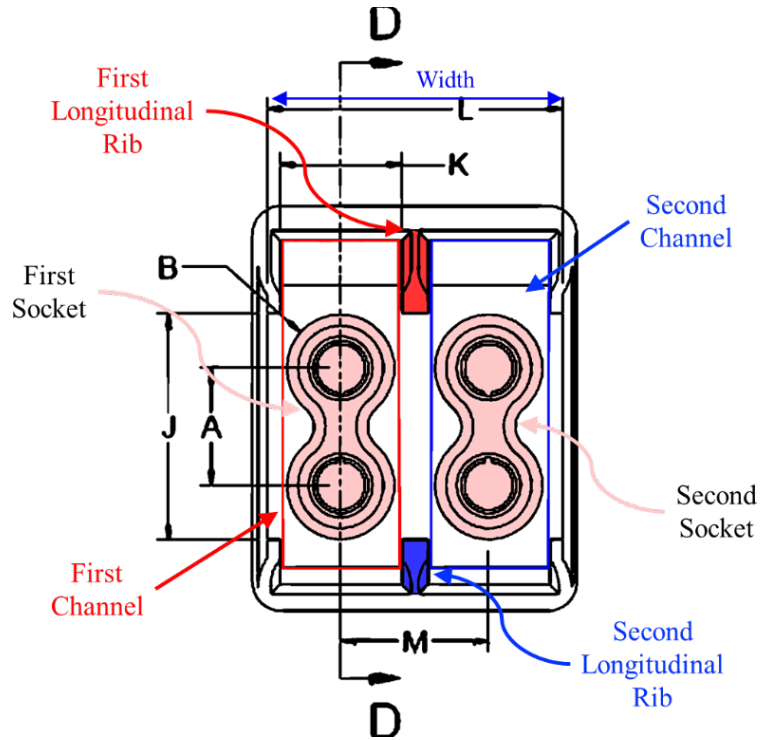


EX1015, FIG. 4.1 (annotated).

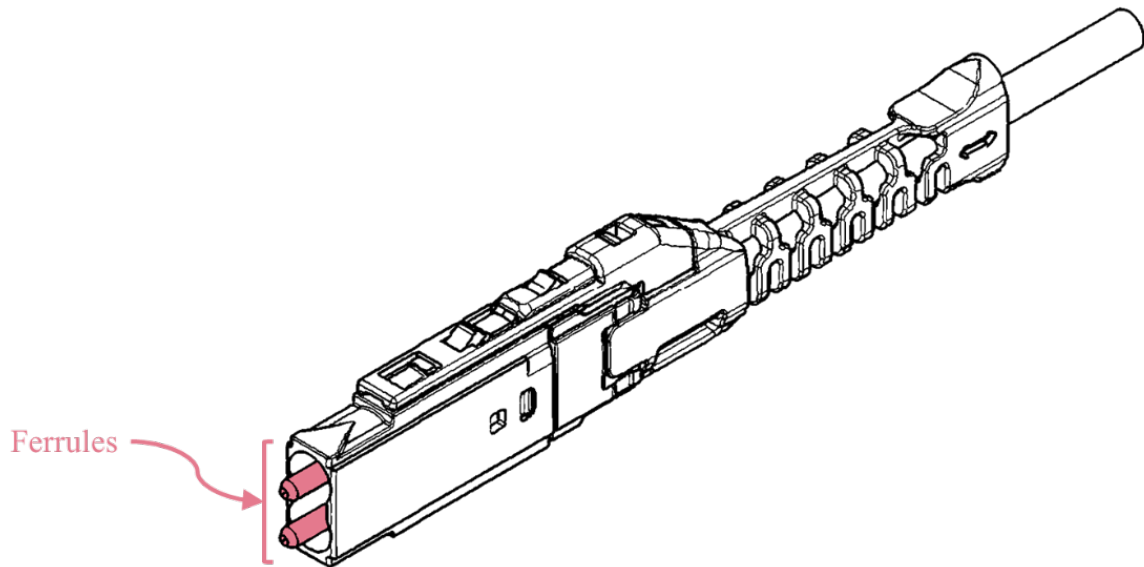
D. Claim 3

1. [3.1] – A Connector in Each Channel

MDC discloses first and second channels each configured to receive a first and second optical fiber connector. EX1003, ¶¶208-209. Figure 4.2 depicts that each of the channels includes a socket for receiving a ferrule of an optical-fiber connector, such as the one depicted in Figure 2.1.



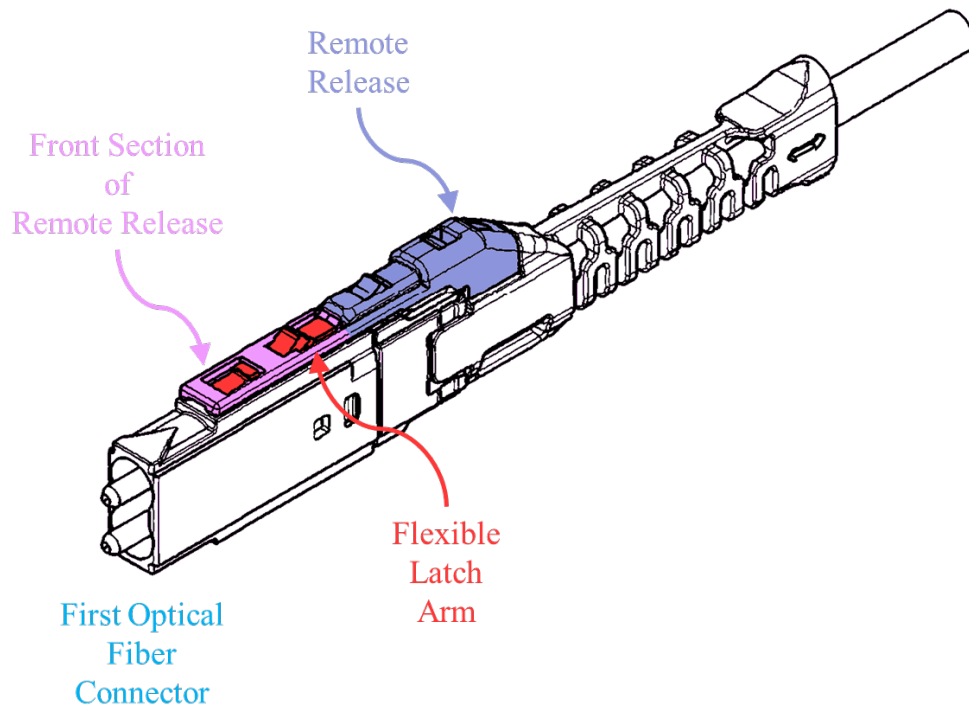
EX1015, FIG. 4.2 (cropped, annotated).



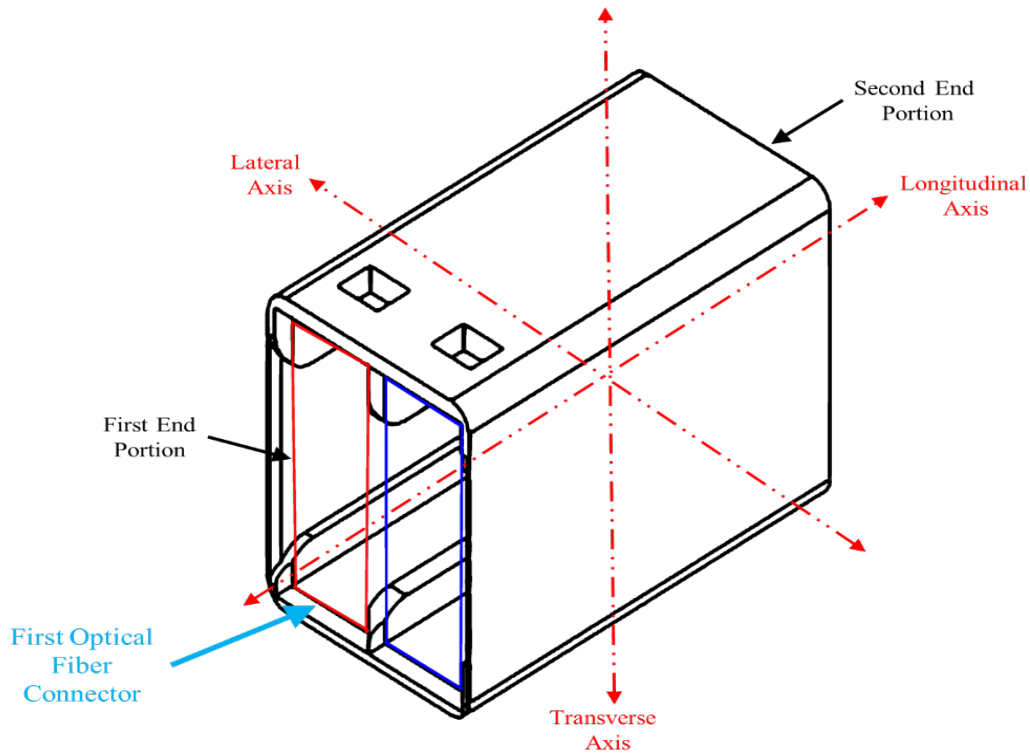
EX1015, FIG. 2.1 (annotated).

2. [3.2] – “a [first] flexible latch arm . . . [and] a remote release”

MDC discloses an optical-fiber connector that includes a “push-pull boot” (remote release) that “allows for simple insertion (and removal) of the MDC connectors to (and from) the receptacles.” EX1015, 3; EX1003, ¶¶211-213. Figure 2.1 shows the push-pull boot release described in Section 2, including a flexible latch arm configured to latch with the first latch opening and a front section of a remote release that is received in the first channel of the adapter. EX1003, ¶¶211-213.



EX1015, FIG. 2.1 (annotated).



EX1015, FIG. 4.1 (annotated).

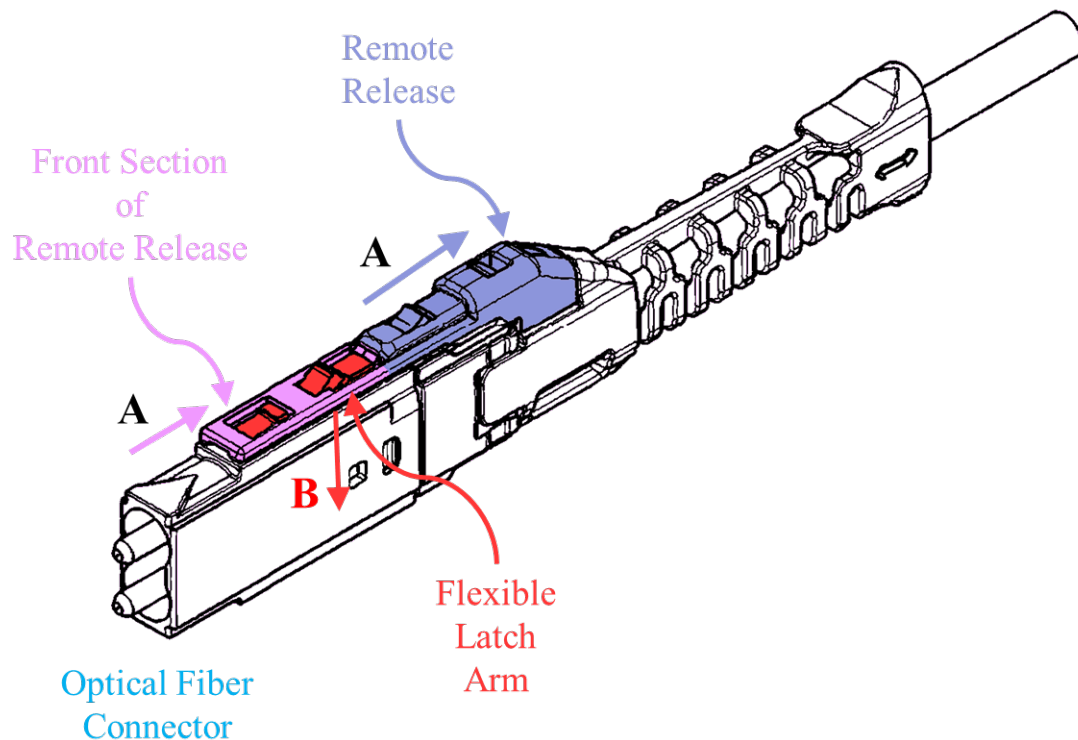
3. [3.3] – “a [second] flexible latch arm . . . [and] remote release”

MDC discloses an adapter that allows “access for up to (2) *MDC* two-fiber optical connectors.” EX1015, 6; EX1003, ¶214. Figure 4.1 shows first and second channels configured to receive first and second connectors. EX1003, ¶215. Each connector has a flexible latch arm latched with the latch opening and a front section of a remote release that is received by the channel. EX1003, ¶216.

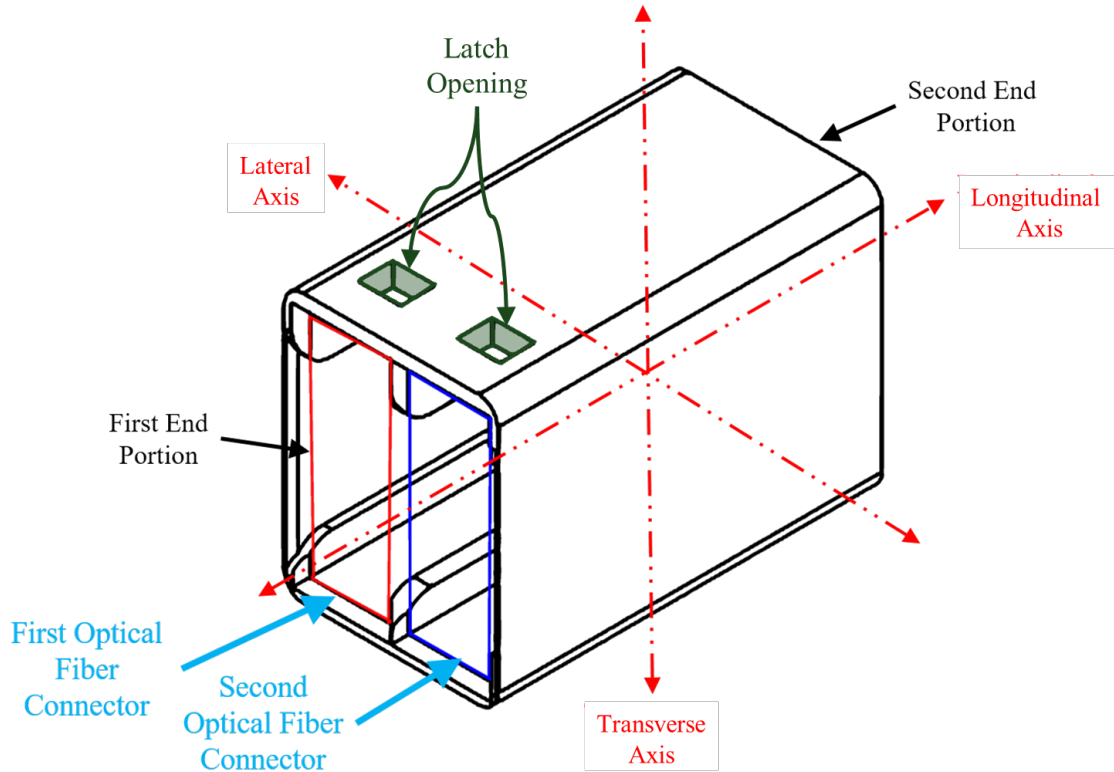
E. Claims 4 & 5 – sliding “remote release” and depress to “unlatch”

MDC discloses a first and second channel of an adapter configured to allow the front section of the remote release to slide along the flexible latch arm of each

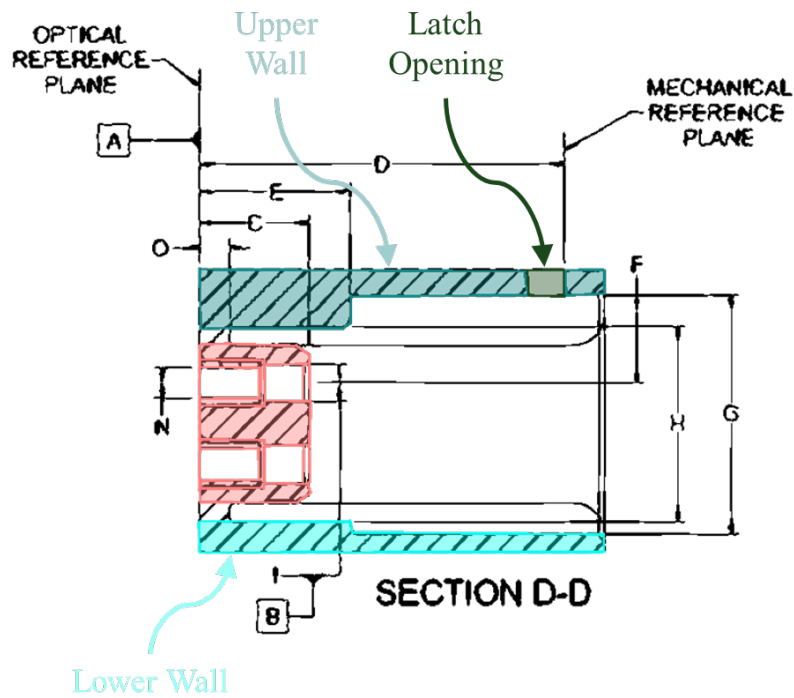
of the first and second optical fiber connectors, such that the flexible latch arms of the first and second connectors are depressed. EX1003, ¶218. Figures 4.1 and 4.2 disclose a duplex adapter with channels each configured to receive an optical fiber connector. Figure 2.1 discloses an optical-fiber connector having a flexible latch arm that latches with a latch opening and a front section of a remote release that is received in a channel of the adapter. EX1003, ¶¶218-219. Figures 2.1, 4.1, and 4.2 also illustrate that the upper wall of the adapter is configured to unlatch from the flexible latch arm of the first and second connectors when the flexible latch arm is depressed. EX1003, ¶¶220-221. Accordingly, *MDC* discloses claims 4 and 5.



EX1015, FIG. 2.1 (annotated).



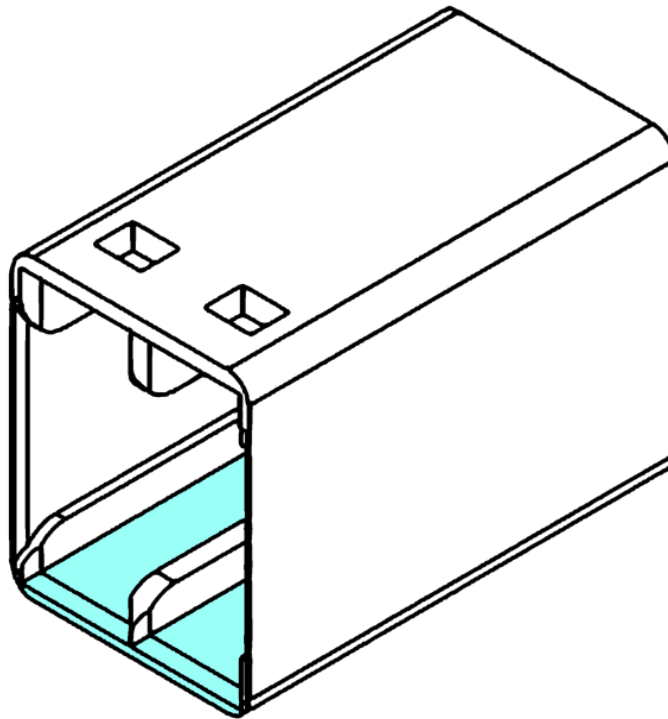
EX1015, FIG. 4.1 (annotated).



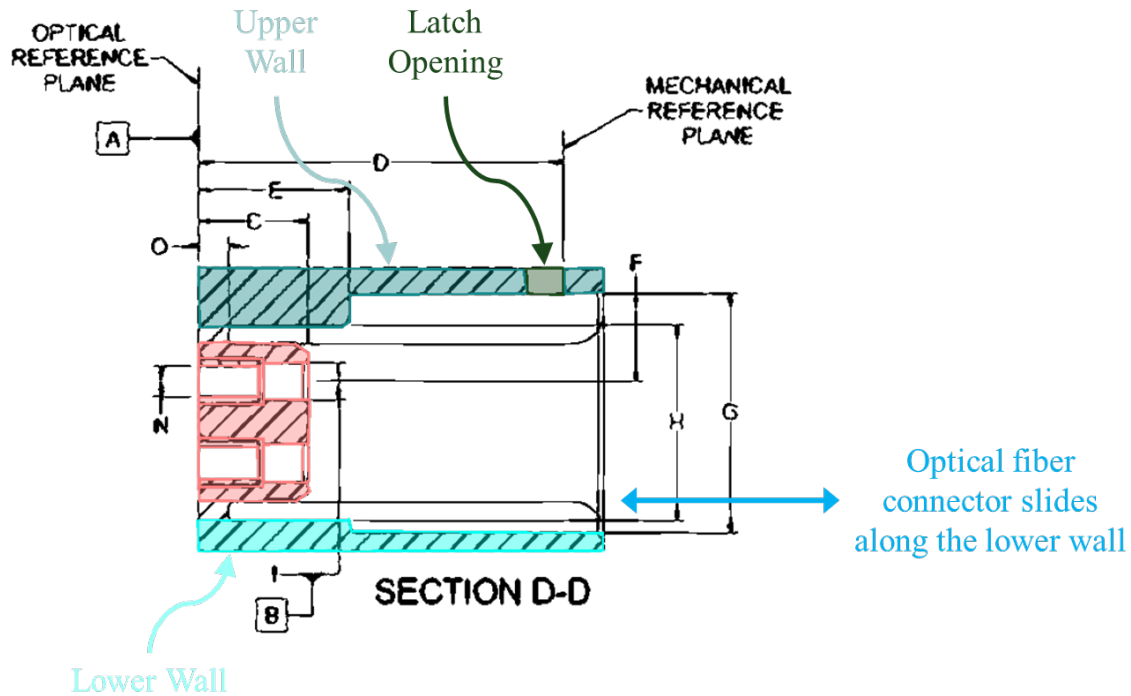
EX1015, FIG. 4.2 (cropped, annotated).

F. Claims 6 & 7 – “the lower wall is free of latch openings” and “the lower wall is configured to slidably engage each of the first and second . . . connectors without latching”

MDC discloses first and second channels configured to accept optical-fiber connectors and a lower wall without latch openings that engages slidably with the connectors. EX1003, ¶¶222-223. *MDC* thus discloses all elements of claims 6 and 7.



EX1015, FIG. 4.1 (annotated).



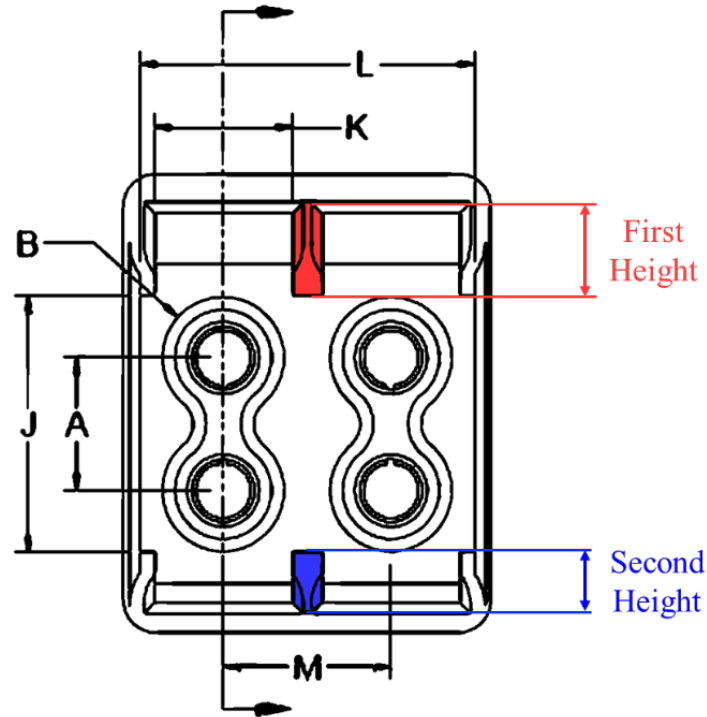
3

EX1015, FIG. 4.2 (cropped, annotated).

G. Claim 8 – “the first longitudinal rib has a . . . height being greater than the second”

MDC includes a lateral cross-section of the MDC adapter, Figure 4.2, which clearly shows the first longitudinal rib with a greater height than the second.

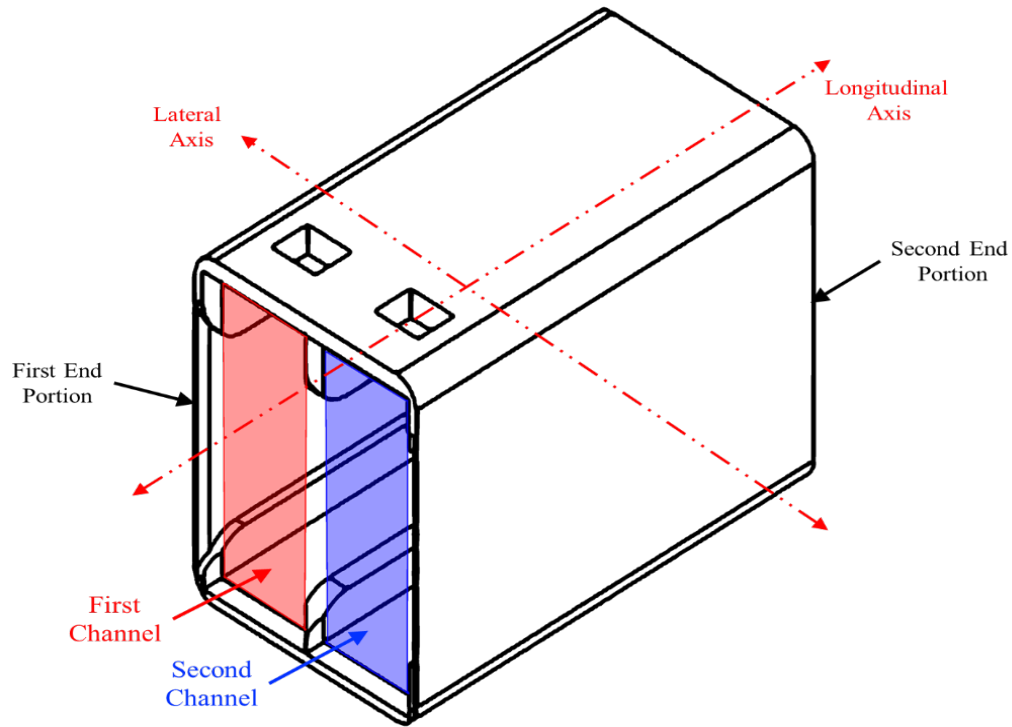
EX1003, ¶¶224-226.



EX1015, FIG. 4.2 (cropped, annotated).

H. Claim 9 – “each of the first and second channels opens through the first end portion”

MDC discloses a first and second channel that each open through the first end portion of the adapter. EX1003, ¶¶227-228.



EX1015, FIG. 4.1 (annotated).

I. Claim 13 – “multi-fiber connector comprising a multi-fiber ferrule”

MDC Section 2 describes that the connector illustrated in Figure 2.1 is designed to provide “two-fiber connections.” EX1015, 3; EX1003, ¶229. A two-fiber connection is a multi-fiber connector and necessarily comprises a multi-fiber ferrule. EX1015, 3; EX1003, ¶¶230-231.

XI. GROUND 2: CLAIMS 1-3, 6-10 AND 13 ARE ANTICIPATED BY NGUYEN.

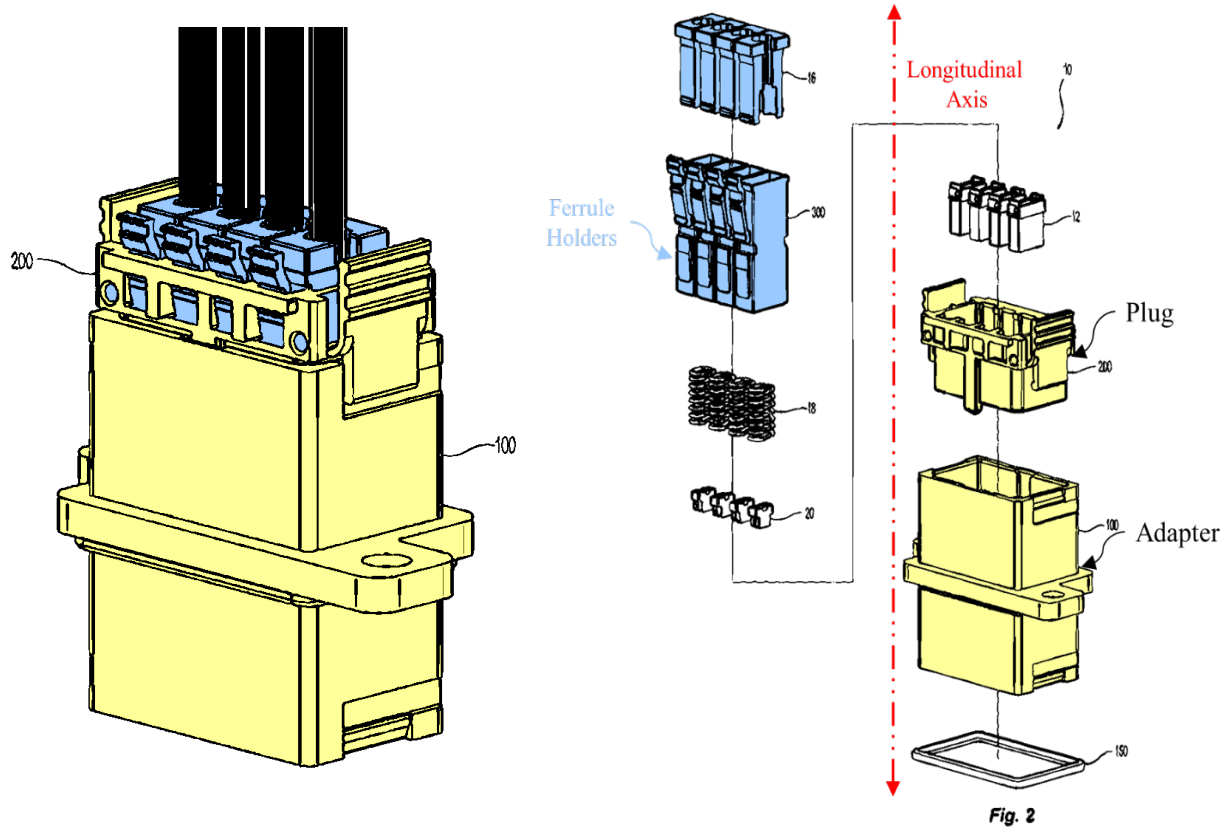
U.S. Patent Publication No. 2016/0161680 to Nguyen was published June 9, 2016. It qualifies as prior art regardless of the afforded priority date.

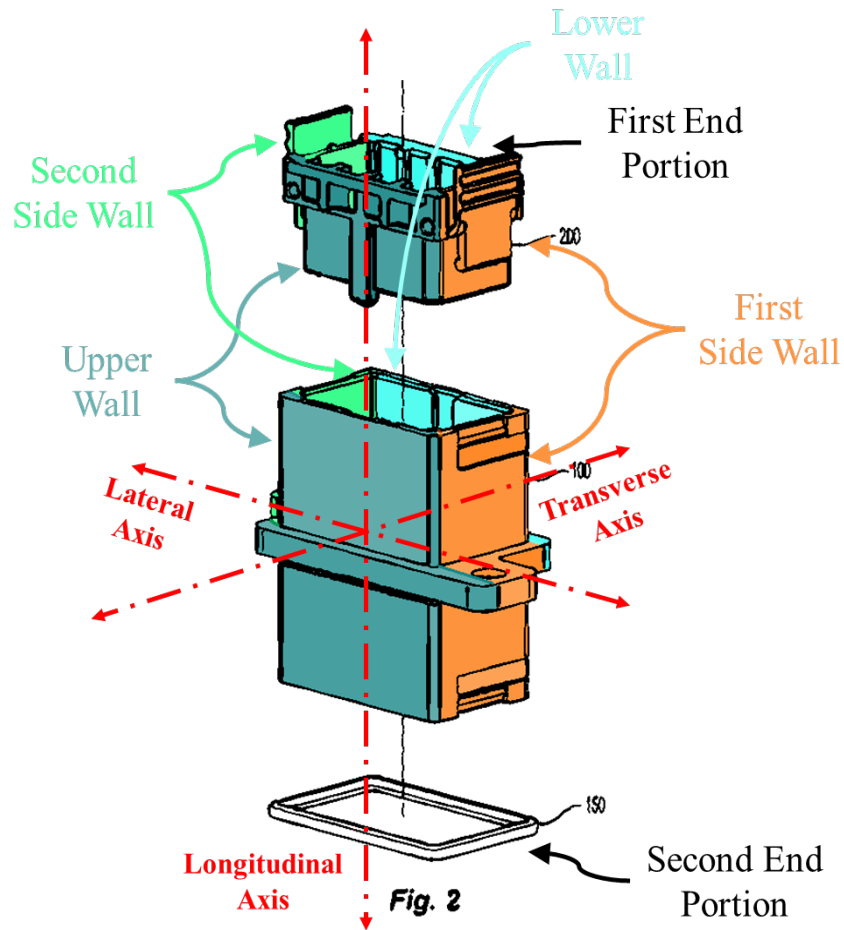
A. Claim 1

1. Preamble

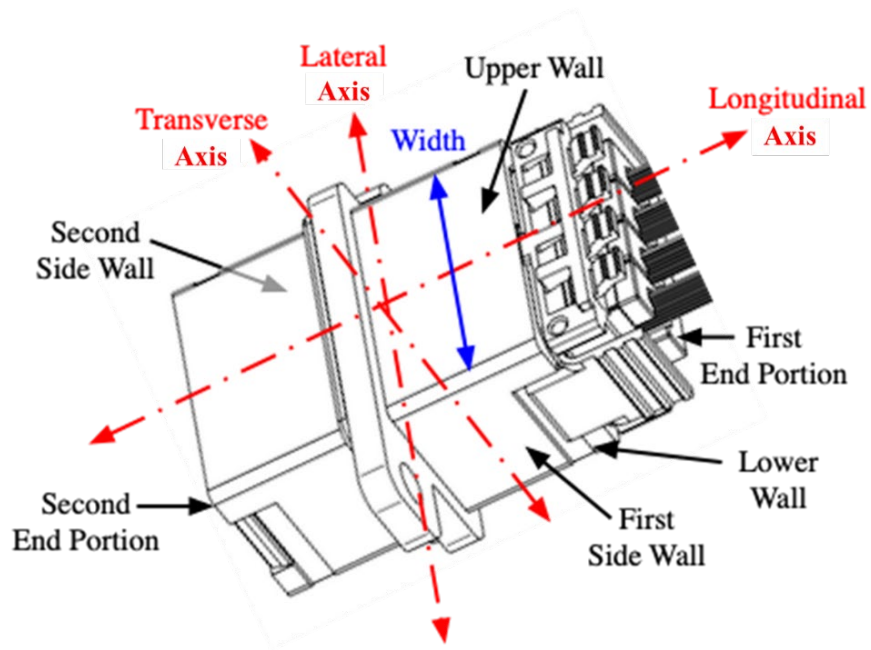
Nguyen discloses “adapter and adapter assembly with novel alignment features is provided to engage with alignment features on a plug, which i[n] turn assists in aligning the ferrule holders with alignment grooves in the adapter.”

EX1005, ¶4. Nguyen Figures 1, 2, and 6A illustrate an adapter for mating with optical fiber connectors. EX1003, ¶¶234-238; EX1005, ¶¶26-30.





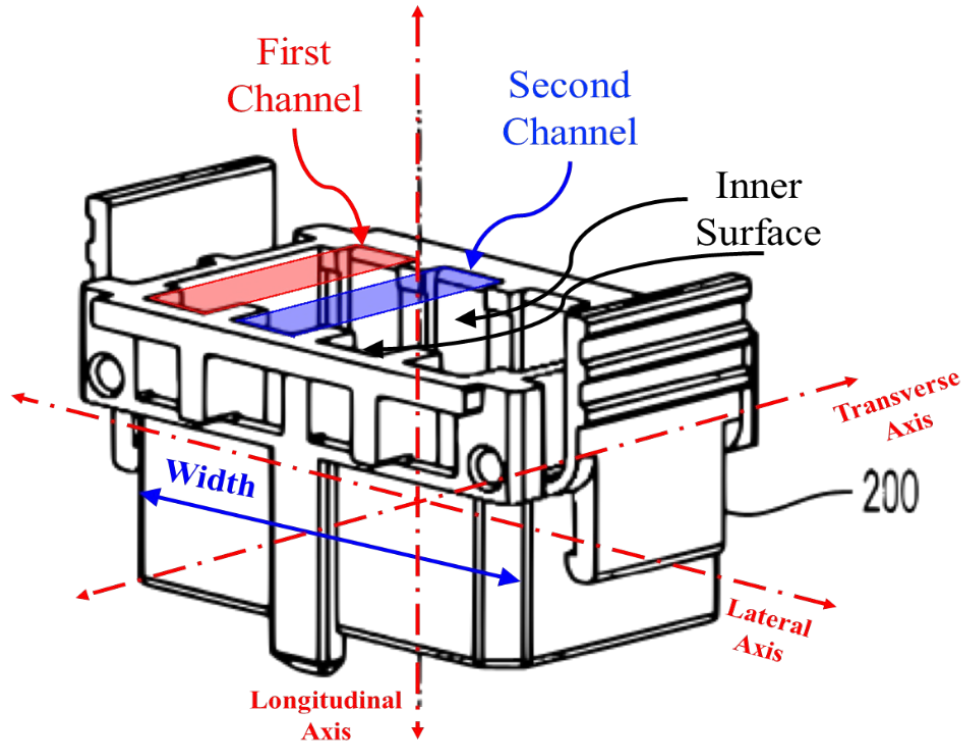
EX1005, FIG. 2 (cropped, annotated).



EX1005, FIG. 1 (cropped, annotated).

3. [1.2]

Nguyen discloses that the upper and lower walls of the outer housing each have an inner surface and define a plurality of channels spaced apart along the width. Each channel is configured to receive an optical-fiber connector. EX1005, ¶28, FIGs. 1, 2; EX1003, ¶246. Plug 200 has an opening with grooves and includes projections defining channels for inserting spaced-apart ferrule holders 300. *Id.* Figure 2 illustrates the inner surface of the upper wall and the lower wall as claimed. EX1005, ¶28; EX1003, ¶¶246-248. Nguyen describes a plurality of ferrule holders 300 that hold optical fibers and mate with an adapter to connect with optical fibers on the other side of the adapter. EX1005, ¶26, FIGs. 1, 2; EX1003, ¶¶246-248. Nguyen's channels are configured to receive these optical fiber connectors. EX1005, ¶26, FIGs. 1, 2; EX1003, ¶¶246-248.

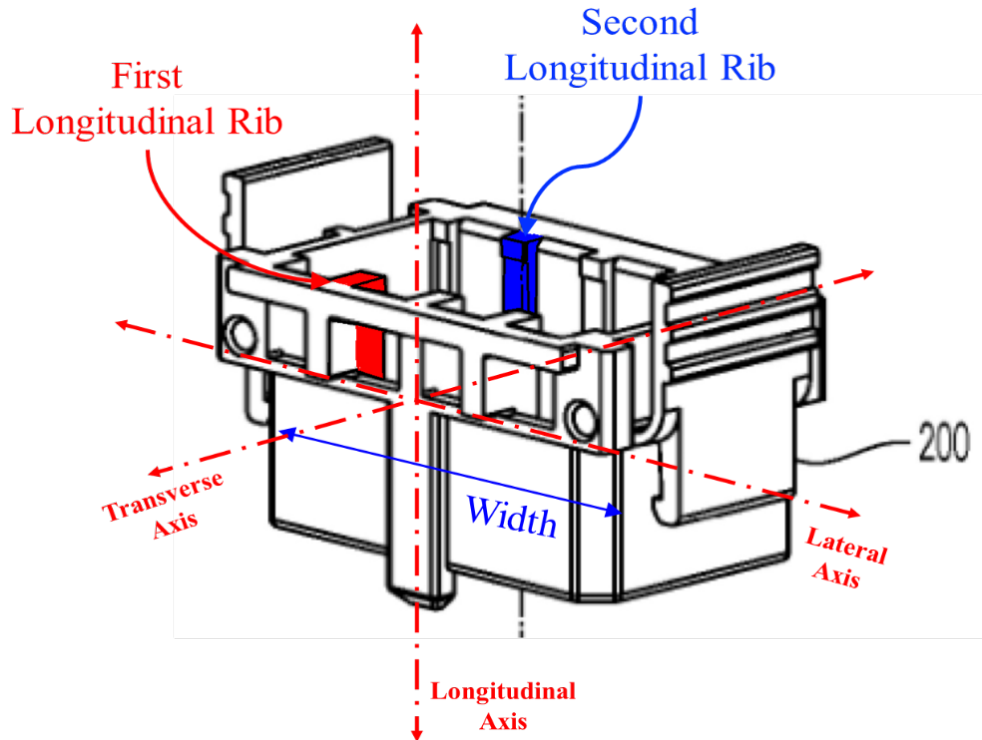


EX1005, FIG. 2 (cropped, annotated).

4. [1.3]

Nguyen discloses first and second longitudinal ribs positioned as claimed.

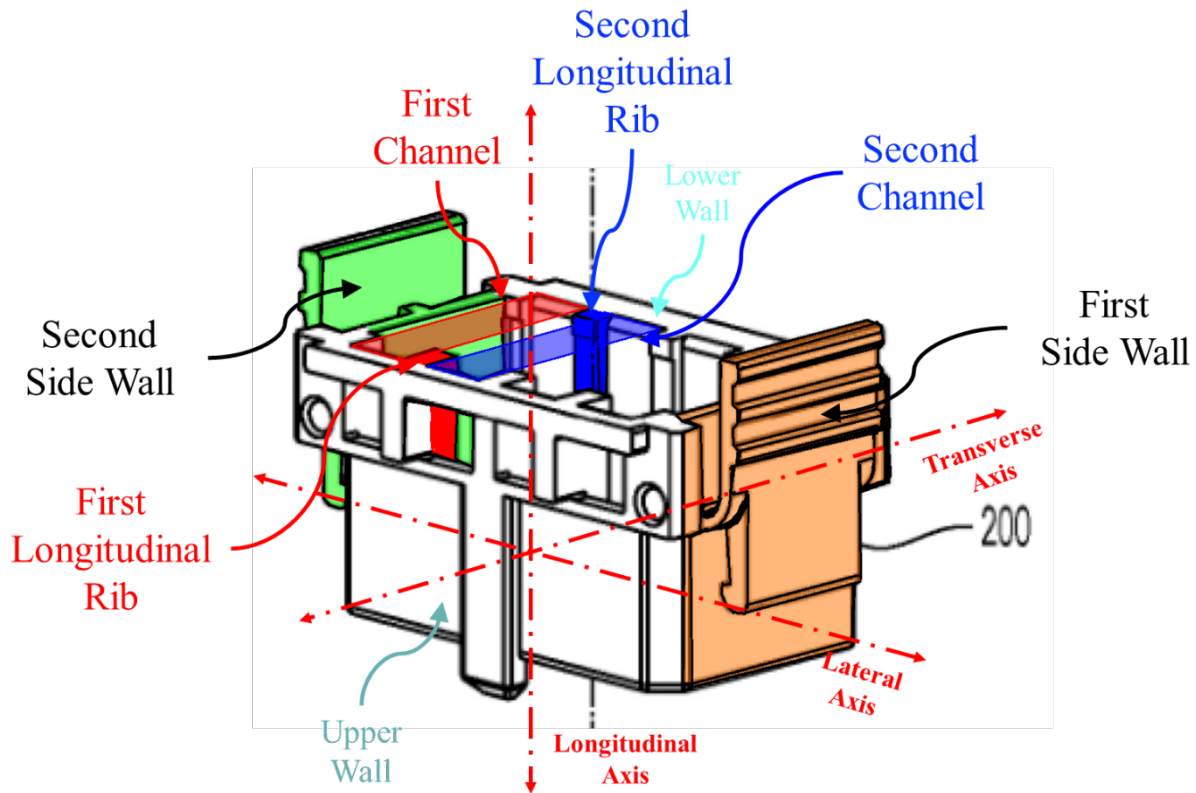
EX1003, ¶¶249-250.



EX1005, FIG. 2 (cropped, annotated).

5. [1.4]

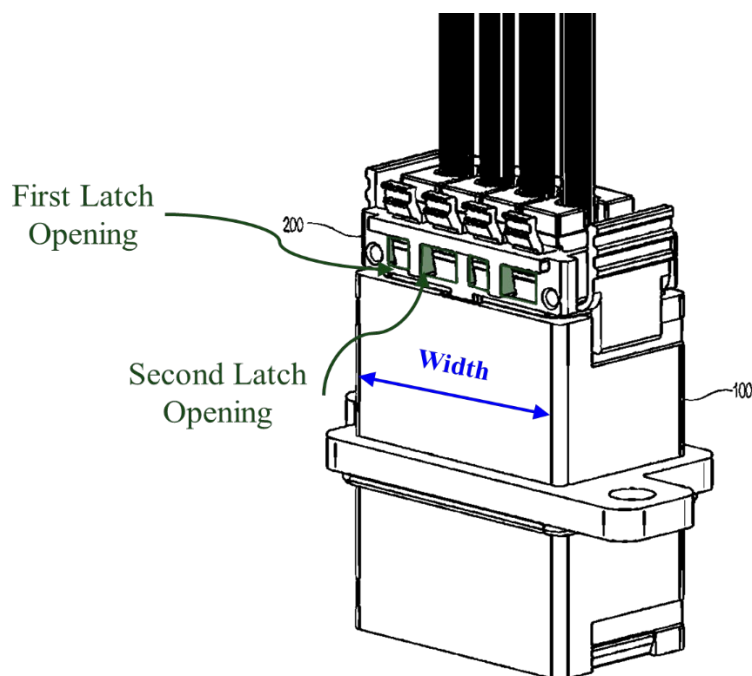
Nguyen discloses that the first and second ribs are located between the first and second channels on the inner surfaces of the upper and lower walls. EX1003, ¶¶251-252.



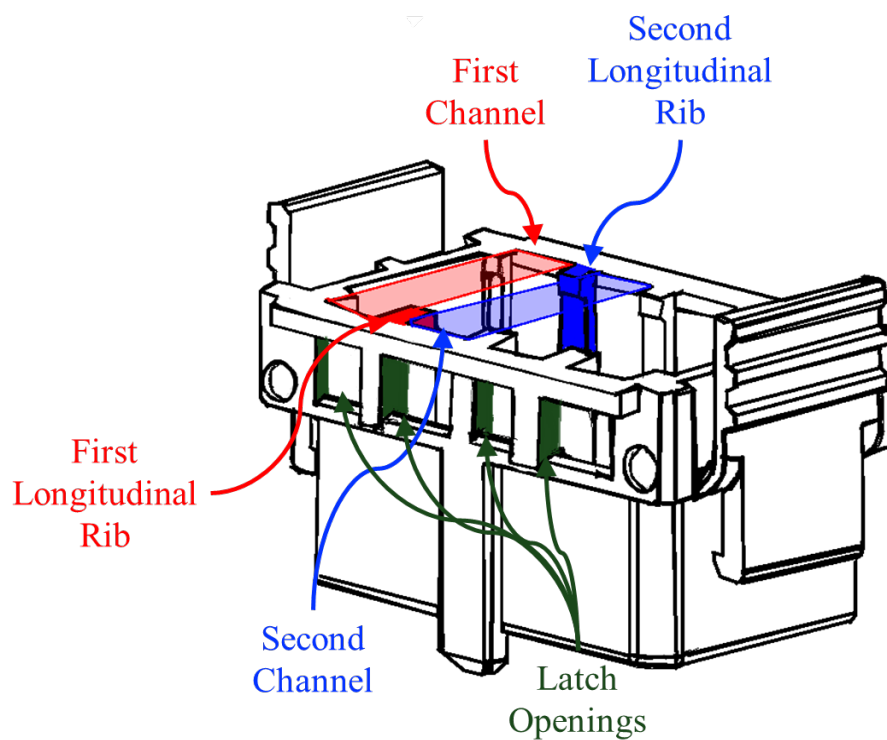
EX1005, FIG. 2 (cropped, annotated).

B. Claim 2

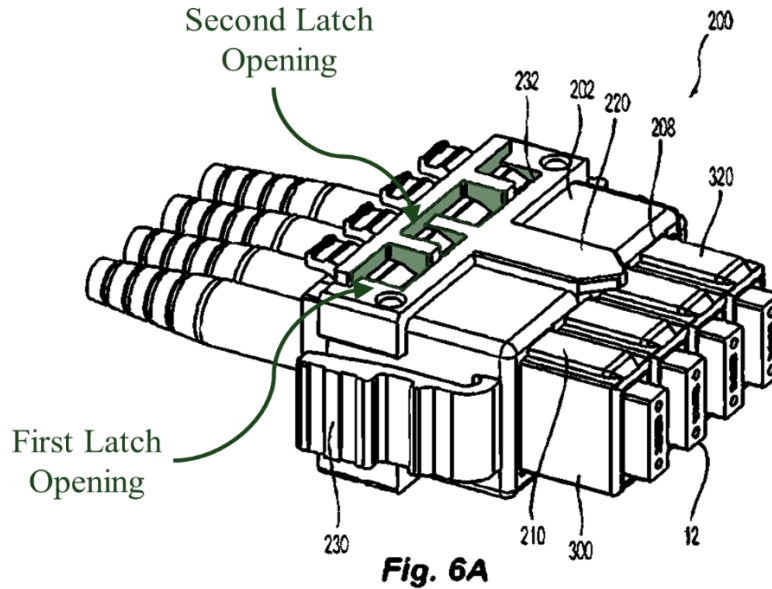
Nguyen discloses latch openings aligned with their respective channels and the first rib being positioned between two latch openings along a width of the adapter. EX1003, ¶253. Nguyen explains, “[t]here are . . . latch receptacles 232 on the top side of the plug 200 to engage the latches 316 of the ferrule holders 300.” EX1005, ¶30. The latch receptacles 232 are openings that receive latches. EX1003, ¶¶254-255.



EX1005, FIG. 1 (cropped, annotated).



EX1005, FIG. 2 (cropped, annotated).

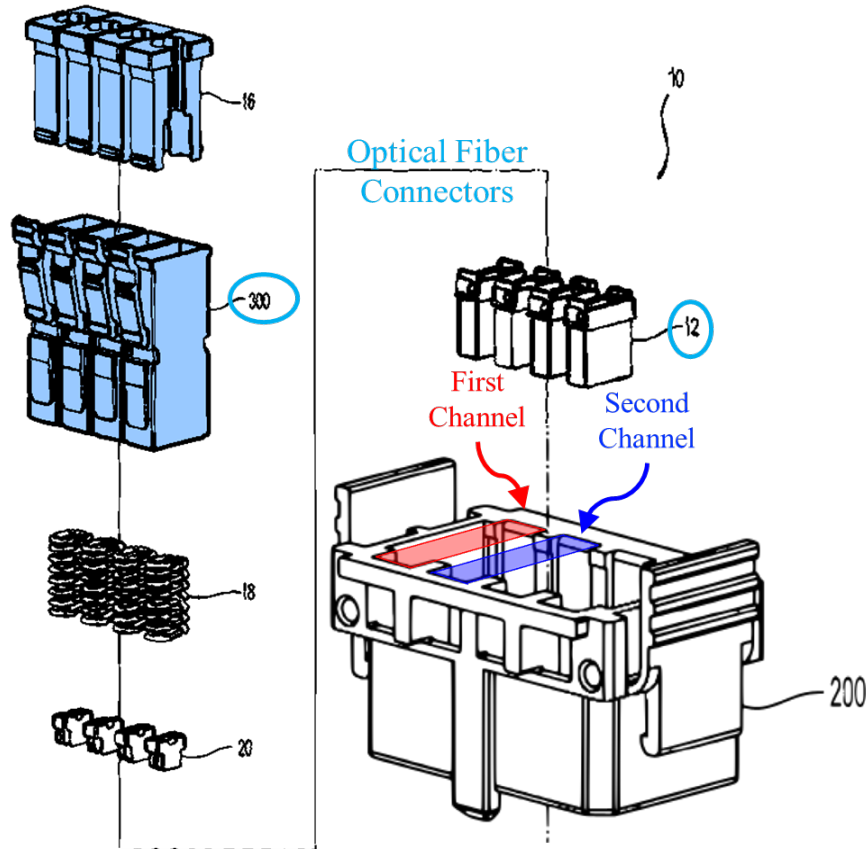


EX1005, FIG. 6A (annotated).

C. Claim 3

1. [3.1]

Nguyen discloses a first optical-fiber connector in the first channel and a second optical-fiber connector in the second channel. Nguyen explains, “ferrules 12 are disposed within the ferrule holder 300 and have optical fibers 14 secured therein” and “the ferrule holders 300 are inserted into the plug 200.” EX1005, ¶26; EX1003, ¶¶256-257. Figure 2 illustrates ferrule holders 300, as ferrules 12 are received by respective channels in the plug 200.

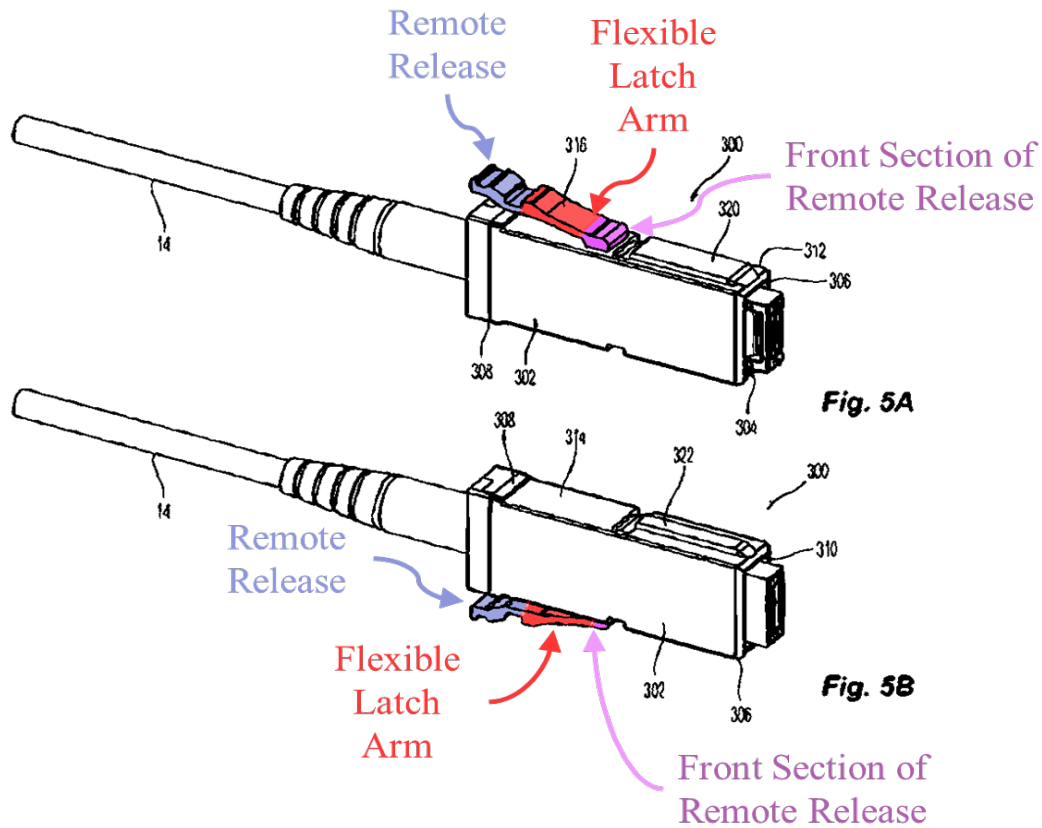


EX1005, FIG. 2 (cropped, annotated).

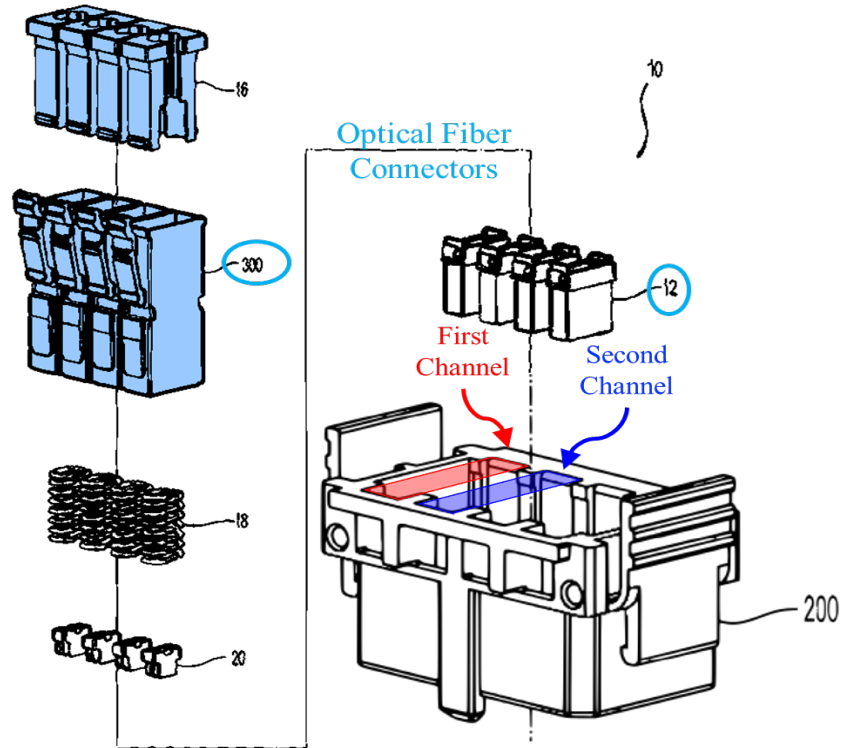
2. [3.2]

Nguyen discloses a flexible latch arm of the first optical-fiber connector, latched with the first latch opening, and a front section of a remote release received in the first channel at a location spaced apart from the first latch opening along the longitudinal axis toward the second end portion of the outer housing. EX1003, ¶258. Figures 5A and 5B illustrate a “ferrule holder 300 has a top surface 312 and a bottom surface 314, with a cantilevered latch 316 to engage the plug 200.” EX1005, ¶27; EX1003, ¶259. A release mechanism is configured to cooperate with the plug portion of the adapter to depress the latch arm such that the latch portion

of the optical fiber connector unlatches from latch receptacles 232. EX1005, ¶¶27, 29, 30; EX1003, ¶260. Nguyen thus discloses the claimed flexible latch arm and remote release. EX1003, ¶¶261-265.



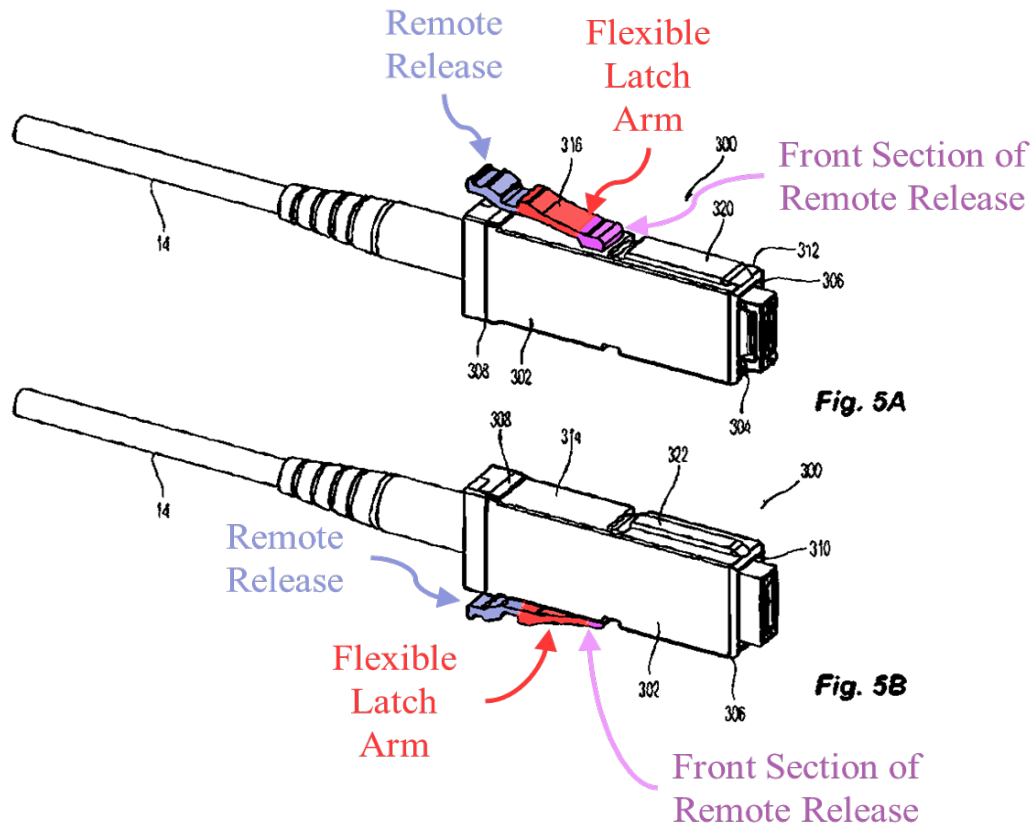
EX1005, FIGs. 5A, 5B (annotated).



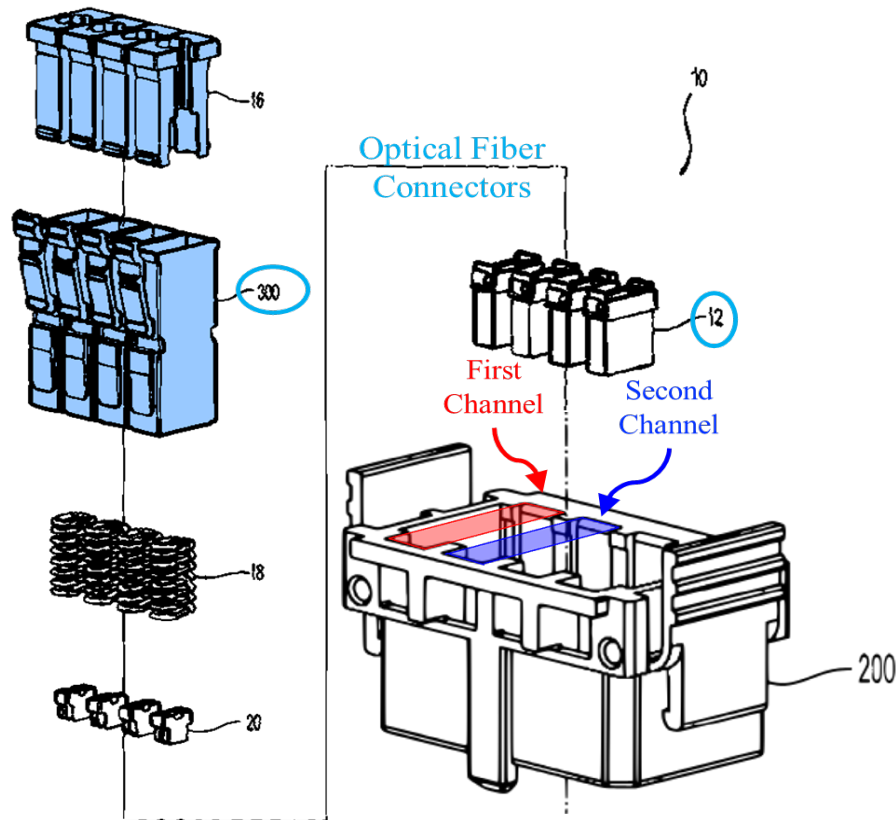
EX1005, FIG. 2 (cropped, annotated).

3. [3.3]

Figures 5A and 5B illustrate a flexible latch arm configured to engage with the latch openings in plug 200. Figure 2 illustrates multiple ferrule holders 300, and multiple ferrules 12 received by respective channels (including a second channel receiving a second flexible latch arm). EX1003, ¶266. Nguyen discloses a release mechanism configured to cooperate with the plug portion of the adapter to depress the latch arm and unlatch the connector. EX1003, ¶267.



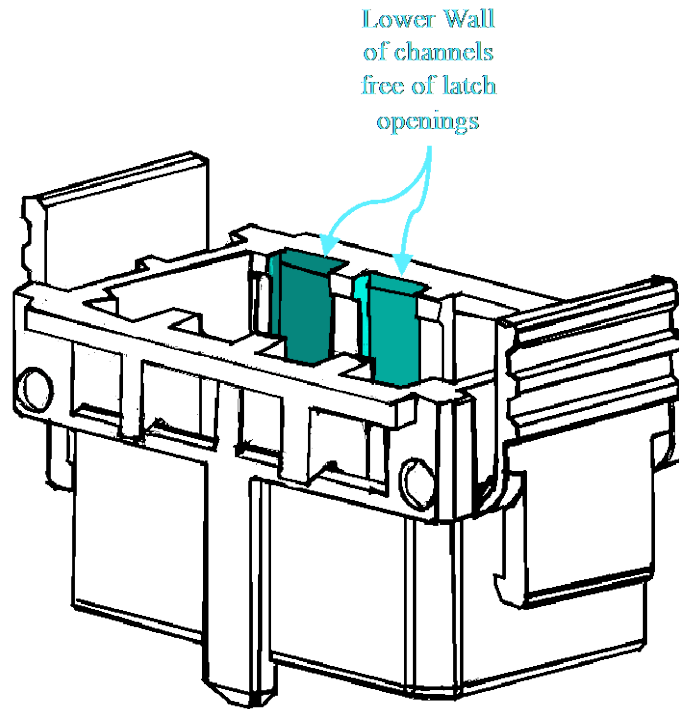
EX1005, FIGs. 5A, 5B (annotated).



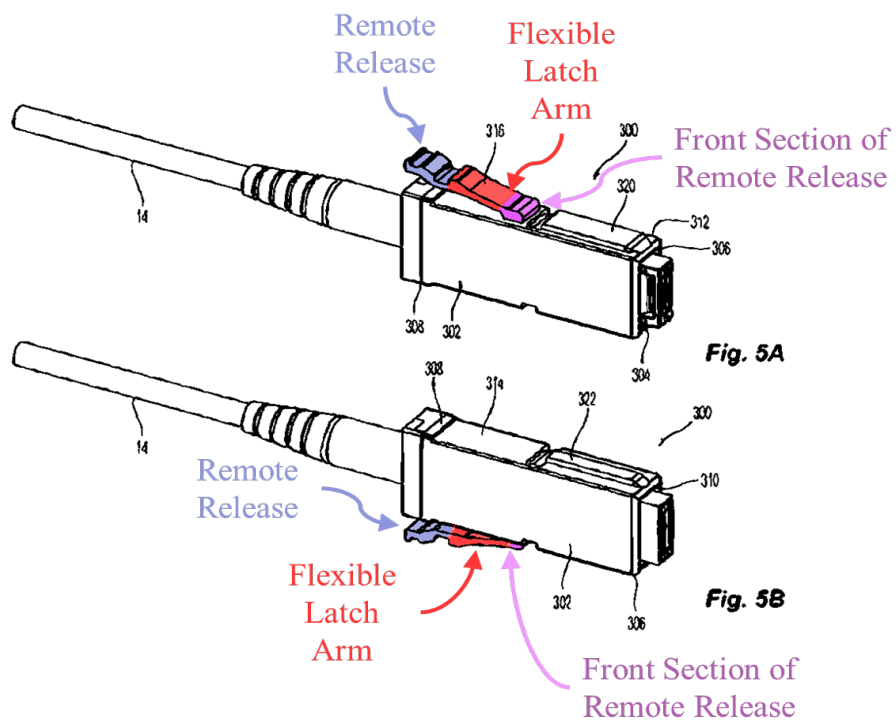
EX1005, FIG. 2 (cropped, annotated).

D. Claims 6 & 7

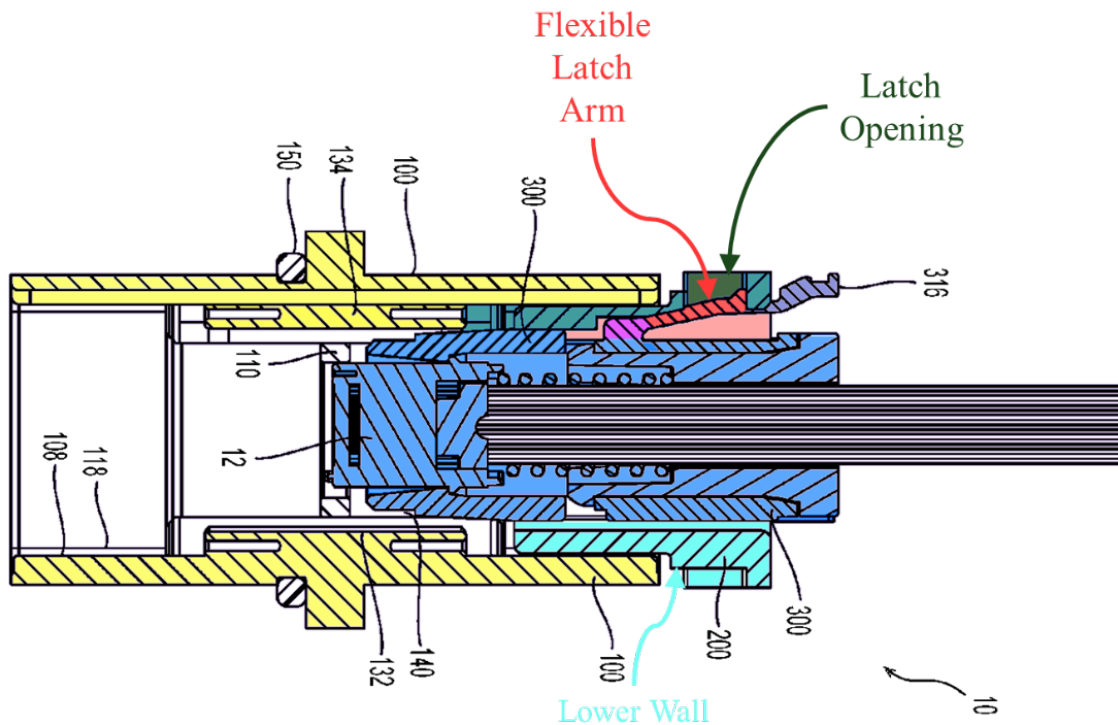
Nguyen's lower wall of plug 200 is free of latch openings and configured to slidably engage two optical fiber connectors without latching. EX1005, FIG. 2; EX1003, ¶¶268, 271. Ferrule holders 300 only include one latch 316 located on the upper side of the connector. EX1005, FIGs. 5A, 5B; EX1003, ¶272. Latch receptacles 232 are only provided on the upper wall. EX1003, ¶272. Accordingly, Nguyen discloses claims 6 and 7. EX1003, ¶¶269-270, 273-274.



EX1005, FIG. 2 (cropped, annotated).



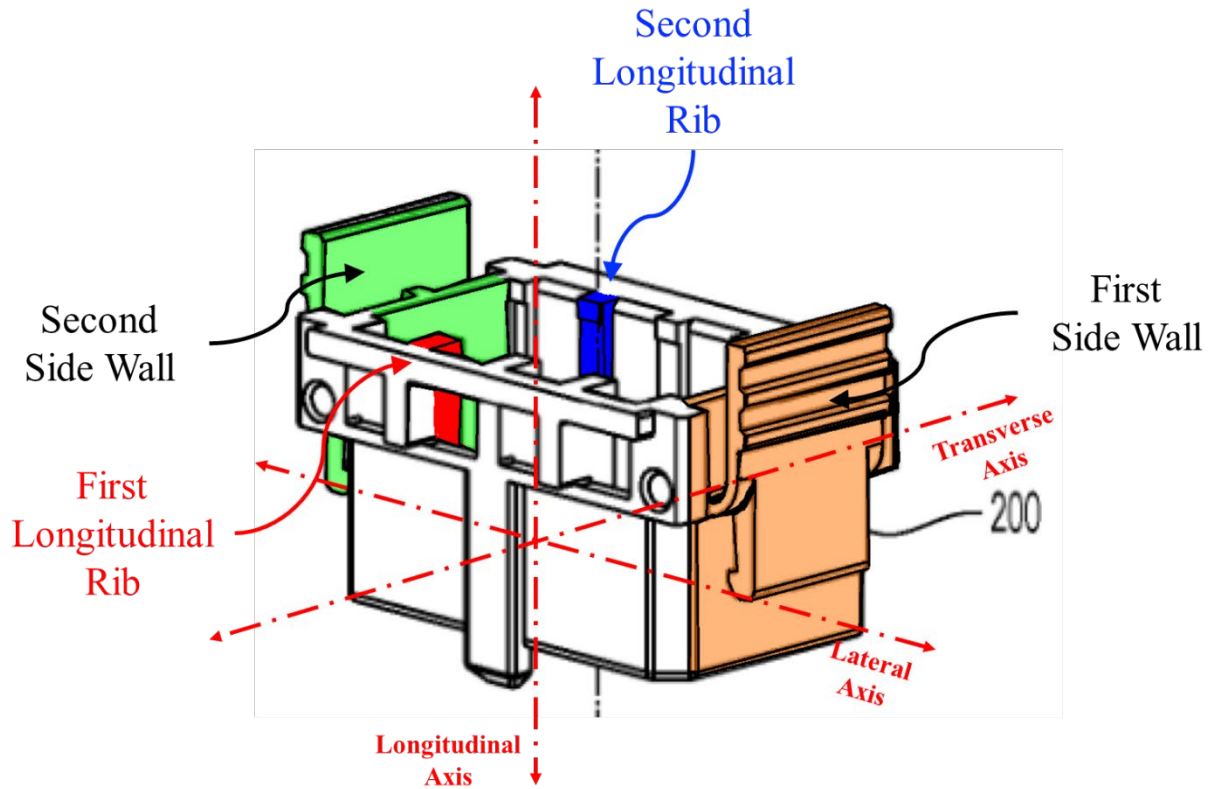
EX1005, FIGs. 5A, 5B (annotated).



EX1005, FIG. 9 (annotated).

E. Claim 8

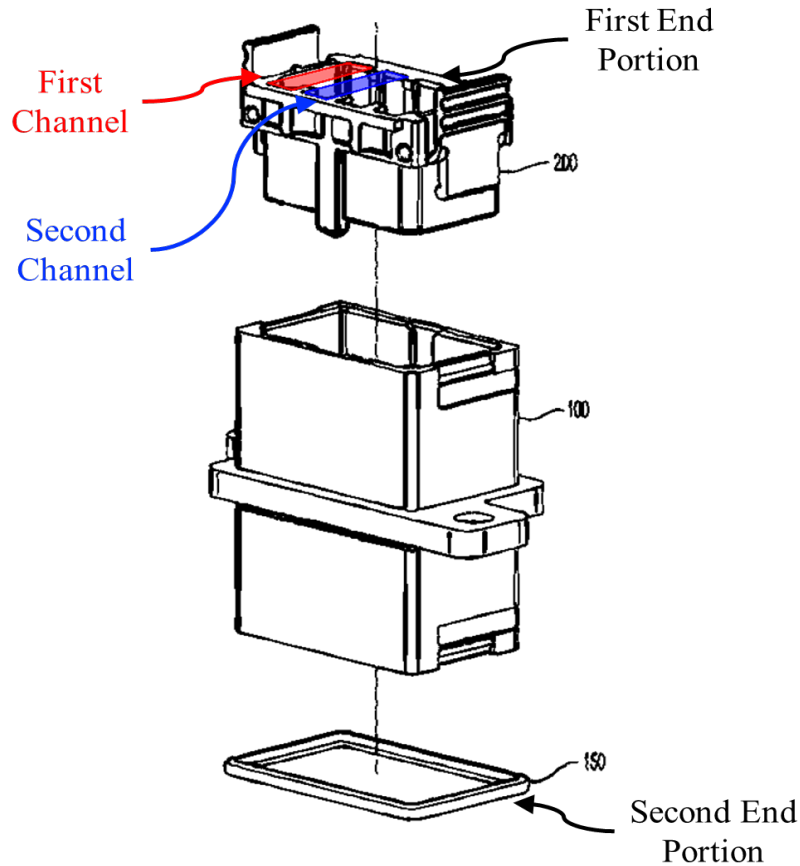
Nguyen's first longitudinal rib on the upper wall has a first height along the transverse axis that is visibly greater than the second longitudinal rib's second height along the same axis. EX1005, FIG. 2; EX1003, ¶¶275-276.



EX1005, FIG. 2 (cropped, annotated).

F. Claim 9

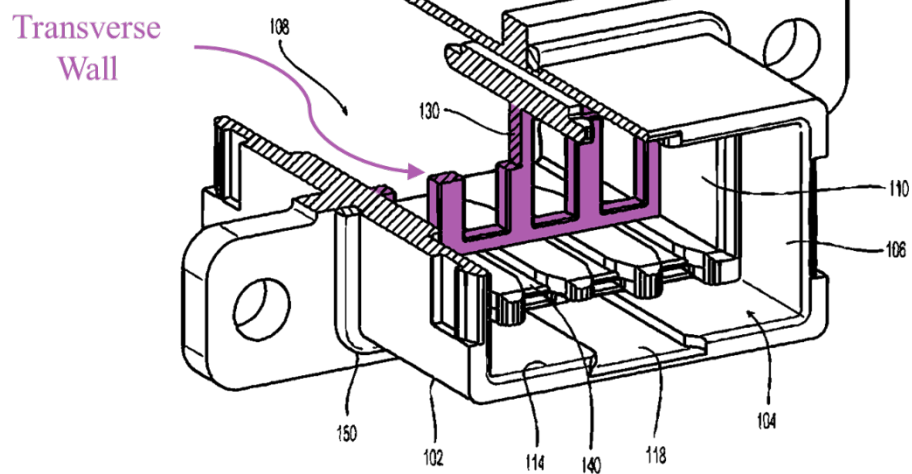
Nguyen discloses two channels that open through the first end portion of the outer housing. EX1005, ¶28, FIGs. 1, 2; EX1003, ¶¶277-278. Figures 1 and 2 illustrate the first and second channels opening and the first end of the plug 200.



EX1005, FIG. 2 (cropped, annotated).

G. Claim 10

Nguyen discloses a transverse wall (wall 130) extending between the upper and lower walls at a location longitudinally spaced from the first end portion of the housing. EX1005, ¶33, FIGs. 3, 4; EX1003, ¶279. Nguyen's Figures 2-4 show a wall 130 that is a part of adapter 100:



EX1005, FIG. 3 (annotated).

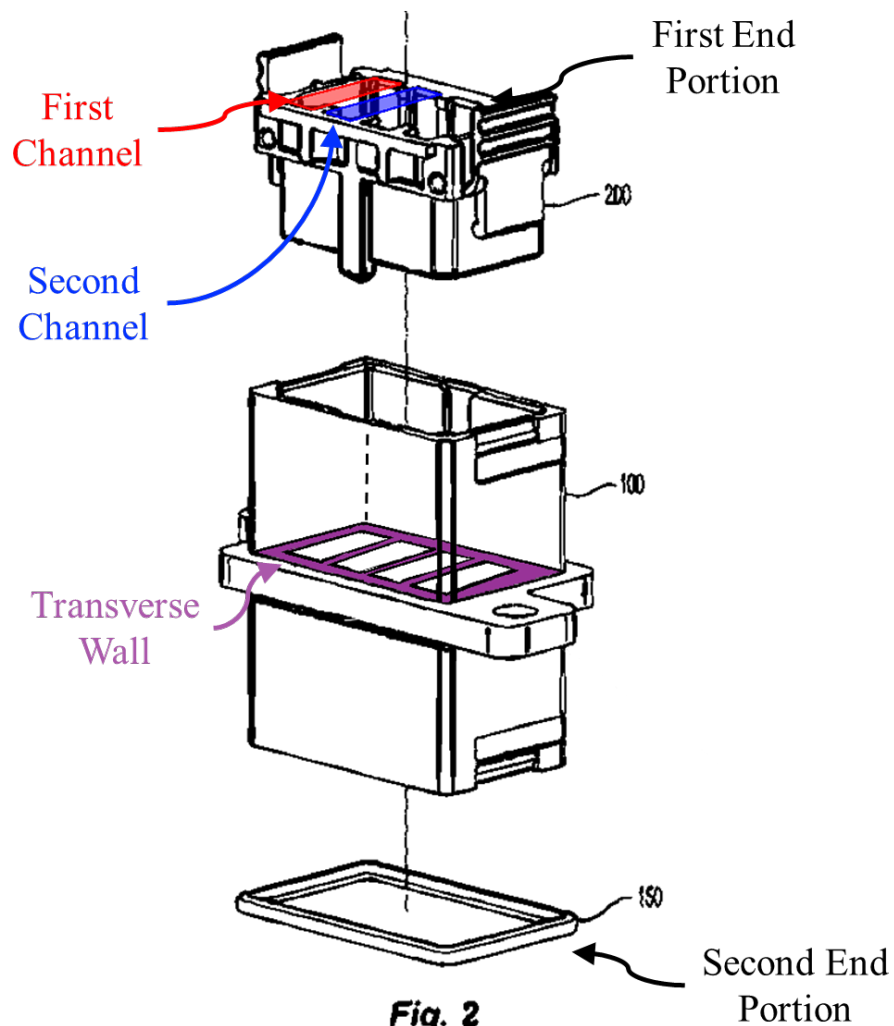
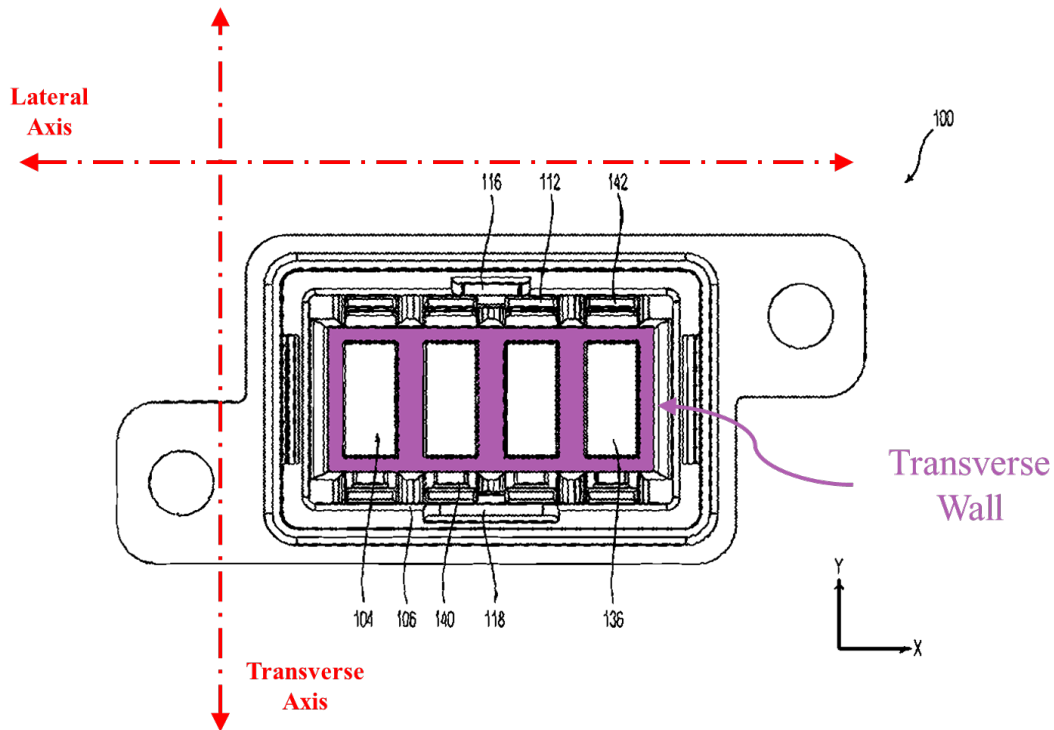


Fig. 2

EX1005, FIG. 2 (cropped, annotated).



EX1005, FIG. 4 (annotated).

The transverse wall 130 is longitudinally spaced apart from the first end portion of the outer housing because it is in the middle of the housing and is spaced apart from the first end portion in the longitudinal direction. EX1005, ¶33 (explaining the wall 130 divides the center portion 110 in half); EX1003, ¶280. Wall 130 extends between the upper and lower walls of the plug 200 because it includes a structure that is between the upper and lower walls in the transverse direction. EX1003, ¶281.

H. Claim 13

Nguyen discloses an adapter for mating with fiber-optic connectors, wherein each of the connectors is a multi-fiber connector comprising a multi-fiber ferrule.

EX1005, ¶26, FIGs. 1, 2; EX1003, ¶283. For example, “ferrules 12 are typically multi-fiber ferrules, particularly MT type ferrules, but the present invention may include other types of ferrules. The ferrules 12 are disposed within the ferrule holder 300 and have optical fibers 14 secured therein.” EX1005, ¶26; EX1003, ¶284. Figures 5A-6C further show examples of a multi-fiber connector that comprises a multi-fiber ferrule. EX1005, FIGs. 5A-6C; EX1003, ¶285.

XII. GROUND 3: CLAIMS 3-5, 8, AND 10-12 ARE OBVIOUS IN VIEW OF NGUYEN AND LEE.

For each obviousness combination, the Petition provides an analysis for why a POSITA at the time of the alleged invention would combine the references discussed (here, Nguyen and Lee). Unless otherwise noted, this analysis has been conducted assuming a priority date of 2017.

Nguyen discloses claims 1 and 2. Further, while Nguyen discloses claims 3, 8, and 10, if PO disagrees Lee also discloses these limitations and all remaining claims. The combined disclosures of Nguyen and Lee thus render claims 3-5, 8, and 10-12 obvious. EX1003, ¶286.

A. Motivation to Combine

Both Nguyen and Lee disclose ferrule connectors in optic-fiber system components that have been used for many years in the field. Swapping certain connector features for others (like the particular remote release mechanism or the shape of sockets) is something that any POSITA would have known how to do and

been motivated to do based on the desired data transmission capacity and overall data transmission system design. EX1003, ¶287.

A POSITA would thus have been motivated to modify the optical-fiber connectors and transverse wall of Nguyen's adapter to include (1) optical-fiber connectors that employ handles configured to remotely release connectors from the adapter, and (2) a transverse wall that includes slots halfway between two ends of the adapter and sleeve holders that employ sockets to mate with cylindrically-shaped ferrules, as disclosed in Lee. EX1003, ¶¶287-288.

1. Optical-Fiber Connectors

A POSITA would replace Nguyen's connectors with Lee's connectors to employ handles configured to remotely release connectors from the adapter. EX1003, ¶289. The remote-release feature provides convenience and serves the overall purpose of Nguyen (tightly packing fiber-optic ferrules and being easy to maintain and scale) because Lee's handle allows a user to disengage the latch arm further from the adapter. The latch arms of Nguyen require a user to be closer to the adapter. *Id.*

A POSITA would modify Nguyen to incorporate Lee's handle and remote-release feature to provide a system that is easier to maintain. EX1003, ¶290. Swapping a connector without a remote-release feature with one that has a remote-release feature would have been obvious among a finite number of identifiable,

predictable solutions with reasonable expectation of success. There are a limited number of connector-release configurations used in fiber-optic connectors. Any one of these end-ferrule connections can be utilized predictably because the type of connection does not affect other aspects of the device. EX1003, ¶¶291-294. This modification of Nguyen involves the simple and predictable substitution of one known component for another. EX1003, ¶¶292-293.

A POSITA would also replace Nguyen's connectors with Lee's connectors as a matter of design choice. These two choices are simple substitutes for one another that provide different connectivity options (i.e., a connector with remote release or not). *Id.* Remote releases have been used in the industry for years, and a POSITA would have understood that selecting a remote-release connector design to pair with an adapter is a simple choice based on the type of connectors desired. *Id.* A POSITA would have had reasonable expectation of success as this modification involves the direct replacement of one known type of connector for another, which would have been readily implementable for someone having ordinary skill in the art at the time. EX1003, ¶293. Lee's connector is in the same orientation as Nguyen's, and the simple substitution would have led to predictable results. *Id.* The combination retains Nguyen's latching mechanisms and merely replaces an interior component that does not change its principle of operation. *Id.*

Accordingly, modifying Nguyen's connector with the remote-release features disclosed in Lee would have been obvious. EX1003, ¶295.

2. Transverse Wall

A POSITA would modify Nguyen's adapter to include slots, replace Nguyen's wall with Lee's sleeve holders to employ sockets to mate with cylindrically-shaped ferrules, and position at the slots halfway between two ends of the adapter. EX1003, ¶296. Lee's sleeve holders are easy to maintain because they are removable, able to snap into place, and coordinate with dust caps to maintain cleanliness, as opposed to Nguyen's immobile wall. EX1003, ¶297.

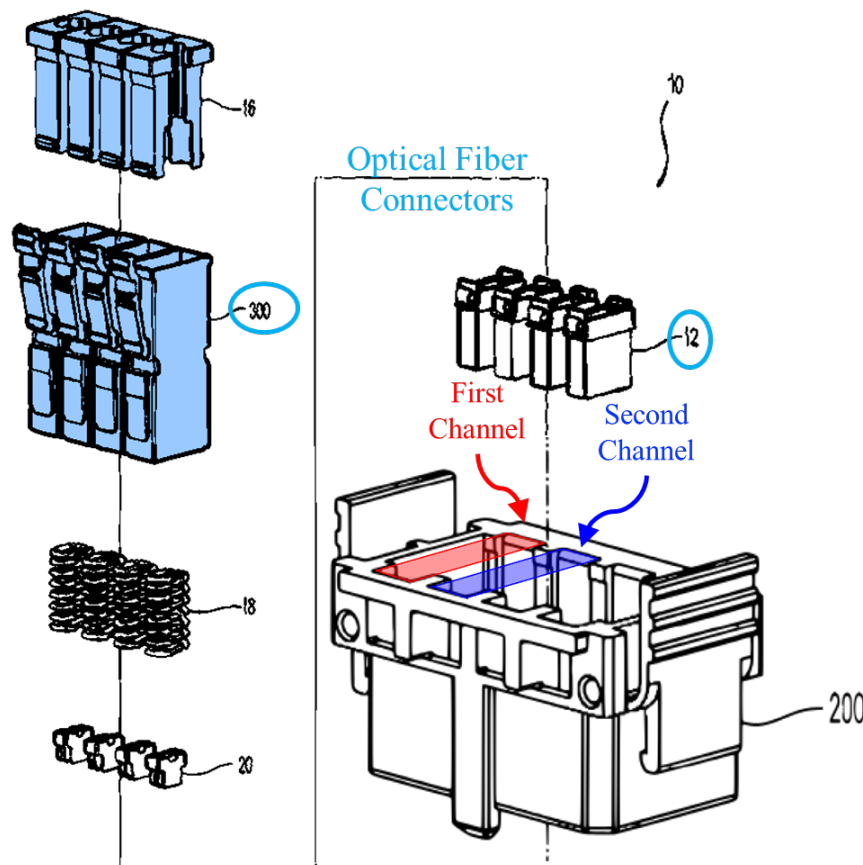
Therefore, a POSITA would have been motivated to modify Nguyen's adapter to incorporate Lee's sleeve holders and slots to provide a system that is easier to maintain. EX1003, ¶¶298-299. This modification involves the simple and predictable substitution of one known component for another. EX1003, ¶300.

Nguyen's adapter assembly is modular and a POSITA would know it could be easily modified or combined with different components without affecting other components of the assembly. EX1005, FIG. 2; EX1003, ¶¶301-302. A POSITA would thus have reason to enhance Nguyen's connectors with Lee's connector elements. EX1003, ¶¶301-302.

B. Claim 3

1. [3.1]

Nguyen discloses a combined adapter 100 and plug 200 that is configured to receive optical-fiber connectors, which include at least ferrules 12 and ferrule holders 300, in its respective channels. EX1003, ¶303. Nguyen explains that “ferrules 12 are disposed within the ferrule holder 300 and have optical fibers 14 secured therein” and that “the ferrule holders 300 are inserted into the plug 200.” EX1005, ¶26; EX1003, ¶¶304-305.



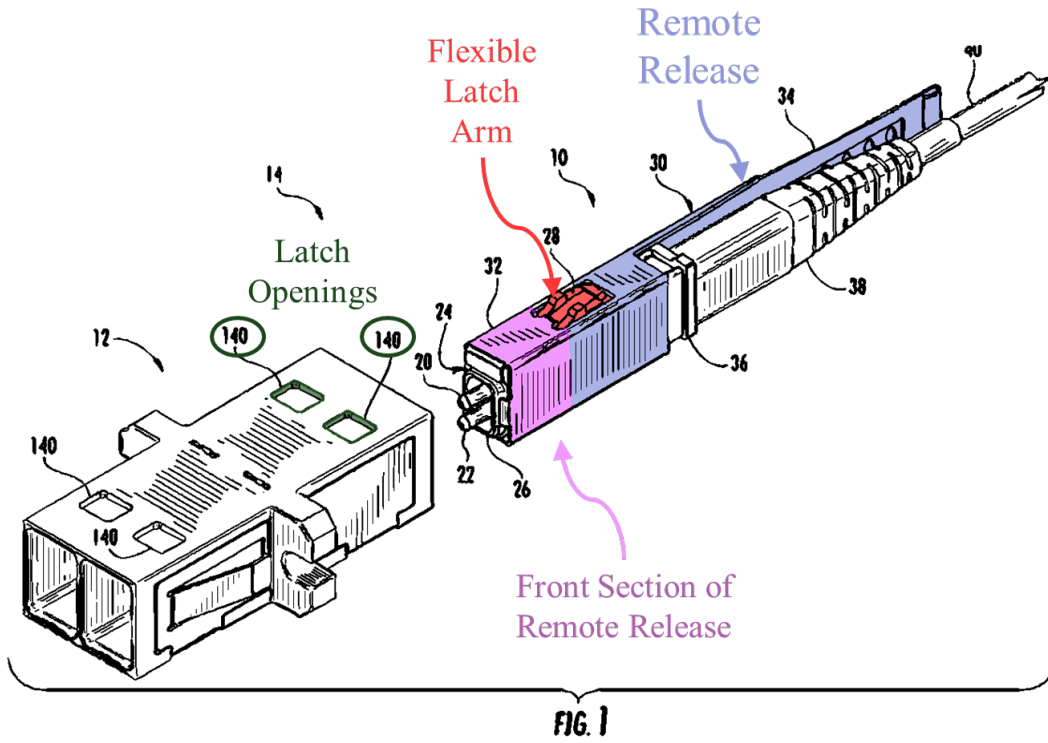
EX1005, FIG. 2 (cropped, annotated).

2. [3.2]

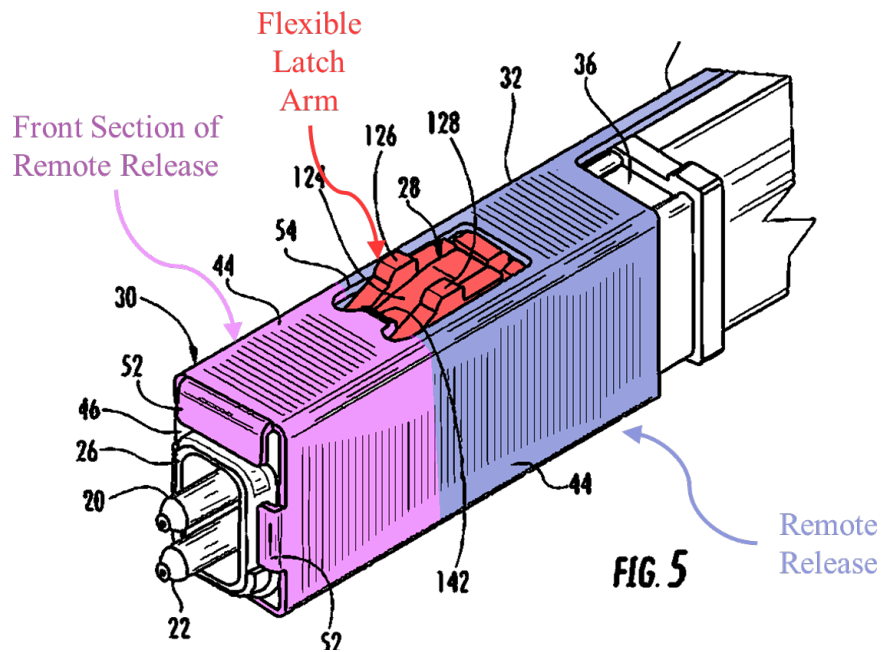
To the extent PO argues that Nguyen’s release mechanism is not “remote” enough to satisfy the claim, the feature is further and explicitly disclosed in Lee. Lee discloses a flexible latch arm of a first optical-fiber connector is latched with the first latch opening of the adapter and a front section of a remote release is received in the first channel, spaced apart from the first latch opening toward the second end portion of the outer housing. EX1006, ¶¶5, 6, 29, 30, FIGs. 1, 5, 9, 10, 12-14; EX1003, ¶306.

Lee’s connector 10 includes a latch arm 28, with latching features 126, 128 that can engage an opening 140 of adapter 12, and a handle 30—including a housing portion 32—that “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.” EX1006, ¶30; EX1003, ¶¶307-308. Figures 1, 5, and 14 illustrate a first optical-fiber connector 10 that includes a latch 28 having latching features 126, 128 that engage with a latch opening 140 of adapter 12 and a first portion of handle 30 as a remote release located further in the channel than the opening 140. EX1003, ¶309.

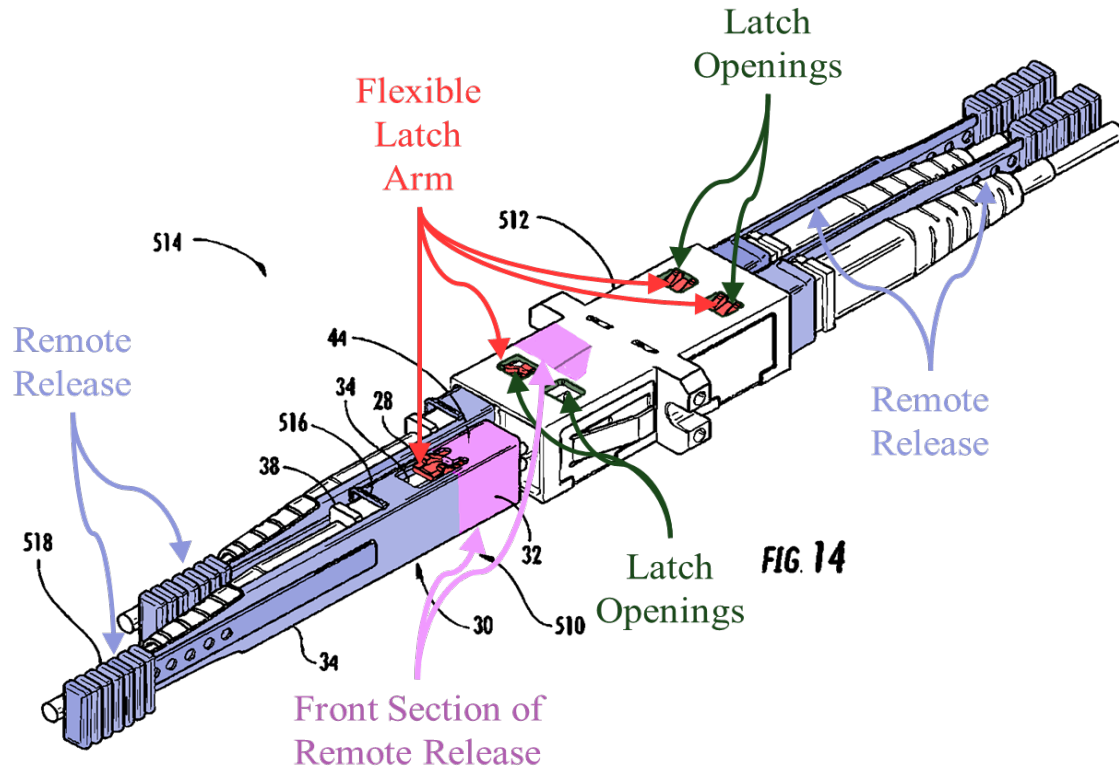
A POSITA would have combined Nguyen-Lee and found the combination renders [3.2] obvious. Section XI.C.2, EX1003, ¶310.



EX1006, FIG. 1 (annotated).



EX1006, FIG. 5 (annotated).



EX1006, FIG. 14 (annotated).

3. [3.3]

If PO alleges Nguyen does not expressly teach [3.3], Lee discloses a second flexible latch arm of a second optical-fiber connector, which is latched with the first latch opening of the adapter and a front section of a remote release is received in the first channel, spaced apart from the second latch opening toward the second end portion of the outer housing. EX1006, ¶¶5, 6, 29, 30, FIGs. 1, 5, 9, 10, 12-14; EX1003, ¶¶311-312. Figures 1, 5, and 14 illustrate a second optical-fiber connector 10 with a latch 28 having latching features 126, 128 that engage with a latch opening 140 of adapter 12 and a first portion of handle 30 as a remote release that is located further in the channel than the opening 140. EX1003, ¶313.

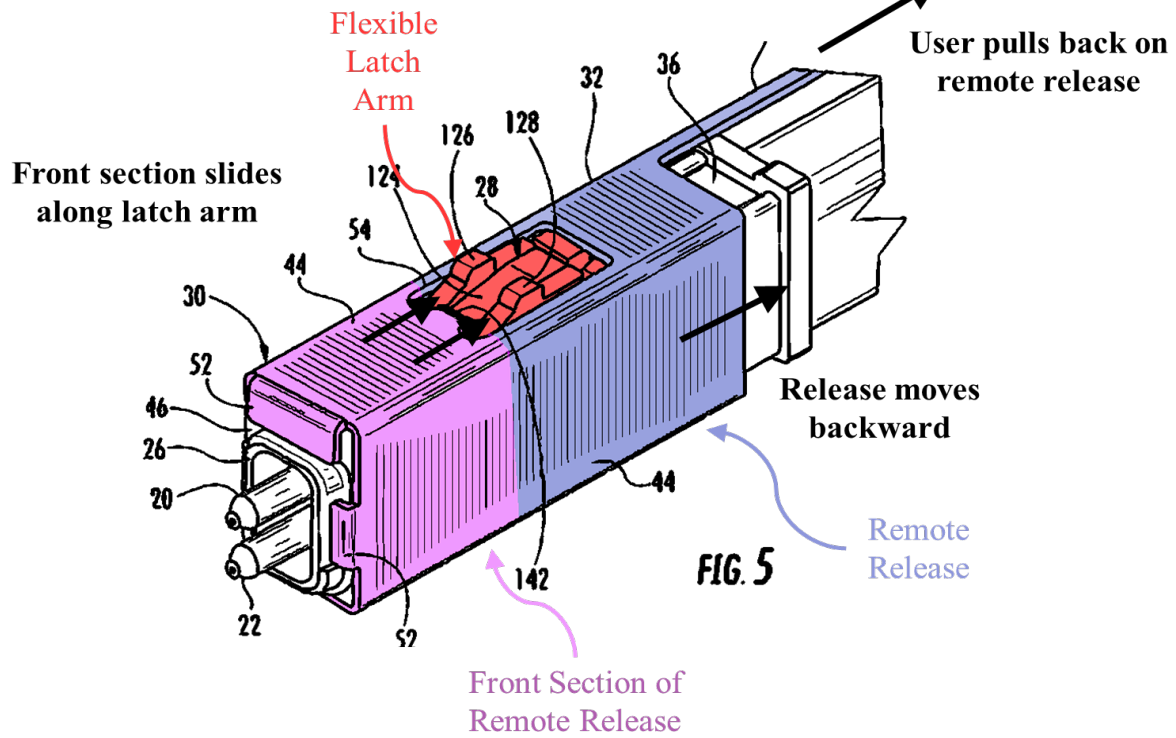
A POSITA would have combined Nguyen-Lee and found the combination renders [3.3] obvious. Section XI.C.3, EX1003, ¶314.

C. Claim 4

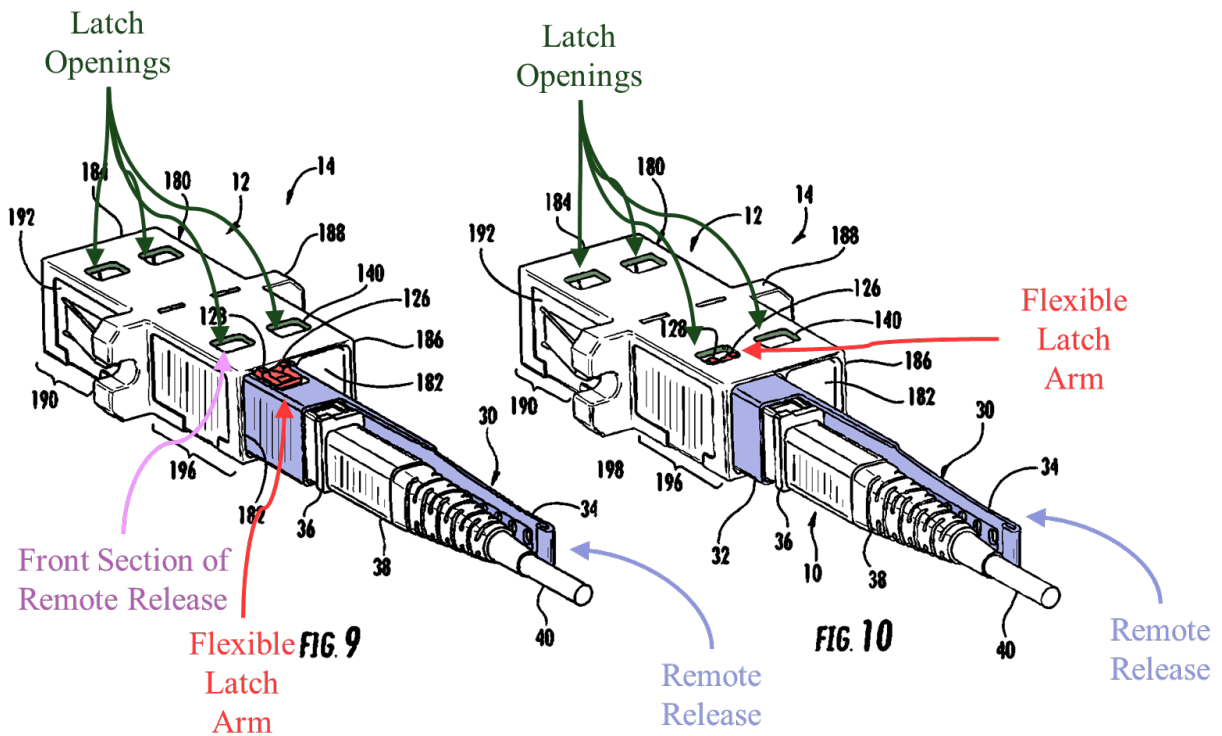
Nguyen discloses optical-fiber connectors that are accepted by the first and second channels of an adapter. While Nguyen does not disclose a connector with a sliding remote release mechanism, Lee does. EX1003, ¶315.

Lee discloses two channels configured to allow front sections of remote releases of two optical fiber connectors to slide along their respective flexible latch arms. EX1006, FIGs. 5, 9, 10, 14, ¶¶60, 63, 65; EX1003, ¶¶316-317. Lee's adapter 12 has ports 182 that define passageways and generally have shapes that correspond to the housing portion 32 of handle 30 of connector 10, which can be inserted into the passageways. EX1006, ¶¶60, 63; EX1003, ¶318. The front section of housing portion 32 of connector 10 may slide along ramp 124 of latch arm 128 toward the first end portion of the adapter 12 "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." EX1006, ¶65; EX1003, ¶319. Figures 5, 9, 10, and 14 illustrate channels configured in this way. EX1003, ¶¶320-321.

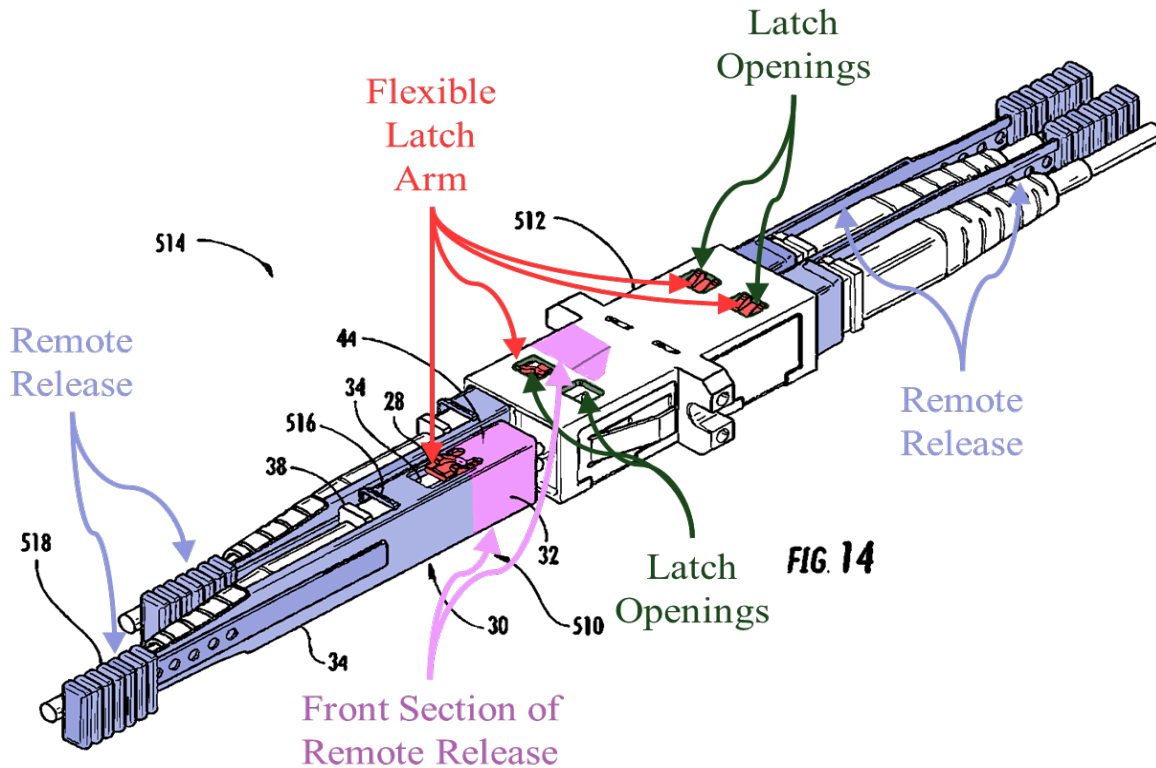
A POSITA would have combined Nguyen-Lee and found the combination renders claim 4 obvious. EX1003, ¶322.



EX1006, FIG. 5 (annotated).



EX1006, FIGs. 9, 10 (annotated).



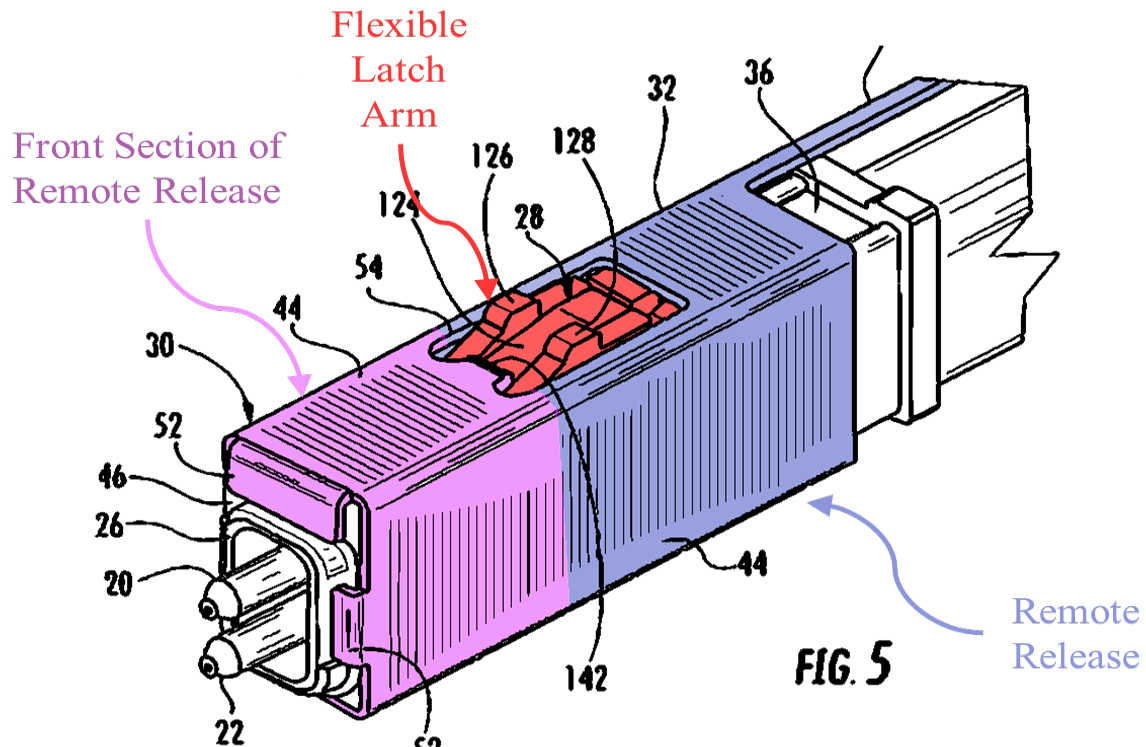
EX1006, FIG. 14 (annotated).

D. Claim 5

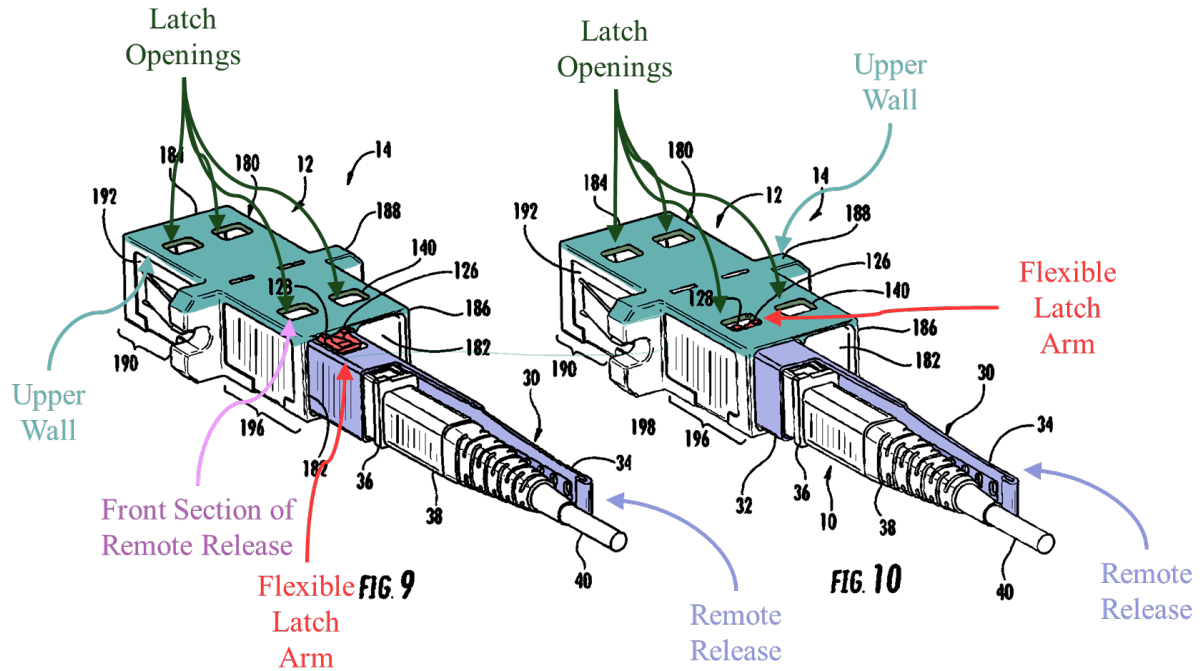
To the extent PO alleges Nguyen lacks this feature, Lee’s adapter 12 includes an upper wall (top of adapter) that is configured to unlatch (latching feature 140) from flexible latch arms (latch arm 28) when flexible latch arms of the fiber-optical connectors 10 are depressed. EX1003, ¶323. Lee explains “[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.” EX1006, ¶65; EX1003, ¶324. “This 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.” EX1006, ¶65; EX1003, ¶324.

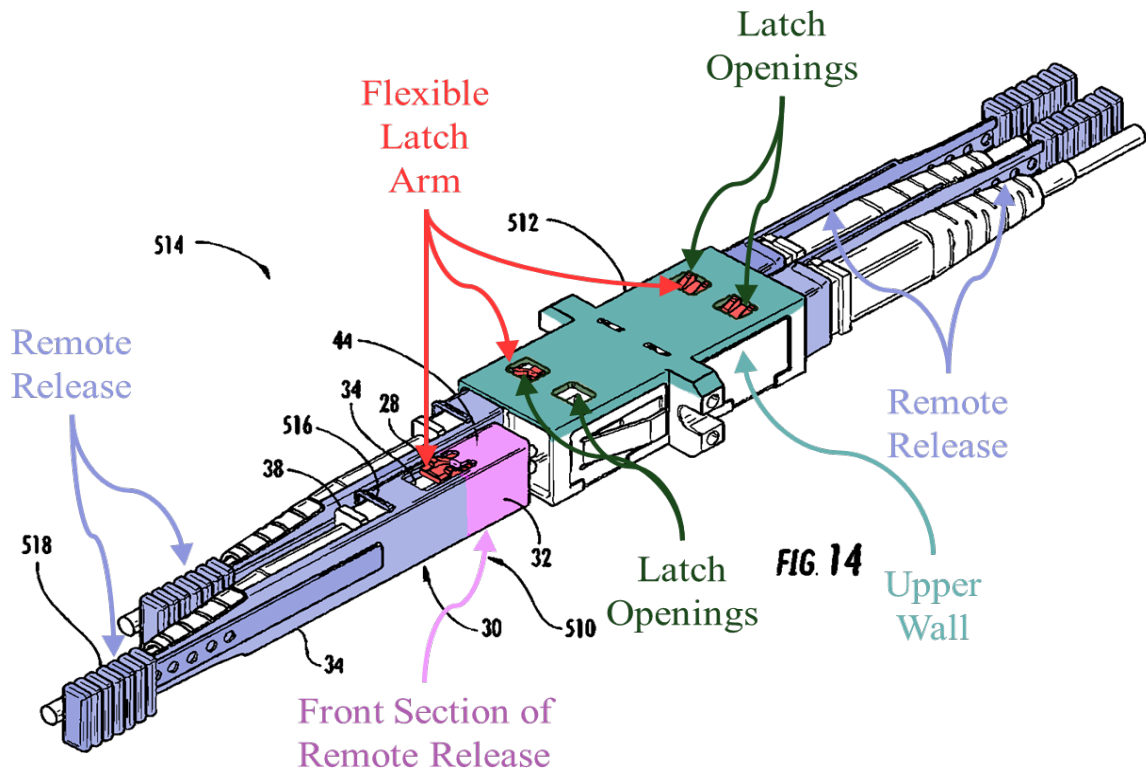
A POSITA would have combined Nguyen-Lee and found the combination renders claim 5 obvious. EX1003, ¶¶325-326.



EX1006, FIG. 5 (annotated).



EX1006, FIGs. 9, 10 (annotated).



EX1006, FIG. 14 (annotated).

E. Claim 8

To the extent PO contends that Nguyen does not expressly disclose this limitation through its depiction of the ribs, Nguyen nonetheless renders obvious dependent claim 8, especially in view of the teachings of Lee. EX1003, ¶¶327-328.

A POSITA would have known that ribs help define the channels for fiber optic connectors, but are not necessary. *Compare* EX1003, ¶¶329-330, *with* EX1005, FIG. 3 (depicting a similar adapter without ribs). The exact dimension of the ribs in the transverse direction is not critical. *Id.*

Lee shows channels separated by longitudinal walls running the entirety of the transverse direction. Effectively, longitudinal ribs are longitudinal walls that are interrupted in the transverse dimension. *Id.* Thus, Lee illustrates that a POSITA could extend the height of either or both of Nguyen's longitudinal ribs as much as desired, from the zero distance of Nguyen to the entire distance shown in Lee. *Id.*

Given the teachings of Nguyen and Lee, a POSITA would have found it obvious to form Nguyen's ribs such that the upper rib has a greater height than the lower rib. EX1003, ¶331. Limitations related merely to size are not patentably distinguishable over the prior art, especially where there is no difference in form or function (and no unexpected results). That is the case here. Sizing the upper rib to be slightly taller in the transverse direction would not change the operation of Nguyen's adapter. *Id.* This is an obvious variant of Nguyen's rib heights that

would have had reasonable expectation of success. Indeed, doing so was well known in the art at the time. *Id.*

A POSITA would have been motivated to size the upper rib slightly larger than the lower rib to provide a more robust structure in the same area of the adapter that includes the latch receptacles 232. EX1003, ¶332. A POSITA would have known that providing the latch receptacles 232 in the plug 200 will weaken the structural integrity of the upper surface of the plug 200 at least compared to the lower surface. *Id.* Providing a slightly larger rib in this location will increase the rigidity of the plug 200 along the upper wall for a more robust design. *Id.*

A POSITA would have further known that the type of adapters disclosed in Nguyen are plastic components made by known techniques such as molds or 3D printing. Modifying the size of any of the components is easily accomplished (e.g., by adjusting the mold or the 3D printing instructions) with reasonable expectation of success. EX1003, ¶333. Accordingly, claim 8 is obvious. EX1003, ¶334.

F. Claim 10

Nguyen discloses a transverse wall. Even if PO disagrees, Lee's adapter discloses this feature. EX1003, ¶335.

Lee discloses sleeve holder 200 extending between the upper and lower walls at a location longitudinally spaced from the first end portion of the housing. EX1006, ¶62, FIG. 8; EX1003, ¶336. Lee describes, "[t]wo sleeve holders 200 are

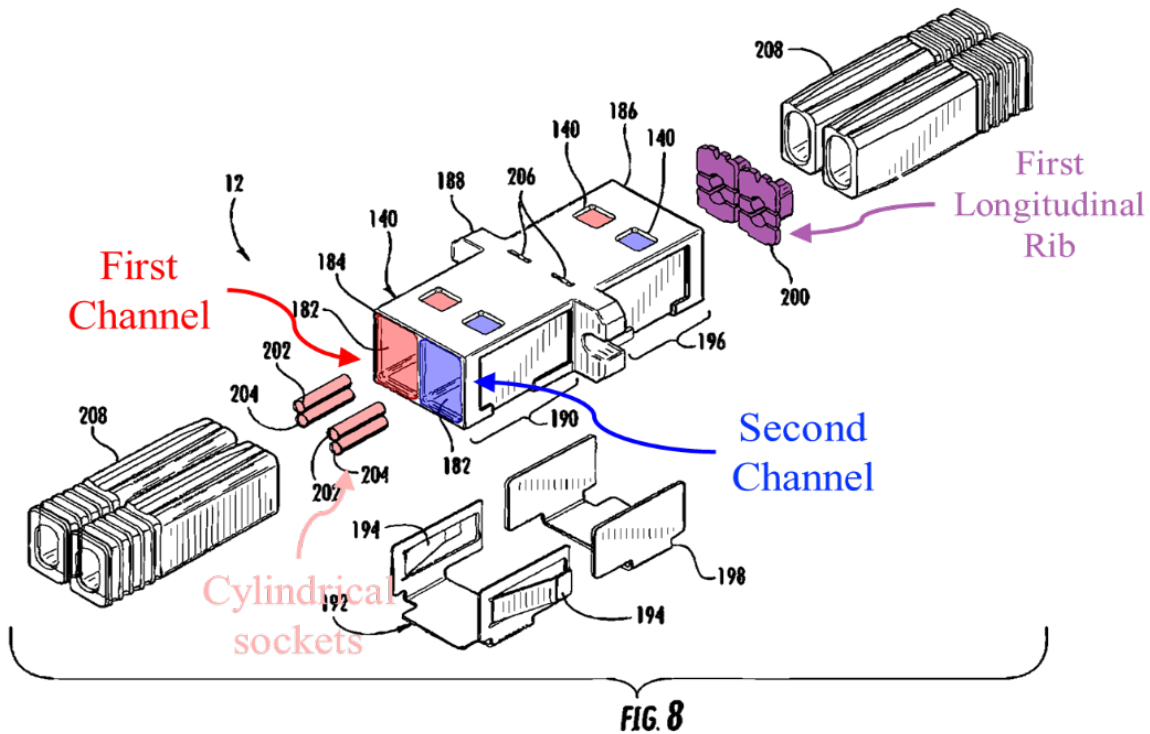
G. Claims 11 & 12

Nguyen's sockets appear to be square, while Lee's sockets are cylindrical. A POSITA would have understood from Lee that cylindrical sockets could be used in the adapter of Nguyen. EX1003, ¶342.

Lee discloses a transverse wall that includes sockets (first and second sleeves 202, 204) in each of the channels (slots 206) that are configured to receive a ferrule (ferrules 20, 22) of one of the optical connectors (optical fiber connector 10). EX1006, ¶¶36, 62, FIG. 8; EX1003, ¶¶340, 343.

Lee explains, "first and second sleeves 202, 204 that are positioned by the sleeve holders 200 are used to align the first and second ferrules 20, 22 of the connector 10 with similarly-shaped ferrules of a mating component (e.g., another connector)." EX1006, ¶62; EX1003, ¶344. Lee further explains that "[t]he first and second ferrules 20, 22 in the embodiment shown are cylindrical." EX1006, ¶36; EX1003, ¶345. Figure 8 also illustrates the sockets are cylindrical, receive ferrules, and are placed in respective channels (slots 206). EX1003, ¶346.

A POSITA would have combined Nguyen-Lee and found the combination renders claims 11 and 12 obvious. EX1003, ¶¶341, 347.



EX1006, FIG. 8 (annotated).

XIII. GROUND 4: CLAIMS 1-2 AND 6-12 ARE ANTICIPATED BY NAKAGAWA.

Nakagawa discloses all limitations of claims 1-12 of the '836 patent.

EX1003, ¶348.

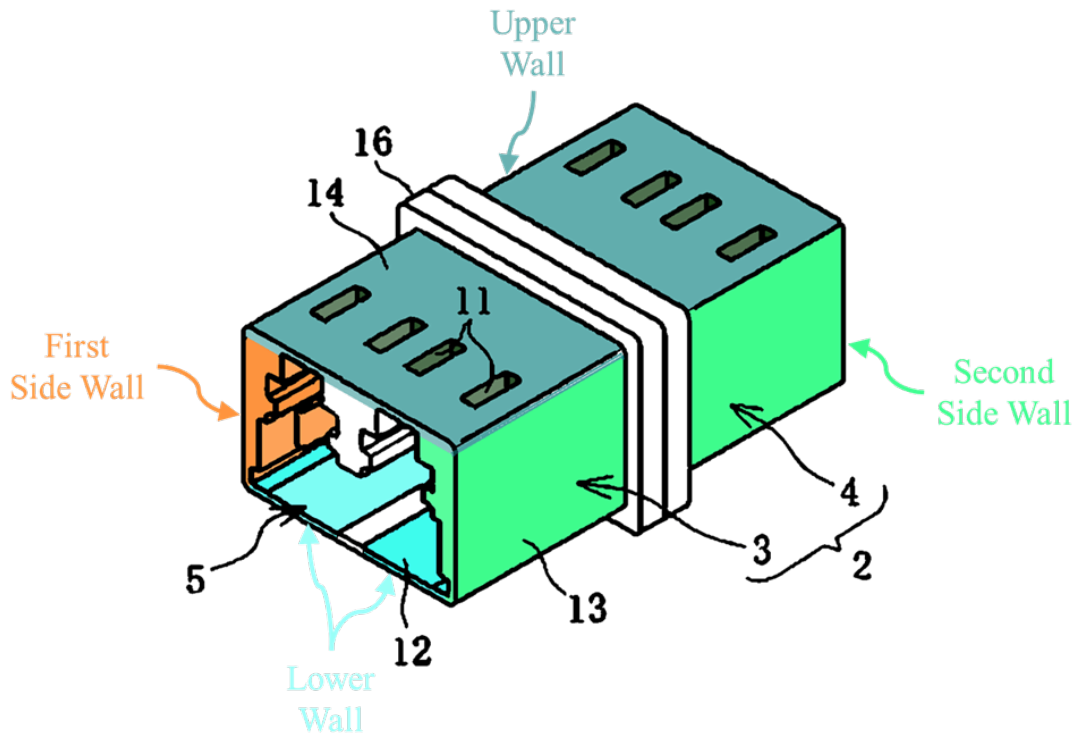
A. Claim 1

1. Preamble

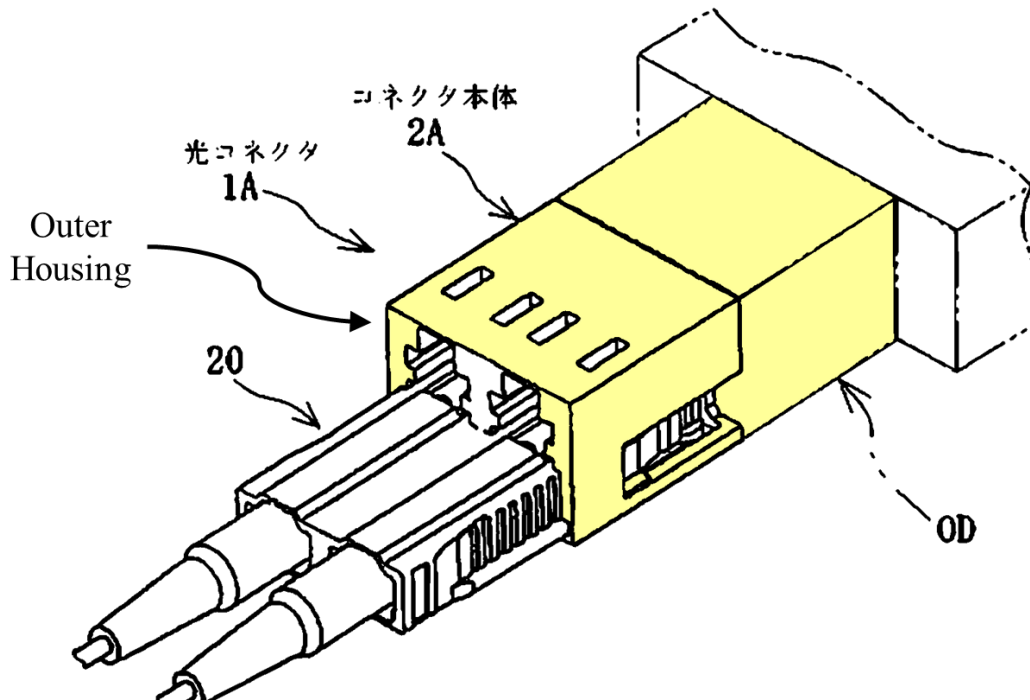
Nakagawa discloses an adapter for mating with optical-fiber connectors.

EX1009, FIG. 1; EX1003, ¶349.

Figure 13 illustrates the adapter of Figure 1 mated with two optical fiber connectors. EX1003, ¶¶350-352.



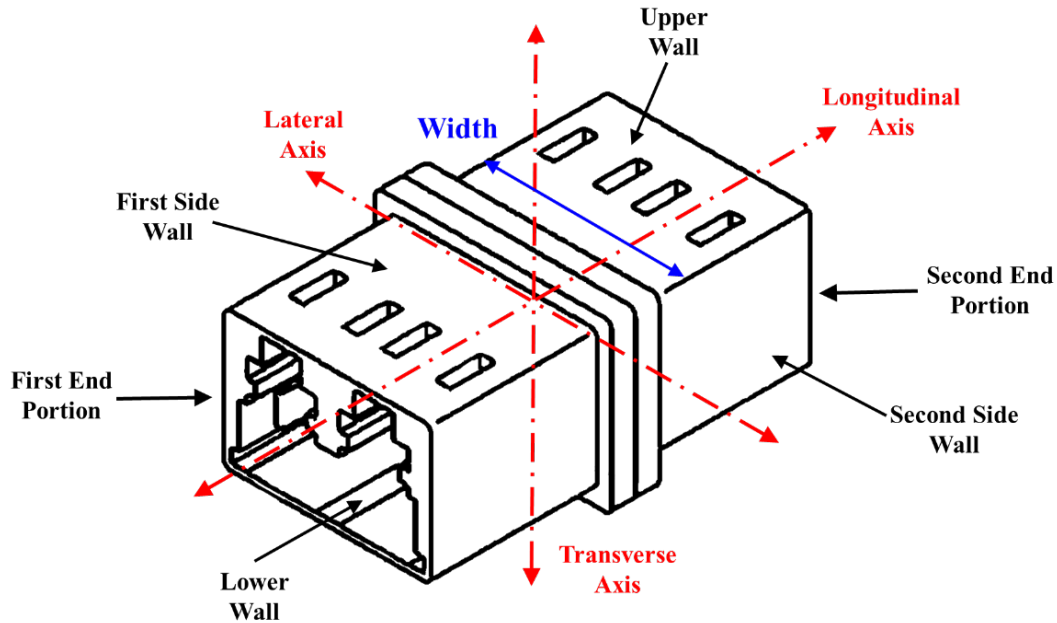
EX1009, FIG. 1 (annotated).



EX1009, FIG. 13 (annotated).

2. [1.1]

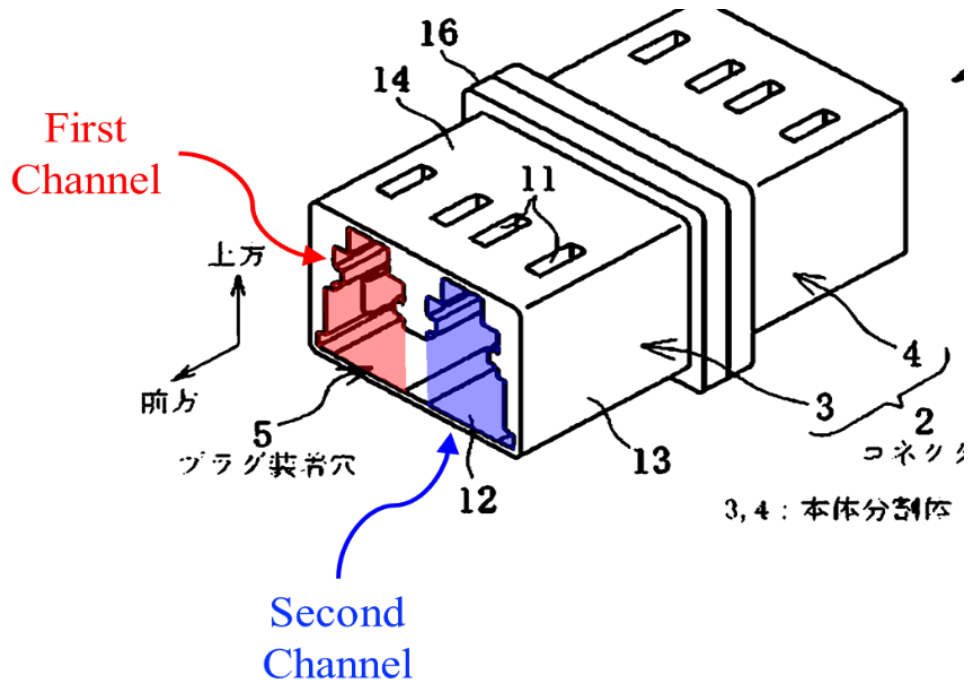
Nakagawa FIG. 1 discloses [1.1]. EX1003, ¶¶353-357.



EX1009, FIG. 1 (annotated).

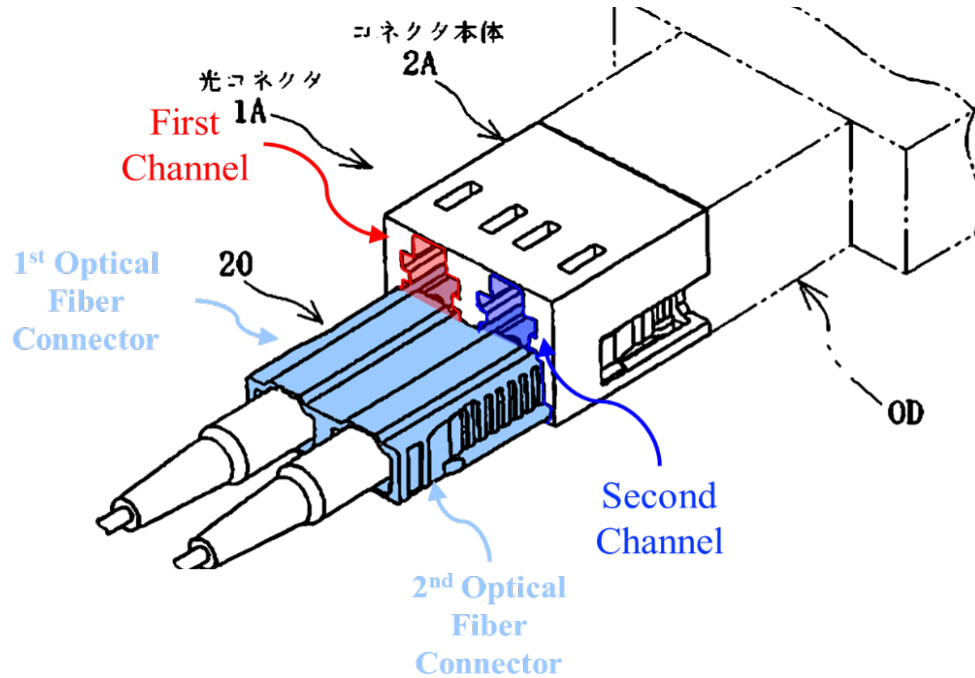
3. [1.2]

Nakagawa's FIG. 1 adapter discloses [1.2]. EX1003, ¶358.



EX1009, FIG. 1 (annotated).

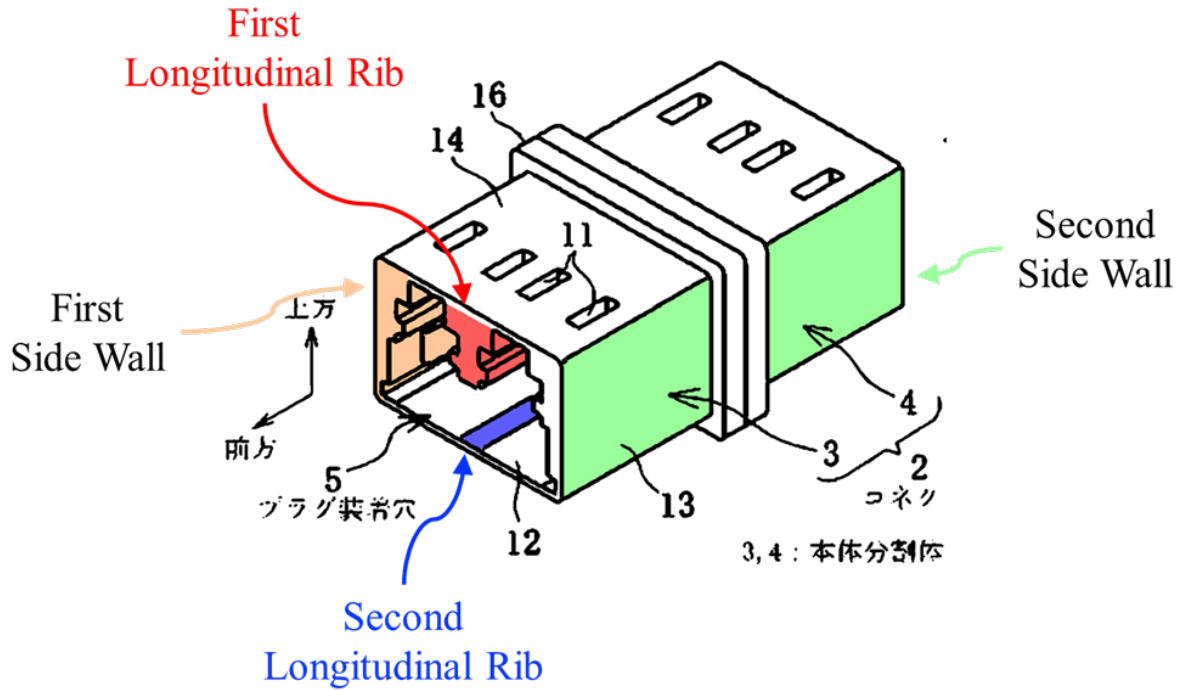
Figure 13 further illustrates the adapter of Figure 1 with a first and second optical-fiber connector mated with the first and second channels. EX1003, ¶¶359-361.



EX1009, FIG. 13 (cropped, annotated).

4. [1.3]

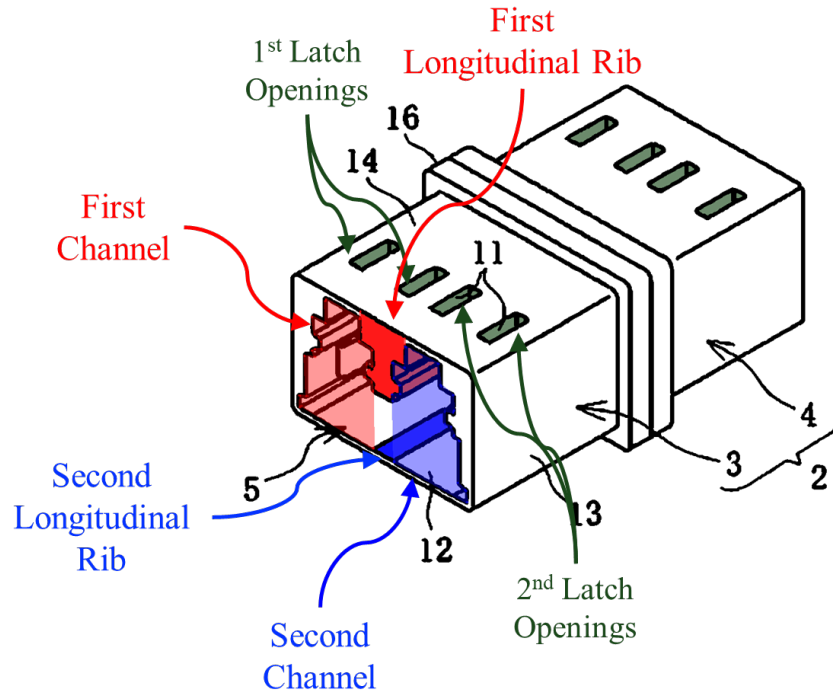
Nakagawa FIG. 1 discloses [1.3]. EX1003, ¶362. Figure 1 illustrates an adapter including longitudinal ribs having these features. EX1003, ¶¶363-364.



EX1009, FIG. 1 (annotated).

5. [1.4]

Nakagawa's FIG. 1 illustrates first and second channels with first and second longitudinal ribs located between the channels. EX1003, ¶¶365-367.



EX1009, FIG. 1 (annotated).

C. Claims 6 & 7

Nakagawa discloses claims 6 and 7. Figures 1 and 12 illustrate an adapter's lower wall free of latch openings. EX1003, ¶¶370-372.

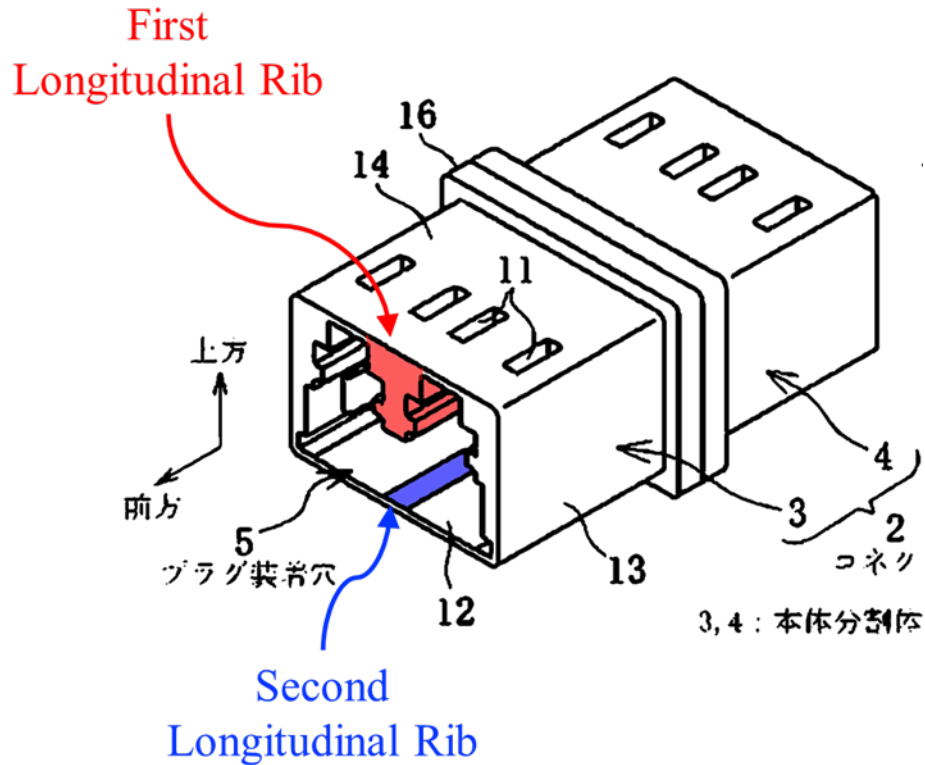
EX1009, FIG. 1 (annotated).



EX1009, FIG. 12 (annotated).

D. Claim 8

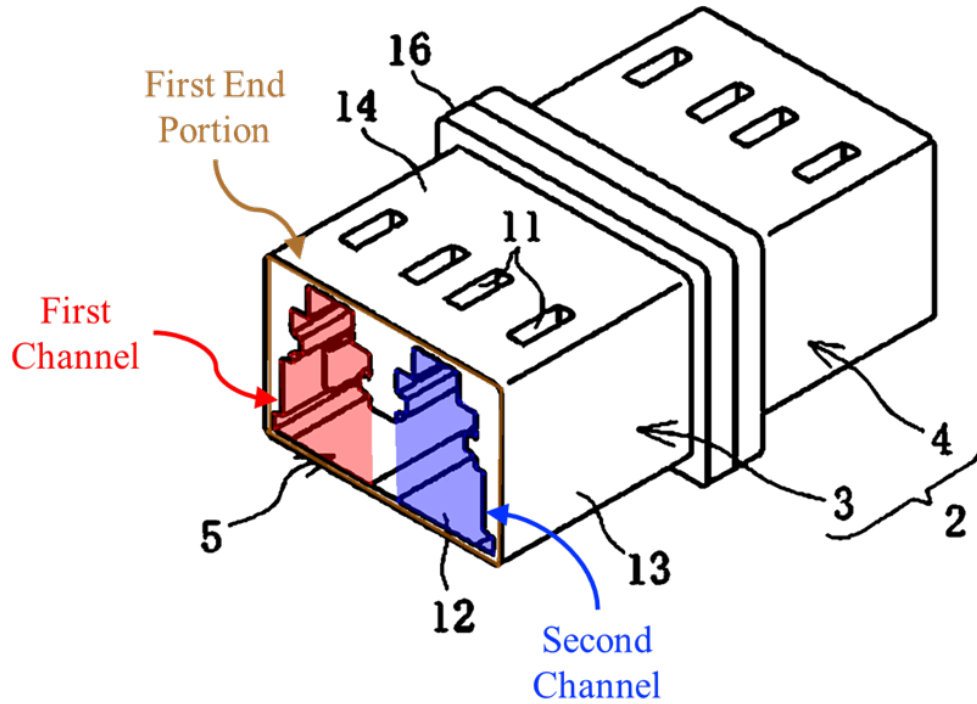
Nakagawa discloses claim 8. Figure 1 shows a first longitudinal rib that is visibly greater in height than the second longitudinal rib. EX1003, ¶¶373-375.



EX1009, FIG. 1 (annotated).

E. Claim 9

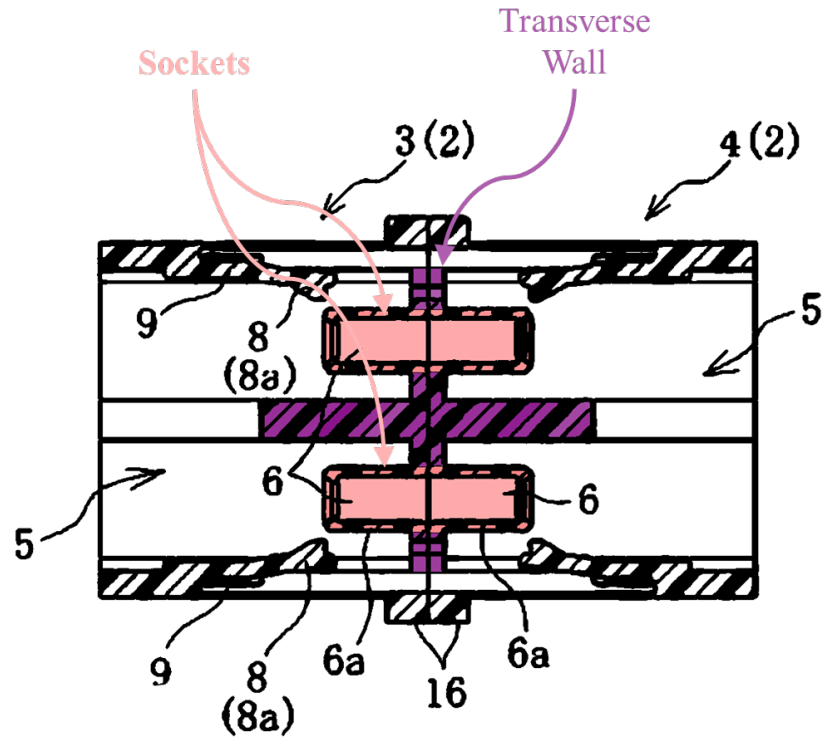
Nakagawa discloses each of the first and second channels opens through the first end portion of the outer housing. EX1003, ¶¶376-377.



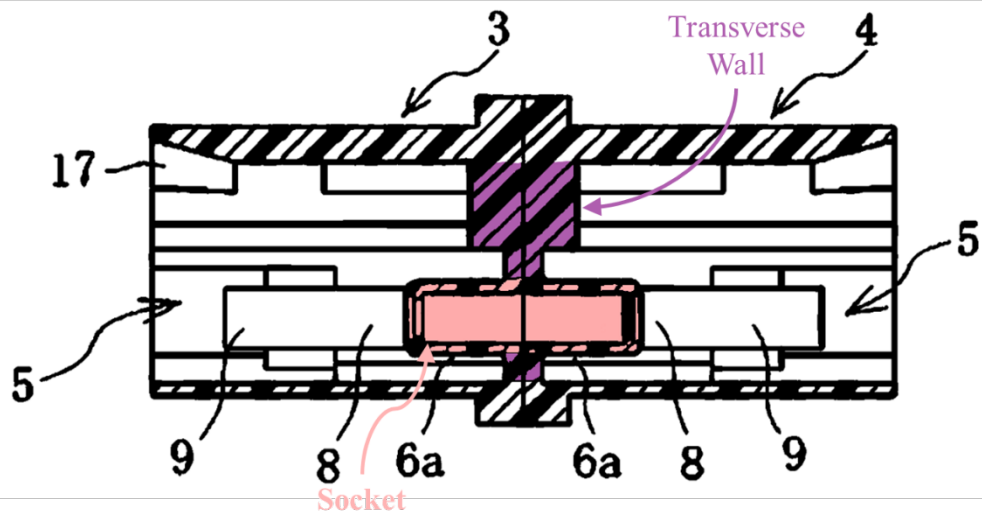
EX1009, FIG. 1 (annotated).

F. Claim 10

Nakagawa discloses claim 10. EX1003, ¶¶378-380. Figures 3 and 4 illustrate latitudinal and longitudinal cross-section views of the adapter in which a transverse wall is visible. *Id.*



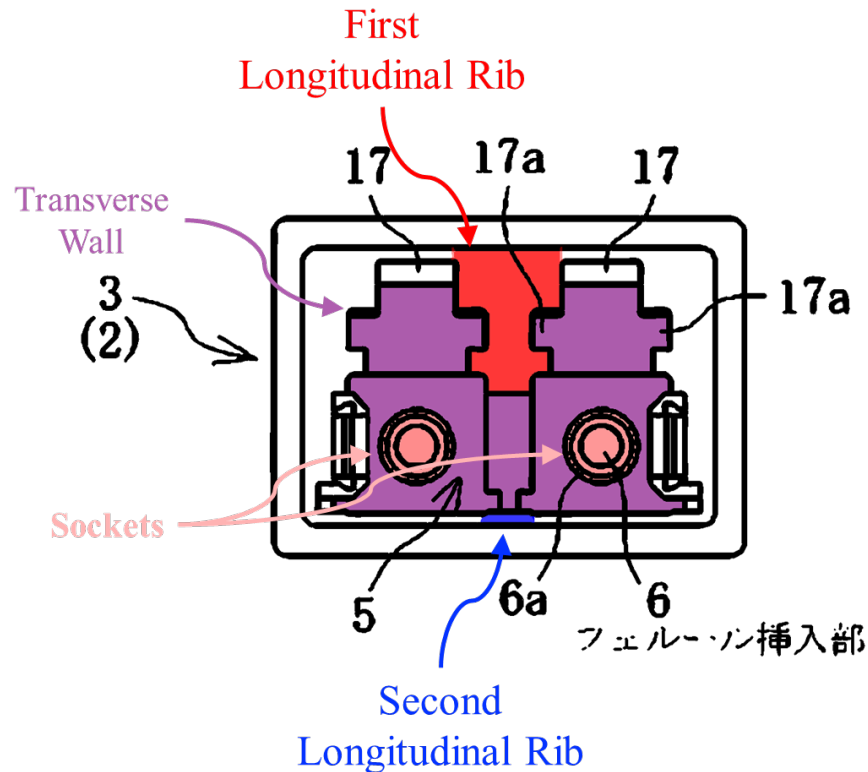
EX1009, FIG. 3 (annotated).



EX1009, FIG. 4 (annotated).

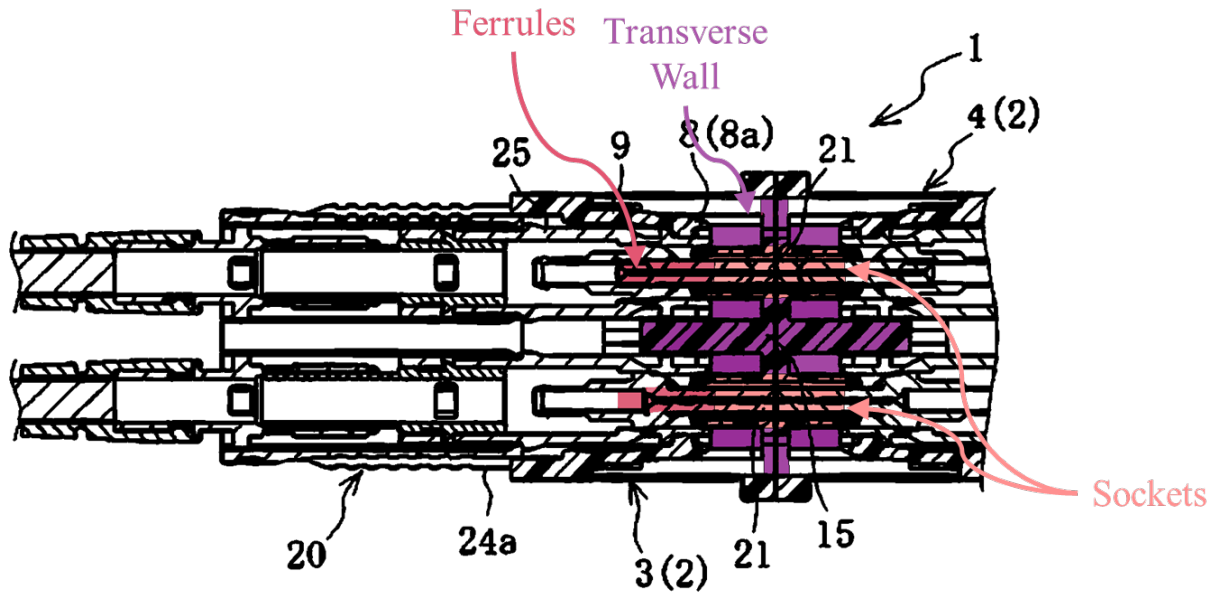
G. Claims 11 & 12

Nakagawa discloses claims 11 and 12. Figure 2 illustrates that the cylindrical sockets in the first and second channels receive cylindrical ferrules of the connectors at the location of the transverse wall. EX1003, ¶381.



EX1009, FIG. 2 (annotated).

Figure 10 illustrates a cross-sectional view of the adapter mated with first and second optical fiber connectors in the first and second channels. EX1003, ¶¶382-384. The transverse wall includes sockets that align with the first and second channels, and receive the ferrules of the first and second connectors. *Id.*



EX1009, FIG. 10 (annotated).

XIV. GROUND 5: CLAIMS 3-5 AND 13 ARE OBVIOUS OVER NAKAGAWA IN VIEW OF DEJONG.

Notwithstanding that Nakagawa anticipates claims 3-5 as discussed above, to the extent PO disputes any limitations of claims 3-5 as being express in Nakagawa, a POSITA would have found these limitations obvious in view of deJong. deJong qualifies as prior art regardless of the afforded priority date as deJong published April 21, 2011. EX1003, ¶385.

A. Motivation to Combine

A POSITA would combine Nakagawa and deJong to arrive at the subject matter of the claims. EX1003, ¶386. Specifically, a POSITA would modify Nakagawa's assembly to include an optical-fiber connector with a push-pull mechanism, as disclosed in deJong. *Id.* A POSITA would be motivated to do so in

order to utilize the improved push-pull mechanism of deJong's connector in Nakagawa's duplex adapter-connector assembly. EX1003, ¶387. While Nakagawa's assembly includes a connector with a latching mechanism, the mechanism is not optimized for ease of use in high-density setups. As such, a POSITA would have been motivated to replace Nakagawa's connectors with those disclosed in deJong in order to make Nakagawa's adapter-connector assembly better suited for a high-density setup. *Id.* Optimizing an adapter that can accommodate two types of optical connectors for use in a high-density setup would greatly increase the versatility of the adapter. EX1003, ¶388.

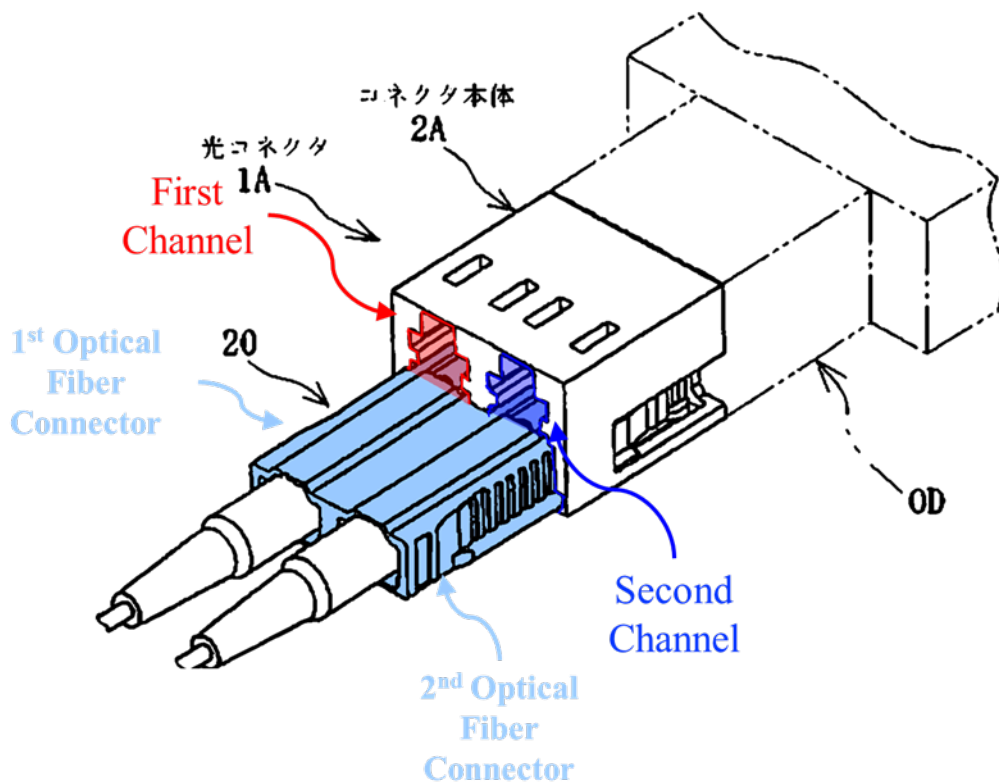
Nakagawa's adaptor is designed to accommodate both MU- and LC-type connectors. DeJong explains that although "illustrated as an LC connector the concepts disclosed are applicable to other suitable latching push-pull fiber optic connectors." EX1010, ¶20. A POSITA would have understood that Nakagawa's assembly could be improved by replacing the connector with the duplex connector disclosed in deJong without otherwise changing the functionality of the assembly. EX1003, ¶389. This modification involves the simple substitution of one known component for another, which will function as intended with predictable results. EX1003, ¶414. A POSITA would have a reasonable expectation of success, as this modification would have been readily implementable using ordinary skill in the art at the time. EX1003, ¶¶390-391.

The duplex connector of deJong is in the same orientation as that in Nakagawa. Additionally, the latching of deJong's connector to the adapter occurs in a similar manner as Nakagawa. EX1003, ¶392. The main distinction between the latching mechanisms disclosed in Nakagawa and deJong is the way the mechanisms are actuated. A POSITA would have understood the actuation of the latching mechanism of Nakagawa could be replaced by that of deJong without a need to significantly modify Nakagawa's adapter because the manner of actuation is primarily a feature of the connector, not the adapter. *Id.* The modification of Nakagawa's connector to utilize the push-pull feature disclosed in deJong would have been obvious. EX1003, ¶393.

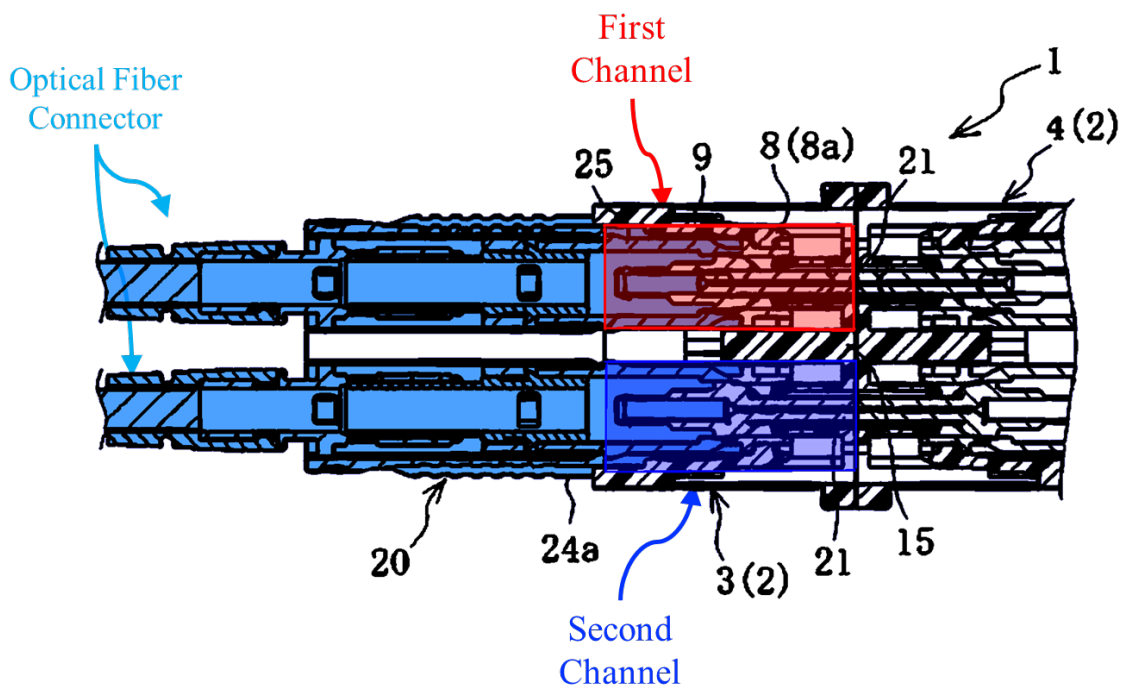
B. Claim 3

1. [3.1]

Nakagawa discloses [3.1]. Figures 10 and 13 illustrate cross-sectional and perspective views of first and second optical-fiber connectors received in first and second channels of the adapter. EX1003, ¶¶394-396.



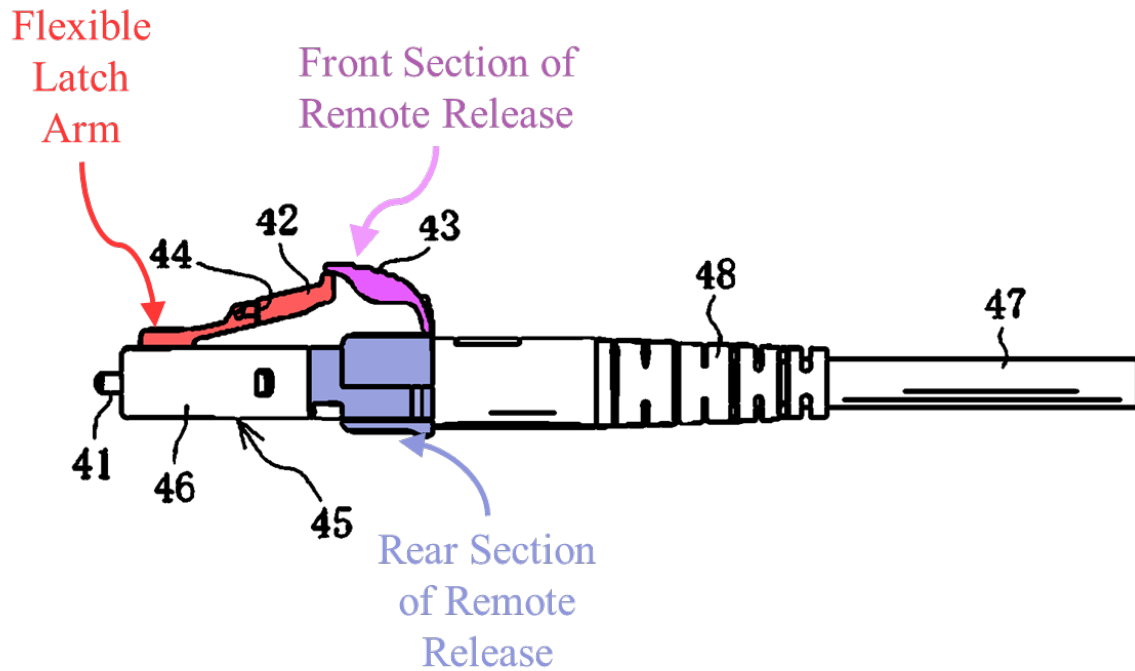
EX1009, FIG. 13 (annotated).



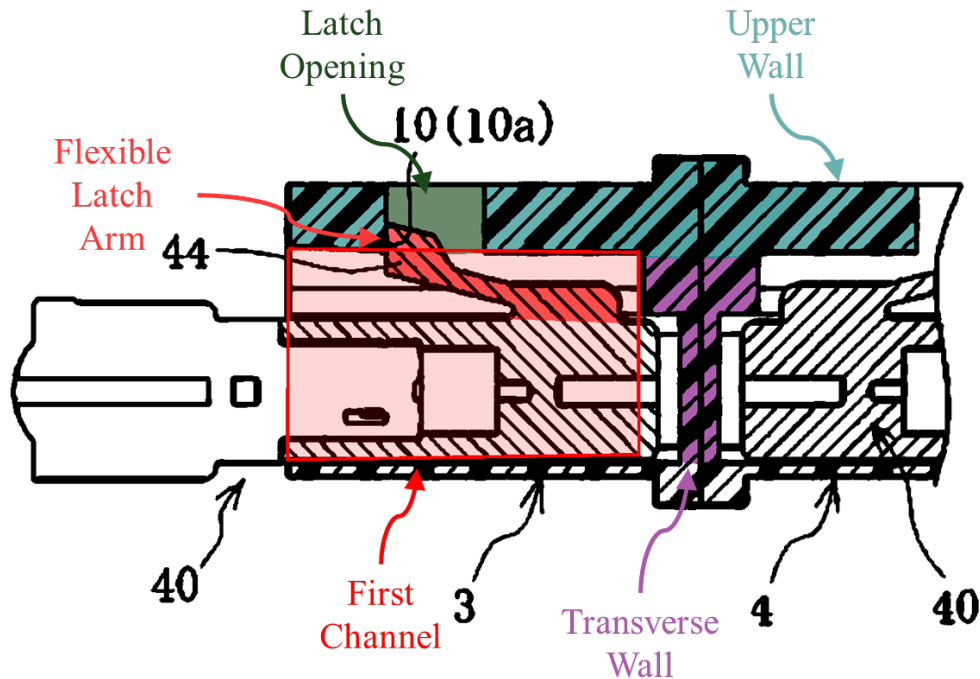
EX1009, FIG. 10 (annotated).

2. [3.2]

Nakagawa discloses [3.2]. Nakagawa Figures 8 and 12 illustrate a flexible latch arm configured to latch with the first latch opening. EX1003, ¶397.



EX1009, FIG. 8 (annotated).



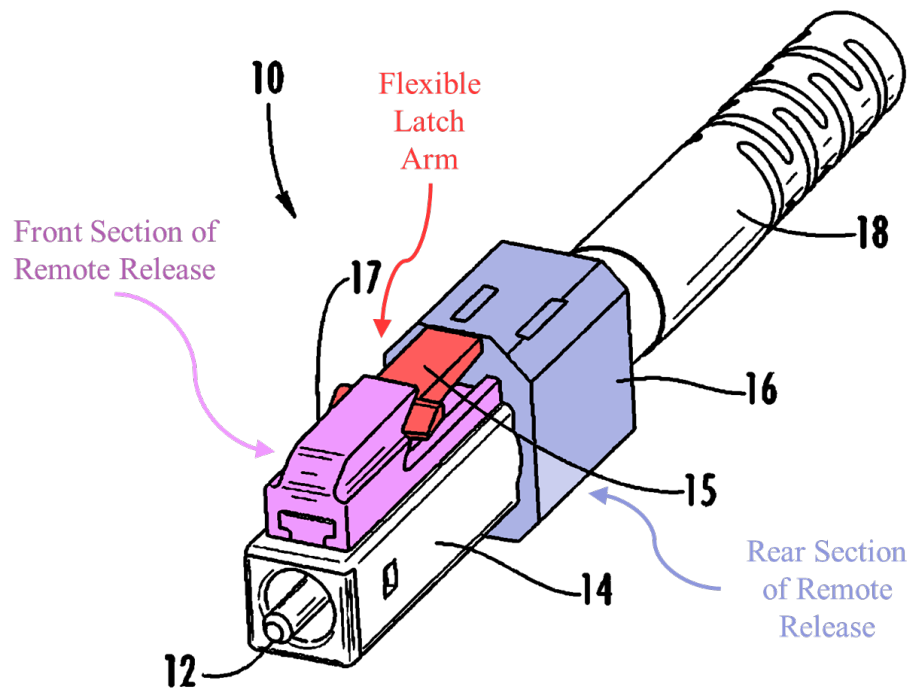
EX1009, FIG. 12 (annotated).

To the extent PO argues that Nakagawa’s remote release does not have a front section distinct from the rest of the remote release, deJong discloses this feature. EX1003, ¶398.

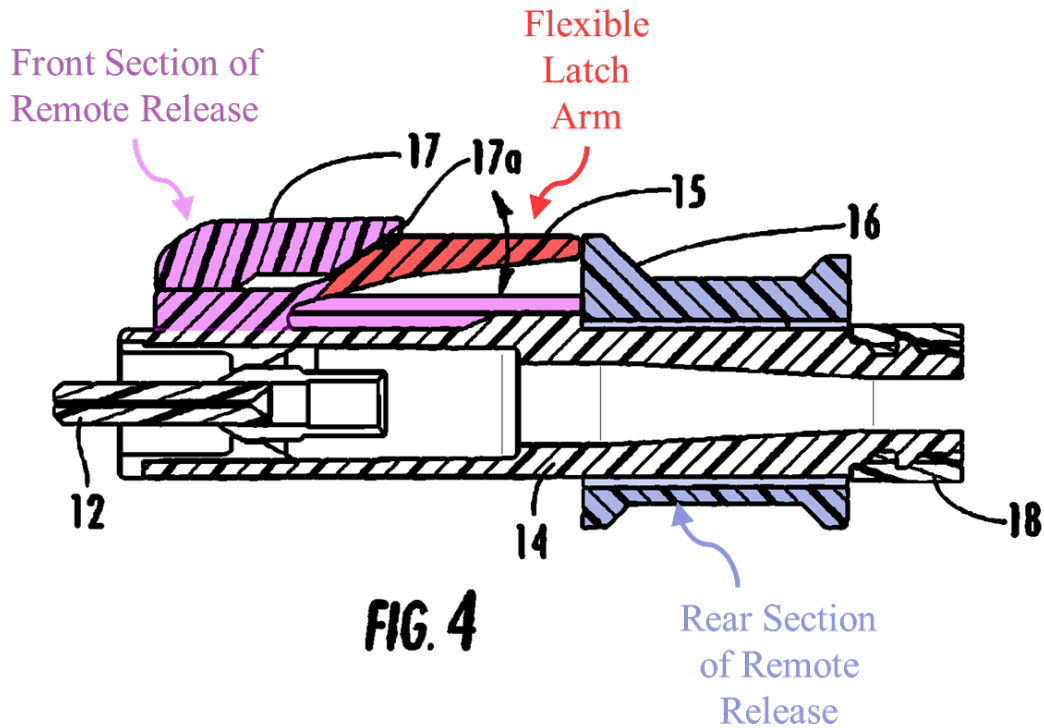
For example, deJong explains that “[d]ecoupling member 17 includes one or more retaining features 17b disposed on the rearward end of the arms for attaching decoupling member 17 to shroud 16.” EX1010, ¶23; EX1003, ¶399. DeJong further explains, “as fiber optic connector 10 is pushed into the adapter,” the shroud 16 is pushed into a forward position allowing the latch 15 to slide into the adapter such that “the latch is pushed downward to and then springs upward to engage complimentary geometry on the adapter or the like for securing the same.”

EX1010, ¶24; EX1003, ¶399. Figures 1 and 4 of deJong illustrate a remote release configured such that the front section of the remote release is received in the first channel at a location spaced apart from the first latch opening. EX1003, ¶400.

Accordingly, Nakagawa-deJong disclose all features of [3.2] and would have been obvious to combine. Sections X.D.2, XI.C.2, XIV.A, EX1003, ¶401.



EX1010, FIG. 1 (annotated).



EX1010, FIG. 4 (annotated).

3. [3.3]

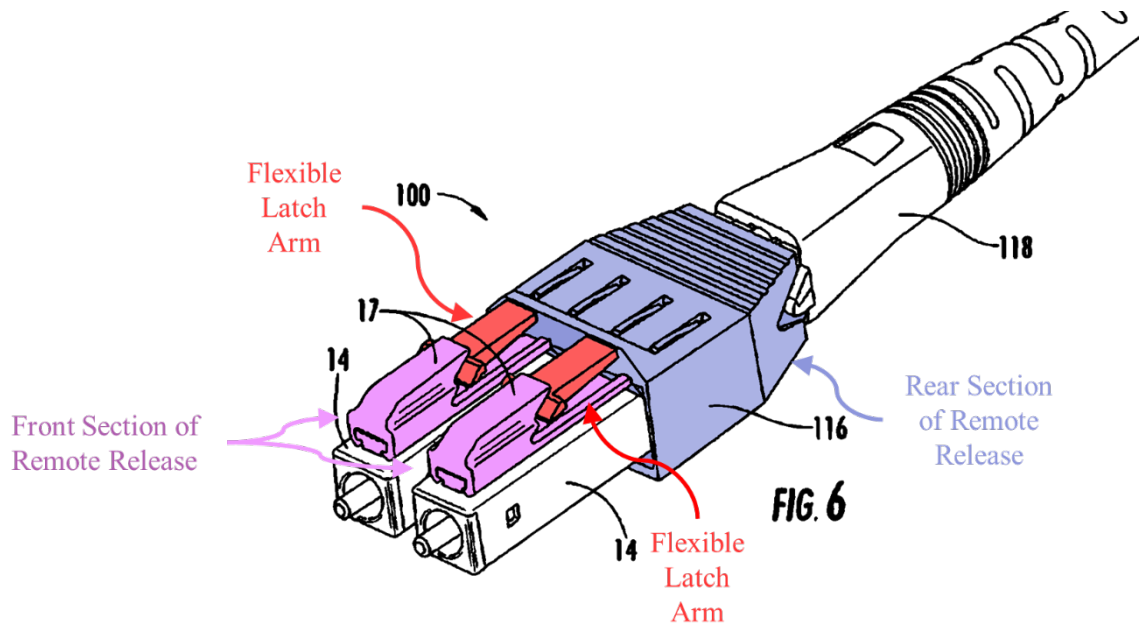
Nakagawa-deJong discloses [3.3].

Nakagawa discloses an adapter with first and second channels configured to receive first and second optical-fiber connectors.

Both Nakagawa and deJong disclose first and second connectors. EX1003, ¶¶402-403.

As such, it would have been obvious to combine the duplex adapter of Nakagawa with the duplex connector of deJong (shown below). *Id.* A POSITA would be motivated to make this combination to utilize the improved push-pull

mechanism of deJong's connector in a duplex adapter-connector assembly. *Id.*, ¶404.

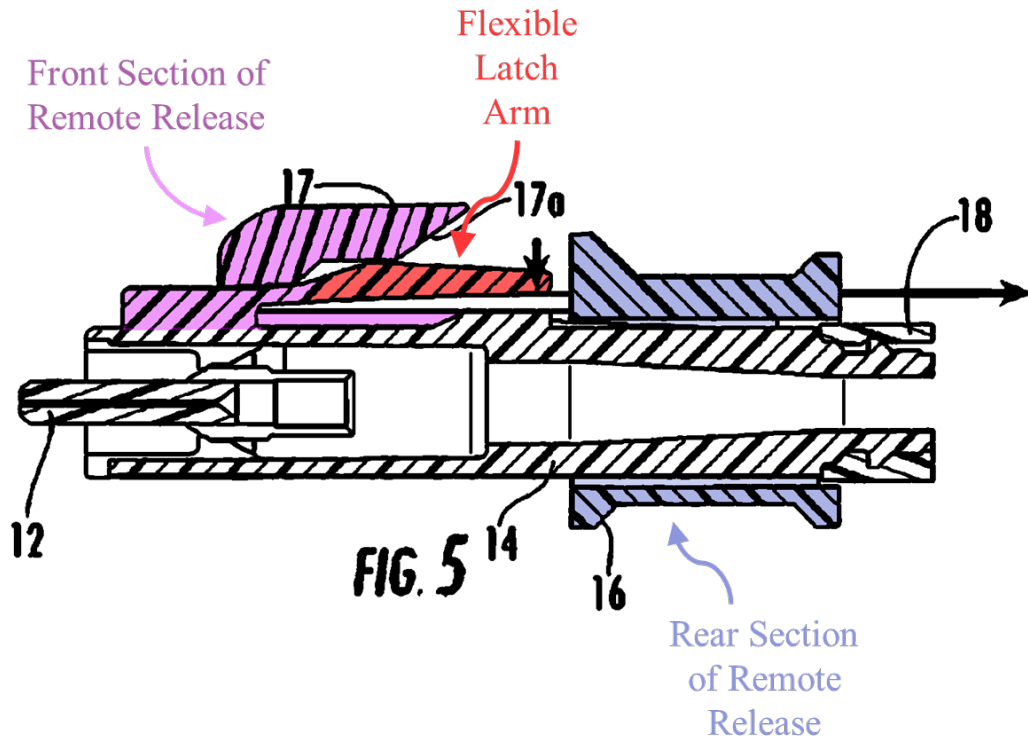


EX1010, FIG. 6 (cropped, annotated).

C. Claim 4

Nakagawa discloses claim 4. EX1003, ¶405; EX1009, FIG. 11. To the extent PO argues that the front portion of the remote release must slide along the flexible latch arm solely in the longitudinal direction, deJong discloses such a remote release and flexible latch arm interaction. EX1003, ¶406.

For example, deJong describes that when the optical-fiber connector 10 is pulled off the adapter, the decoupling member 17 is pulled into the rearward position such that “the latch 15 of housing 14 is pushed downward as shown, thereby releasing the latch 15 from the adapter.” EX1010, ¶25; EX1003, ¶407. This feature can also be seen in annotated Figure 5 below.

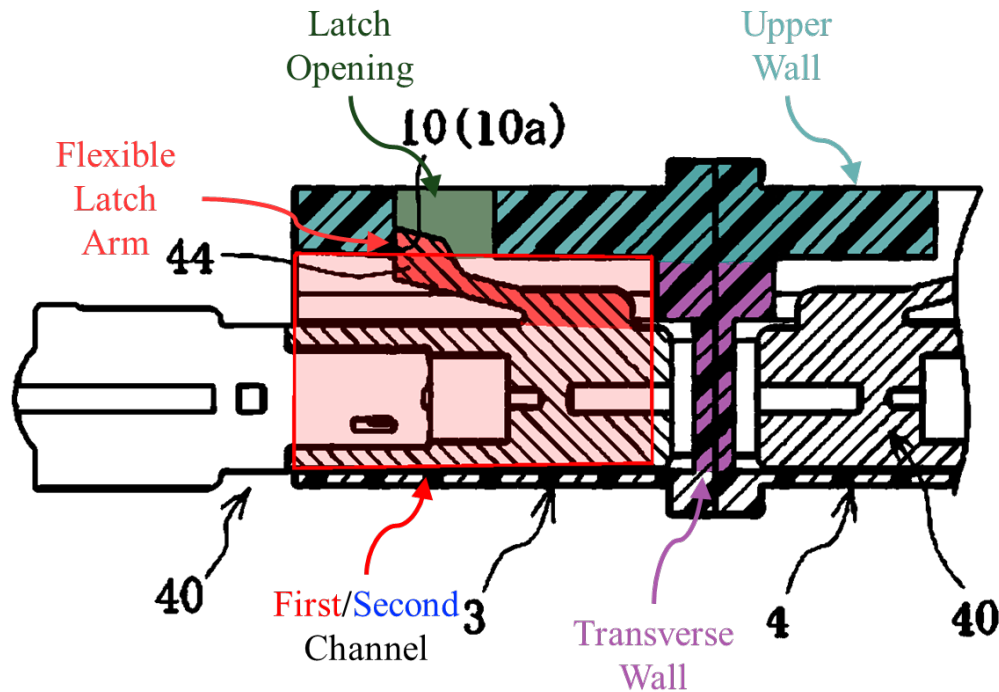


EX1010, FIG. 5 (annotated).

Accordingly, Nakagawa-deJong disclose all features of claim 4 and are obvious to combine. Sections X.E, XII.C, XIV.A; EX1003 ¶408.

D. Claim 5

Nakagawa discloses claim 5. EX1003, ¶409. Figure 12 depicts the adapter with an optical fiber connector in one of the channels such that the flexible latch arm is latched to one of the latch openings. EX1003, ¶410.



EX1009, FIG. 12 (annotated).

Figure 11 depicts the adapter with the flexible latch arm of the connector in a depressed position such that the flexible latch arm is unlatched from the latch opening on the upper wall. EX1003, ¶¶409-411.

E. Claim 13

Nakagawa does not expressly disclose a “multi-fiber ferrule” in its duplex connector disclosure, but deJong does.

DeJong explains, “variations of fiber optic connectors include ferrules having a *multi-fiber ferrule*.” EX1010, ¶28 (emphasis added); EX1003, ¶413. A POSITA would modify Nakagawa’s connectors to accommodate multi-fiber ferrules for use in applications that require high bandwidth. EX1003, ¶414. The use

of multi-fiber ferrules was common and well known, and thus this modification would have a reasonable expectation of success. *Id.*

Accordingly, Nakagawa and deJong disclose the features of claim 13 and would have been obvious to combine. Sections X.I, XI.H, XIV.A; EX1003 ¶415.

XV. GROUND 6: ALL CLAIMS ARE OBVIOUS IN VIEW OF KIANI, SZILAGYI, AND TSUZAKI.

Kiani in view of Szilagyi, and further in view of Tsuzaki renders obvious all claims of the '836 patent.

A. 325(d) does not bar Kiani

Kiani is available under § 325(d) because, although used in original prosecution, the Examiner committed several errors when allowing the claims over Kiani, as demonstrated herein either showing the errors or using Kiani in a new light either alone or in combination with other prior art.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, strongly favors institution because the IPR grounds here present new art and evidence not previously presented to, or substantively considered by, the Office. IPR2019-01469, Paper 6 at 7-8 (P.T.A.B. Feb. 13, 2020). The Office has not considered any of the references asserted herein, except Kiani, which was cited during prosecution and found to disclose every limitation of every claim with one exception—the “longitudinal ribs” that can be found in numerous other references such as Szilagyi. The other references and Grounds asserted herein (all of which

disclose longitudinal ribs) are not cumulative to any reference previously considered by the Office, none of which disclosed longitudinal ribs (as the Office itself observed). Further, the references asserted herein have not been asserted in any other challenge to the '836 patent before the Office or any other tribunal.

The *General Plastic* and *Valve* factors also favor institution. *General Plastic Industrial Co., LTD v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 15-16 (P.T.A.B. Sept. 6, 2017); *Valve Corporation v. Electronic Scripting Products, Inc.*, IPR2019-00062, Paper 11 at 8-9 (P.T.A.B. April 2, 2019). This is the first Petition challenging the '836 patent. *General Plastic*, 15-16. There are not multiple petitions or multiple petitioners (factor 1). There are no other challenges before the Office that Petitioner has used as a “roadmap” to create its positions in his Petition (factor 3). Moreover, Petitioner diligently worked to prepare and file this Petition shortly after the parties lifted a mutual stand-still agreement to consider settlement. *Valve*, 13 (Factor 5). Thus, instituting this Petition would be an efficient use of the Board’s resources. *Valve*, 15 (Factors 6-7). This is not a case of “serial and repetitive attacks [that] implicate the efficiency concerns underpinning *General Plastic*.” *Valve*, 15. Accordingly, the Board should not deny this Petition.

The Office previously found that Kiani discloses all limitations of all claims of the '836 patent except for the longitudinal ribs. *Id.* Even if the Examiner was correct, which Petitioner does not concede, if the Examiner had considered

Szilagyi, which discloses a similar adapter to Kiani used for the same applications with the same overall goals and objectives, the claims would not have been allowed.

Szilagyi discloses longitudinal ribs separating the channels, which are otherwise similar to Kiani's channels. EX1013, FIGs. 1, 7. A POSITA reading Kiani would be motivated to add the longitudinal ribs of Szilagyi (called "guide ribs") to guide the connectors through each channel. This simple addition of a well-known structure would have yielded predictable results. Thus, Kiani in view of Szilagyi renders obvious every claim of the '836 patent.

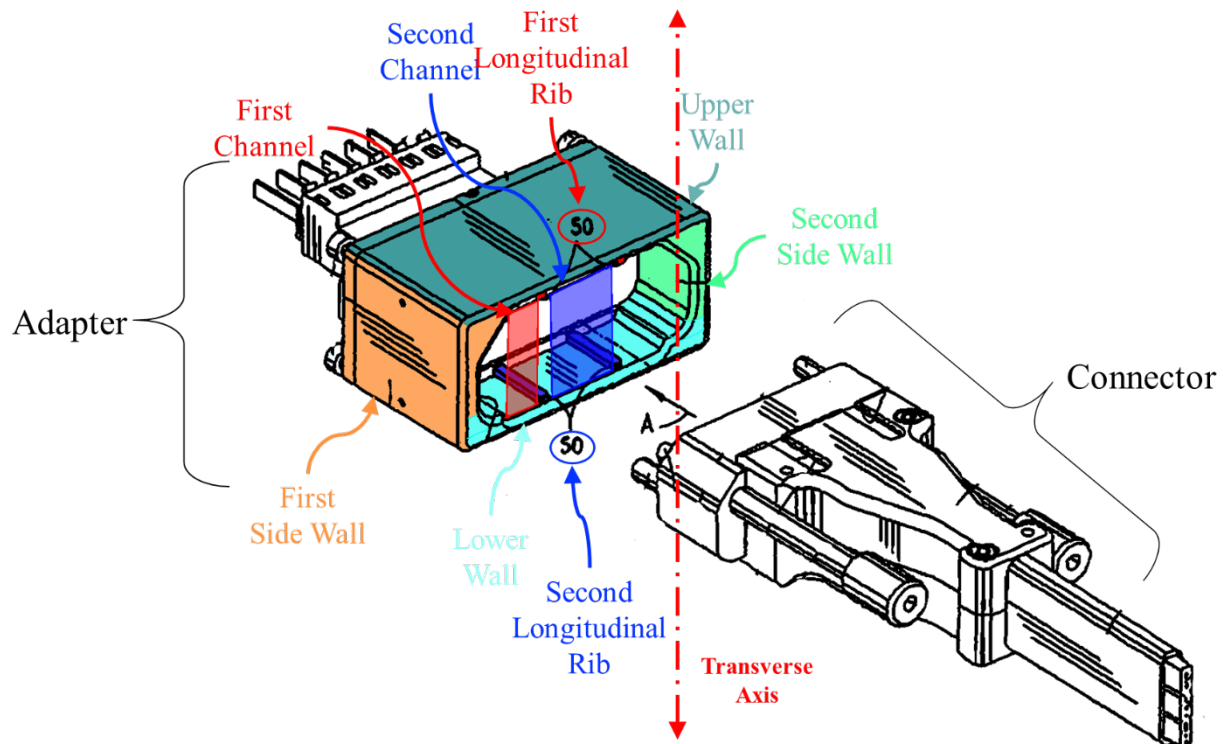
If Patent Owner disputes that Kiani discloses the claimed latch openings, because Kiani's openings do not pass completely through the upper wall, Tsuzaki discloses such latch openings. Tsuzaki discloses a similar adapter to Kiani and Szilagyi, for the same applications with the same goals and objectives. A POSITA would modify the Kiani-Szilagyi adapter to add the latch openings of Tsuzaki in order to visibly engage with the latch arms of Kiani. This simple substitution of well-known components would achieve predictable results.

B. Motivation to Combine

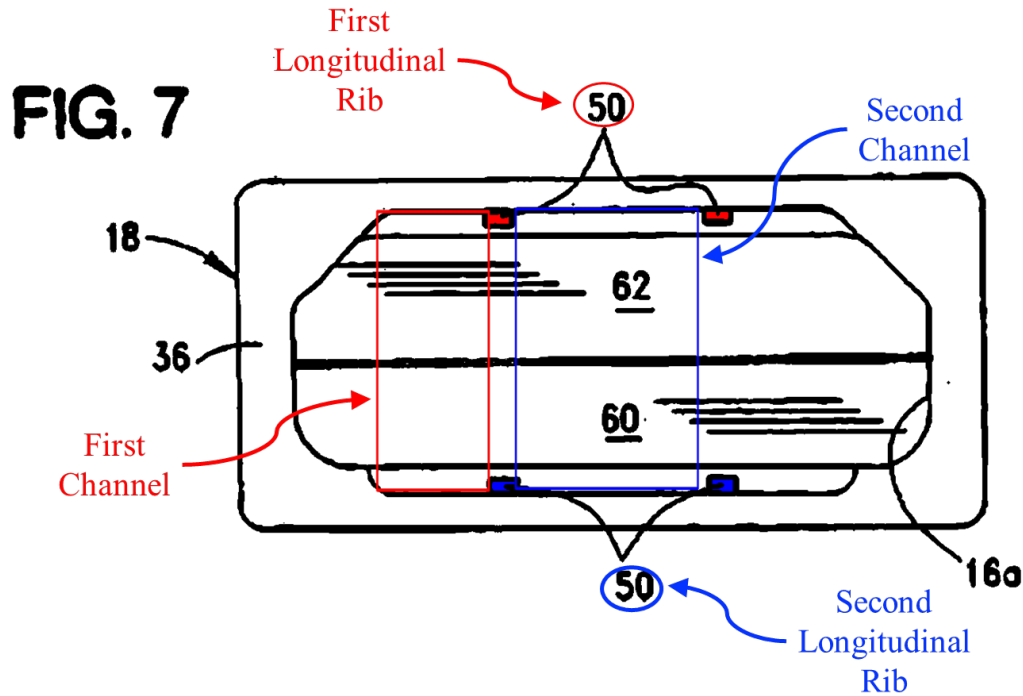
A POSITA would combine Kiani and Szilagyi, and Kiani-Szilagyi with Tsuzaki, to arrive at the claims prior to the earliest afforded filing date of the '836 patent.

Kiani discloses an adapter 310 having a shell 312 and channel 446. EX1007, ¶¶49, 52. The adapter provides a latch-release mechanism that includes latch rings 510 to facilitate connector-to-adapter engagement. EX1007, ¶52; EX1003 ¶¶169-175.

Szilagyi discloses an adapter 8 having longitudinal ribs 50 that extend transversely from the interior portions of the upper and lower walls of the adapter and define a plurality of channels. EX1013, 4:37-40; EX1003 ¶¶176-79.



EX1013, FIG. 1 (annotated).



EX1013, FIG. 7 (annotated).

As the Office found, Kiani discloses every limitation of the challenged claims except for the longitudinal ribs. A POSITA would modify Kiani's adapter to include such longitudinal ribs, as disclosed in Szilagyi. In doing so, the POSITA would have placed the longitudinal ribs between the first and second channels, as their obvious purpose would be to separate the channels and provide guides for inserting connectors into the channels with proper alignment. This configuration is shown in Szilagyi.

To the extent PO disputes the latch openings the Office identified in Kiani, a POSITA would modify Kiani-Szilagyi to include the latch openings of Tsuzaki. Both modifications would reduce the number of parts needed for Kiani-Szilagyi's

connector, reduce manufacturing costs, and simplify operation of Kiani-Szilagyi's connector while maintaining high-precision alignment of Tsuzaki.

1. Longitudinal Ribs

Modifying Kiani's adapter by including Szilagyi's longitudinal ribs between the channels would improve alignment precision when inserting a connector into the adapter. Kiani is directed to providing an optical interconnection assembly that avoids assembly errors. EX1003 ¶¶169-175. Szilagyi makes clear that guide ribs (longitudinal ribs) for inserting connectors in the adapter improve alignment precision, EX1003 ¶¶176-79, which would better achieve Kiani's goal of providing an optical interconnection system that is easy to use.

The addition of longitudinal ribs on the inner surfaces of the upper and lower walls of Kiani's adapter would not hinder Kiani's functionality. In fact, it would be an advantageous modification. The modification involves the simple addition of a structural component that is well understood in the art and yield predictable results. *Id.* Adding Szilagyi's guide ribs to Kiani's adapter could be readily achieved using known methods of manufacture, and would be expected to succeed in facilitating proper alignment of the connectors, just as it did in *MDC*, *Nguyen*, and *Nakagawa*, discussed above. Doing so would further Kiani's stated goal of providing "an optical interconnection system that is easy to make." EX1007, ¶19.

2. Latch Openings

The latch openings of the Kiani-Szilagyi adapter could easily be modified such that the openings go all the way through the upper wall, as disclosed in Tsuzaki. EX1003 ¶¶180-183. Doing so would simplify the latching and unlatching of the optical fiber connectors, in a way that was visible to the user, just as it did in *MDC*, Nguyen, and Nakagawa, discussed above. These modified latch openings provide a mechanism that serves the overall purpose of Kiani (providing an optical interconnection system that is easy to make and use) by simplifying Kiani's complex-geometry latching ring and making the engaged latch visible from the outside.

Replacing Kiani-Szilagyi's latch openings with Tsuzaki's would have been obvious among a finite number of identifiable, predictable solutions with reasonable expectation of success. There are a limited number of connector latch and release configurations used in fiber optic connectors. Any one of these mechanisms can be utilized as the type of connection does not affect other aspects of the system's functionality.

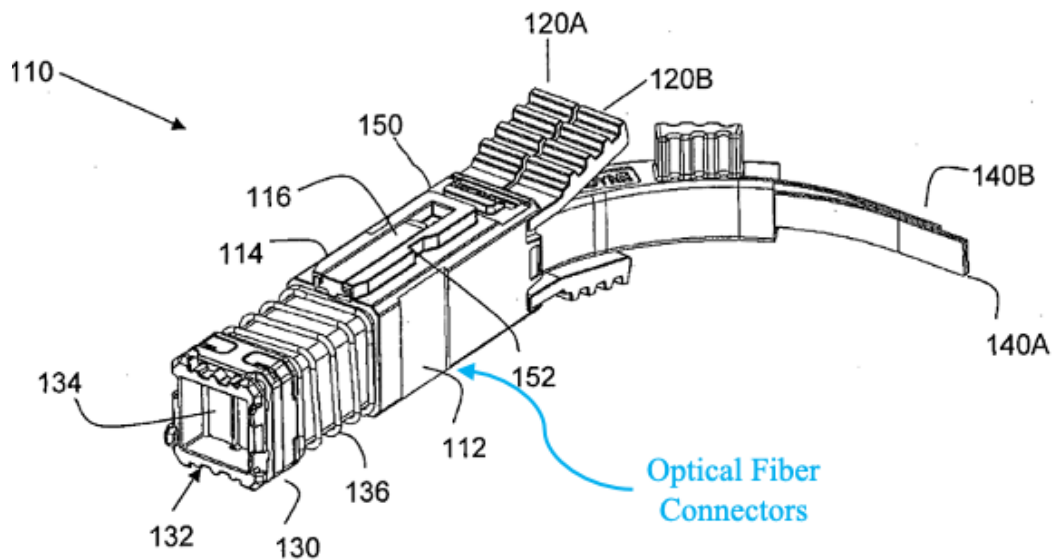
Additionally, Tsuzaki's latching mechanism, like Kiani's, includes a latch on the connectors and openings in the adapter where the latch engages with the adapter. EX1003 ¶¶180-83. It is a common mechanism used in optical-fiber adapter-connector assemblies, like *MDC*, Nguyen, and Nakagawa discussed above.

As such, the functionality of the mechanism would have predictable results. The modification of the latch openings to go all the way through the adapter's upper wall would not otherwise impact the functionality of Kiani-Szilagyi's adapter.

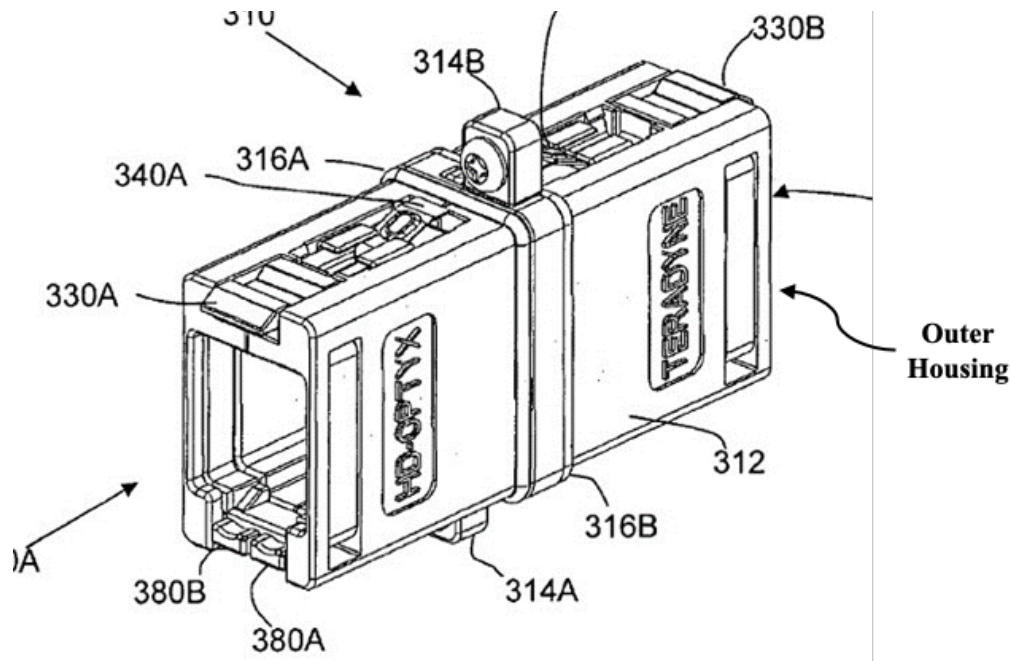
C. Claim 1

1. Preamble

The Office found that Kiani discloses an adapter for mating with optical fiber connectors. EX1002, 0248-0249. Kiani explains that the adapter 310 shown in Figure 3 “is sized to receive a duplex connector such as shown in FIG. 1.” EX1007, ¶45.



EX1007, FIG. 1 (annotated).

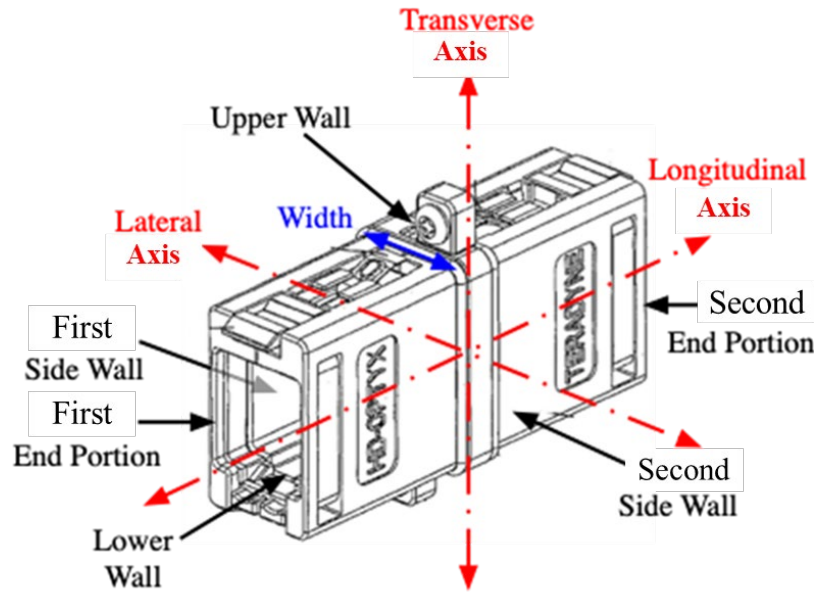


EX1007, FIG. 3 (annotated).

2. [1.1]

As the Office found, Kiani discloses “an outer housing having a first end portion and a second end portion spaced apart along a longitudinal axis” with the outer housing (i) “comprising a first side wall and a second side wall spaced apart along a lateral axis perpendicular to the longitudinal axis,” (ii) “having a width extending along the lateral axis from the first side wall to the second side wall,” and (iii) “comprising a upper wall and a lower wall spaced apart along a transverse axis oriented perpendicular to the lateral axis and perpendicular to the longitudinal axis.” EX1002, 0248-0249.

Kiani describes that adapter 310 comprises a shell 312 which has “openings 320a and 320b that are sized to receive optical connectors.” EX1007, ¶45. The adapter shell has an upper, lower, and side surface. EX1007, ¶73.



EX1007, FIG. 3 (annotated).

3. [1.2]

As the Office found, Kiani discloses a plurality of channels. EX1002, 0248-0249. The adapter and ferrule carriers include color chips that are used to identify components of the “interconnection system that should be plugged together when the system is assembled.” EX1007, ¶21, *see also* EX1007, ¶¶44, 49, FIG. 3. Kiani’s color chips 380a and 380b indicate the channels into which connectors are received. EX1007, ¶70, FIG. 3.

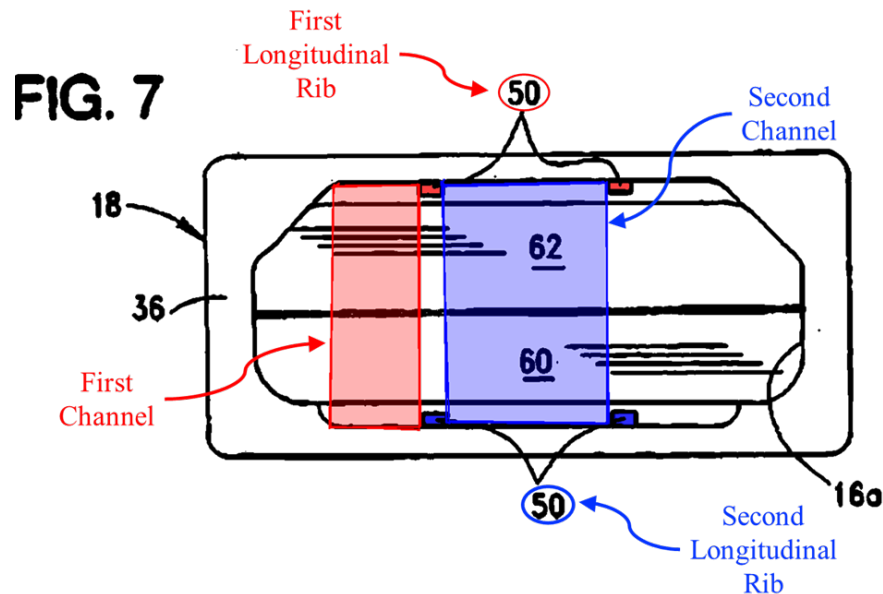
4. [1.3]

Even if Kiani does not expressly disclose longitudinal ribs, as the Office found, they were well known in the prior art as explicitly taught in Szilagyi.

Szilagyi discloses an adapter having a first and second longitudinal rib that each extend transversely from the interior portions of the upper and lower walls

and are spaced apart along the width of the adapter. Specifically, Szilagyi's assembly includes an adapter (referred to as a "receptacle") having "guide ribs 50 within receptacle 16." EX1013, 5:37-46. Szilagyi's guide ribs "prevent alignment pins 30 from engaging mating face 44 at the bottom of receptacle 16 before the alignment pins are aligned with guide holes 72." *Id.*

Szilagyi Figure 7 depicts the front mating end of the adapter and first and second longitudinal ribs extending inwardly from the upper and lower walls.

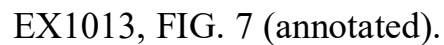
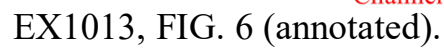


EX1013, FIG. 7 (annotated).

Accordingly, Kiani-Szilagyi disclose the limitations of 1.3 and would have been obvious to combine. Section XV.B.

5. [1.4]

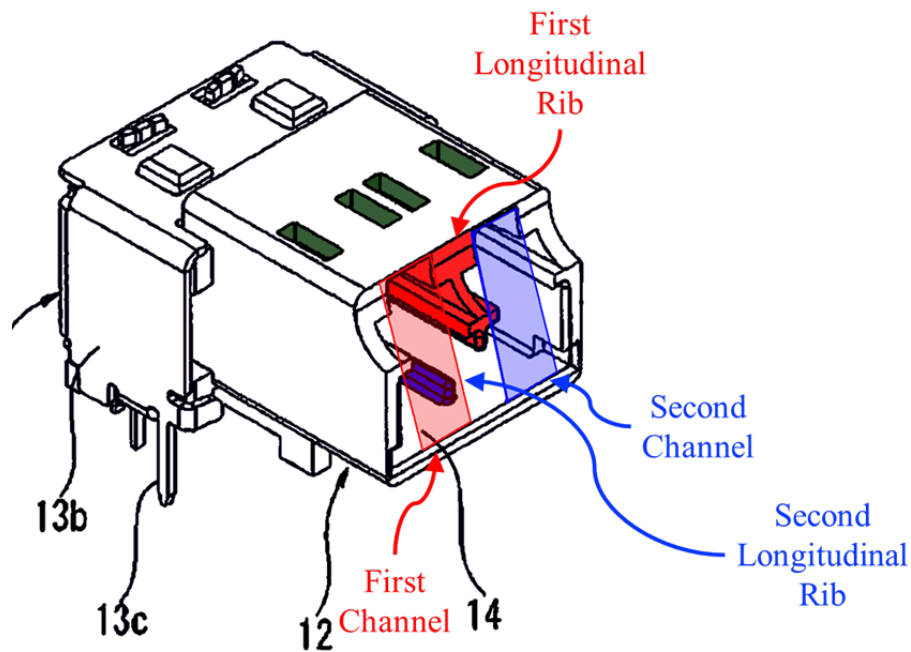
As the Office found, Kiani teaches a first and second channel. EX1002, 0248-0249. Even if alleged not to by PO now, Szilagyi discloses such channels,



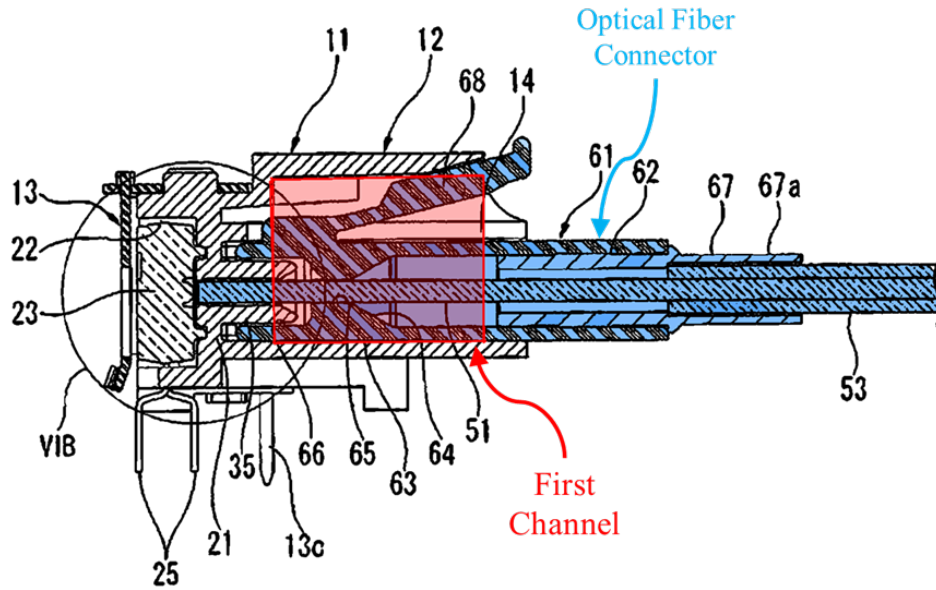
To the extent PO disputes that Kiani-Szilagyi does not expressly disclose first and second longitudinal ribs located between the first and second channels on

the basis that Szilagyi's channels do not each receive a fiber-optic connector, Tsuzaki explicitly discloses these features.

Tsuzaki Figure 2 depicts an optical module 11 that includes an adapter housing 12 which has longitudinal ribs that define a first and second channel configured to receive fiber optic connectors (referred to as optical plugs). EX1014, FIG. 2. Tsuzaki explains that “optical plug 61 is inserted into the optical port portion 14 of the optical module 11.” EX1014, ¶41, FIG. 6A.



EX1014, FIG. 2 (annotated).

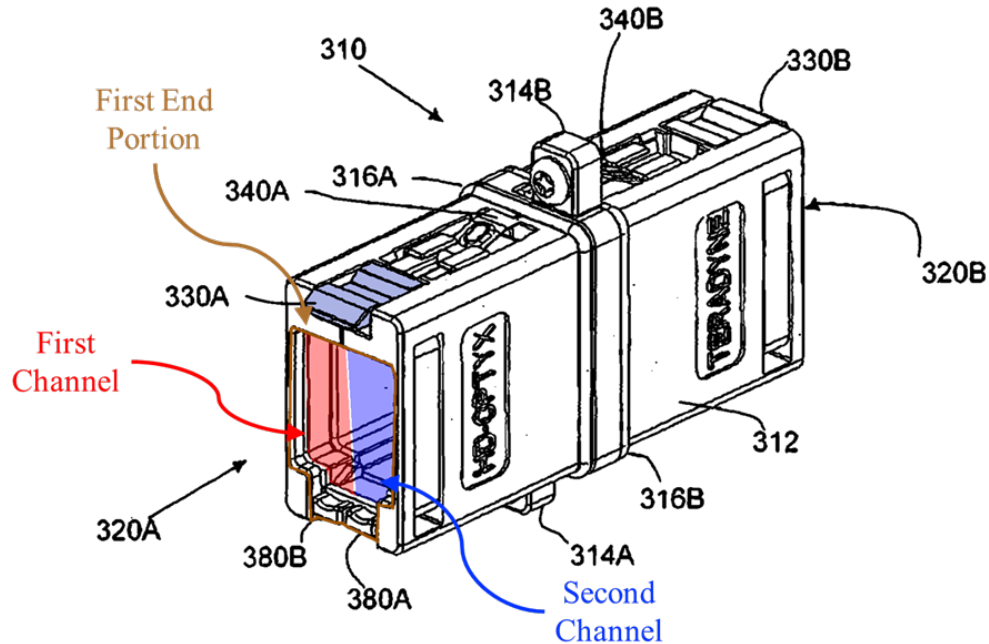


EX1014, FIG. 6A (annotated).

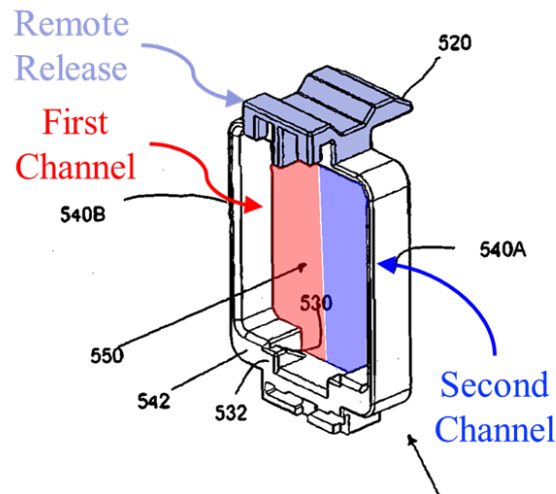
Kiani-Szilagyi in view of Tsuzaki thus teaches the limitations of 1.4, and the three references would have been obvious to combine. Section XV.B.

D. Claim 2

As the Office found, Kiani discloses latch openings aligned with the channels. EX1002, 0249. The latches in Kiani engage with openings in the upper wall. EX1007, ¶48. Kiani explains that “[a]dapter 310 includes release members 330a and 330b,” where “[r]elease member 330a allows a connector latched with an opening 320a to be released,” and “[r]elease member 330b allows a connector latched with an opening 320b to be released.” EX1007, ¶48.



EX1007, FIG. 3 (annotated).

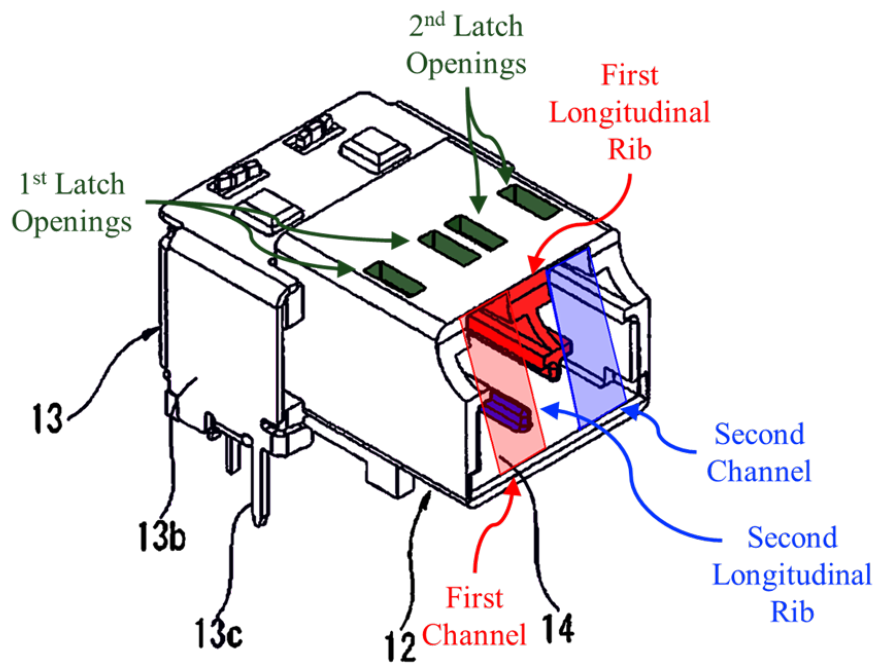


EX1007, FIG. 5 (annotated).

To the extent PO argues that the latch openings must pass entirely through the upper wall (which Kiani-Szilagyi's do not), such latch openings are disclosed in Tsuzaki.

Tsuzaki explains, "an optical port portion 14 is formed on the [front] end side of the housing 12, and an optical plug is inserted into . . . the optical port

portion 14.” EX1014, ¶14. Tsuzaki’s “latch portion 68 is formed at the housing 63 of the optical plug 61,” and when “the optical plug 61 is inserted into and coupled with the optical port portion 14 of the optical module 11, the latch portion 68 engages with the housing 12 of the optical module 11 and maintains the coupling state.” EX1014, ¶30. Figure 2 illustrates the latch openings aligned with first and second channels as well as a longitudinal rib located between the first and second latch openings along the width of the adapter.



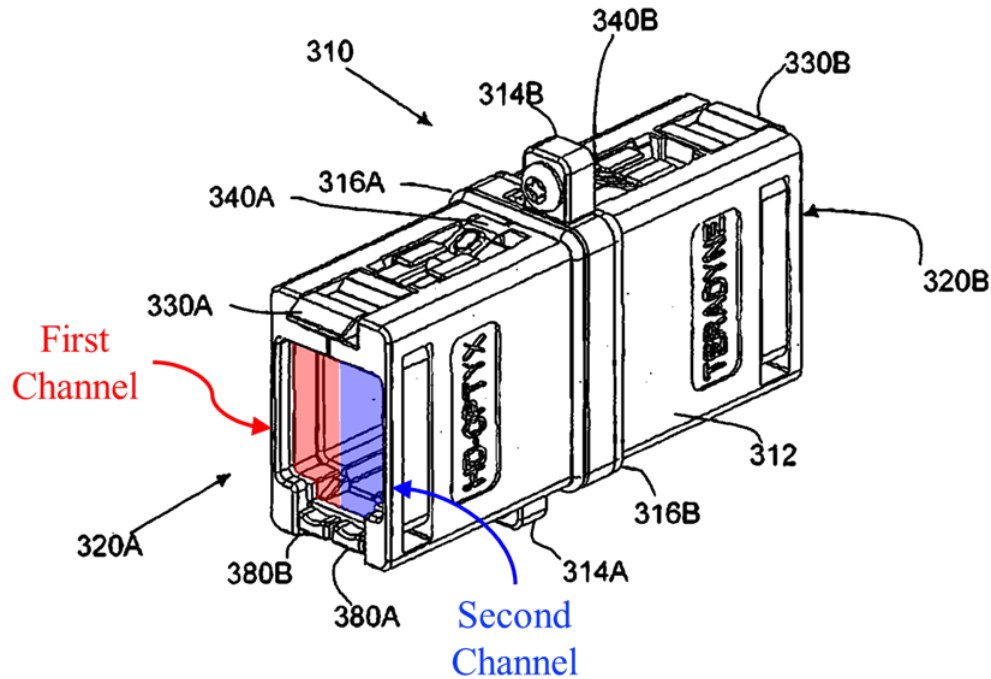
EX1014, FIG. 2 (annotated).

Kiani in view of Szilagyi, and further in view of Tsuzaki, thus teaches the limitations of claim 2, and would have been obvious to combine. Section XV.B.

E. Claim 3

1. [3.1]

As the Office found, Kiani discloses an adapter having a first and second channel. EX1002, 0248-0249 (“Kiani teaches . . . that the optical fiber connector can be inserted forward along the longitudinal axis into the channel through the first end portion.”). Kiani explains that color chips are used to identify the components of the “interconnection system that should be plugged together when the system is assembled.” EX1007, ¶21, *see also* EX1007, ¶¶44, 49, FIG. 3. The adapter depicted in Figure 3 includes color chips 380a and 380b. A POSITA would recognize these color chips as well known in the art for denoting different connector channels. EX1022, 0001. A user matches a connector with its corresponding channel by aligning the color chip on the channel with a same-color chip on the connector. *Id.* As such, Kiani’s adapter is configured to receive a first and second connector in a first and second channel. *Id.*



EX1007, FIG. 3 (annotated).

2. [3.2]

As the Office found, Kiani discloses a flexible latch arm of an optical-fiber connector that is latched with the first latch opening, and a front section of a remote release of the first optical-fiber connector received in the first channel at a location spaced apart from the first latch opening along the longitudinal axis toward the second end portion of the outer housing. EX1002, 0248-0249.

Kiani explains that connector “body 112 includes latch portions 114” in order to facilitate latching of the connector to an adapter as well as “a release portion 116” in order to “facilitate removal of connector 110 from an adapter.” EX1007, ¶40. When “connector 110 is pressed into an adapter, release portion 116 engages an abutment within the adapter” and when “the latch holding connector

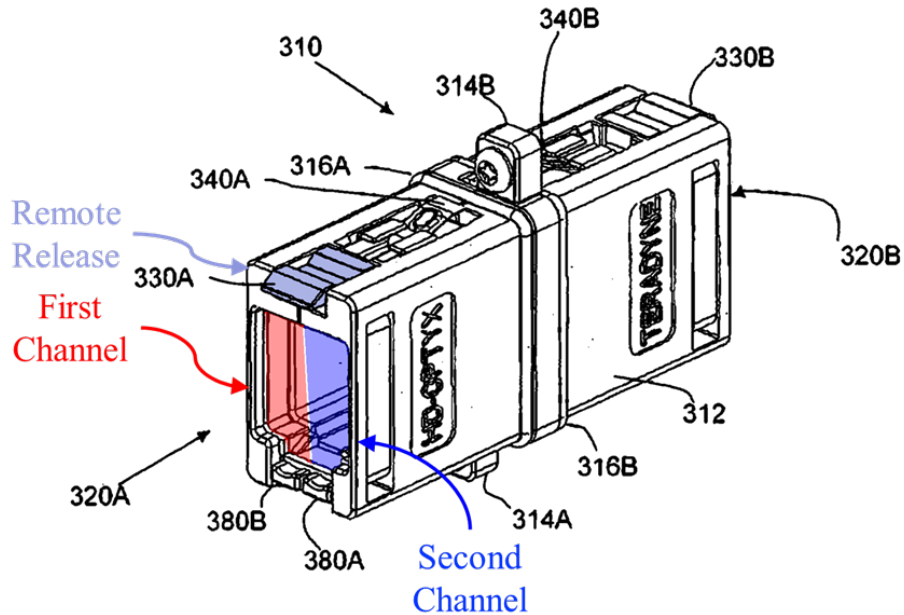


FIG. 3
EX1007, FIG. 3 (annotated).

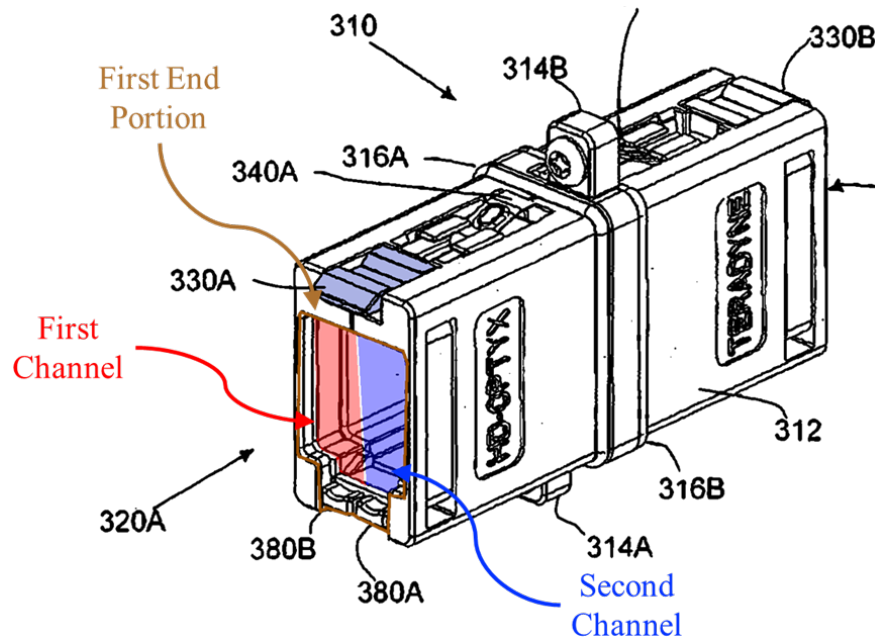
3. [3.3]

As the Office found, Kiani discloses a flexible latch arm of an optical-fiber connector that is latched with the first latch opening, and a front section of a remote release of the first optical-fiber connector received in the first channel at a location spaced apart from the first latch opening along the longitudinal axis toward the second end portion of the outer housing. EX1002, 0248-0249. Kiani thus discloses an adapter “comprising a second latch opening aligned with the second channel.” EX1002, 0248-0249.

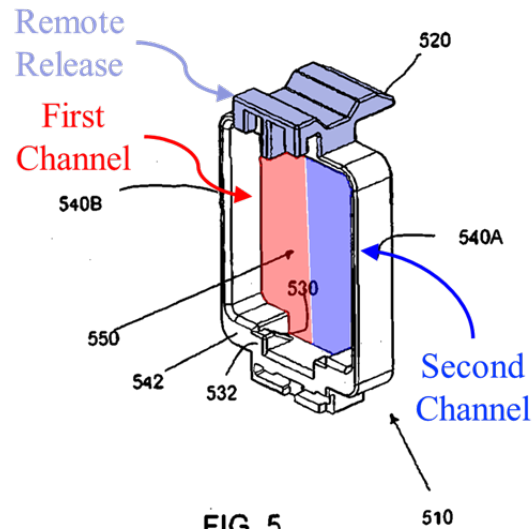
F. Claim 4

As the Office found, Kiani discloses a channel configured to allow the front section of the remote release to slide along the flexible latch arm within the channel to depress the flexible latch arm. EX1002, 0249. Kiani explains, “a

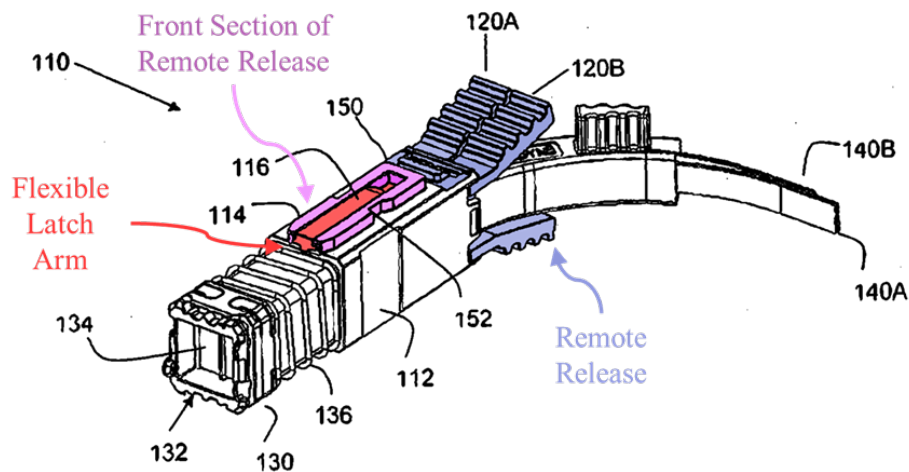
connector such as 110 (FIG. 1) is inserted through opening 550, latch portions 114 will engage tapered Surfaces 530” and when “connector 110 is fully inserted into adapter 310, latch portions 114 will slide past tapered surfaces 530.” EX1007, ¶60. Kiani further explains, “[w]ithout latch portions 114 providing a force on tapered surfaces 530, spring force generated by springs 430 will cause latch ring 510 to move upwards” causing “latch surfaces 532 [to] engage rear surfaces 150 (FIG. 1) of connector 110” and lock connector 110 into place in adapter 310. EX1007, ¶60.



EX1007, FIG. 3 (annotated).



EX1007, FIG. 5 (annotated).



EX1007, FIG. 1 (annotated).

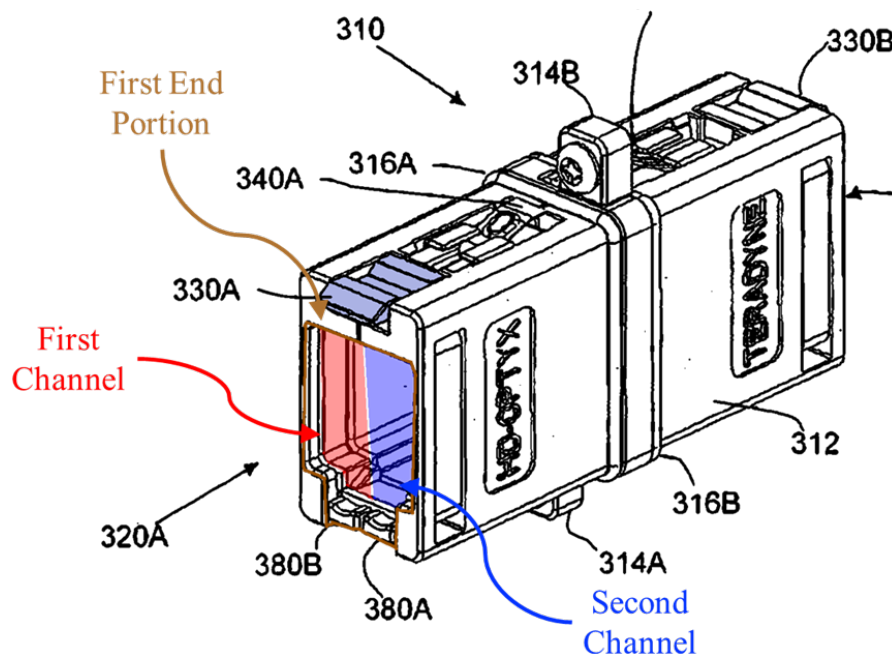
G. Claim 5

As the Office found, Kiani discloses an adapter with an upper wall of the outer housing that is configured to unlatch from the flexible latch arm when the flexible latch arm is depressed. EX1002, 0249. Kiani describes that when “the latch holding connector 110 within the adapter is released, the spring force created

between release portion 116 and the abutment inside the adapter ejects connector 110 from the adapter.” EX1007, ¶41. Kiani further explains that the connector 110 is released from the adapter when the tab portion of latch ring 510 is depressed. EX1007, ¶79.

H. Claim 6

As the Office found, Kiani discloses a lower wall that is free of latch openings. EX1002, 0249. Figure 3 illustrates a release portion 330 on the upper wall but not on the lower wall of the adapter.



EX1007, FIG. 3 (annotated).

I. Claim 7

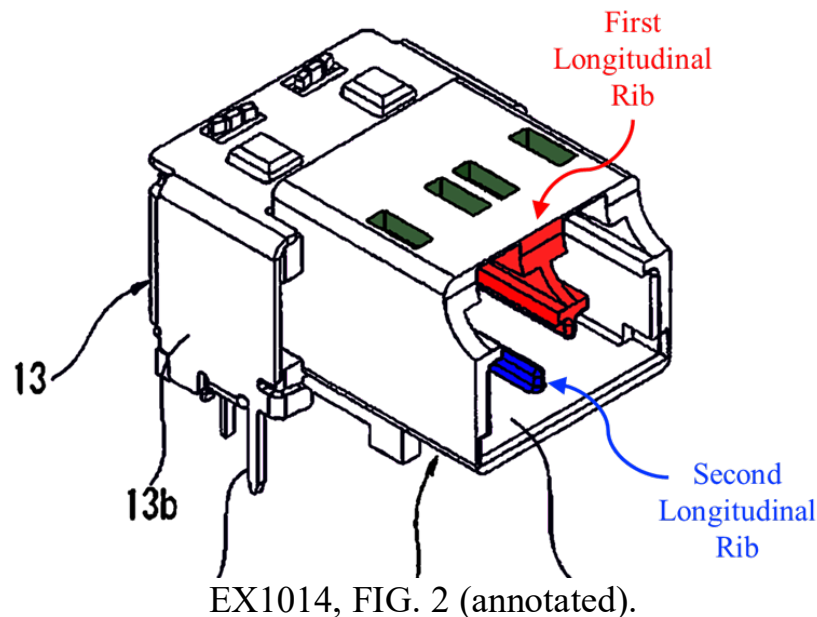
As the Office found, Kiani discloses an adapter having a lower wall that is configured to slidably engage the first and second optical fiber connectors without

latching. EX1002, 0250. Kiani's lower wall is free of latch openings and therefore is configured to slidably engage with the connectors as no openings are available for latching on the lower wall. EX1007, FIG. 3.

J. Claim 8

If PO alleges Kiani-Szilagy does not expressly disclose that the first longitudinal rib has a height greater than the second longitudinal rib, Tsuzaki does.

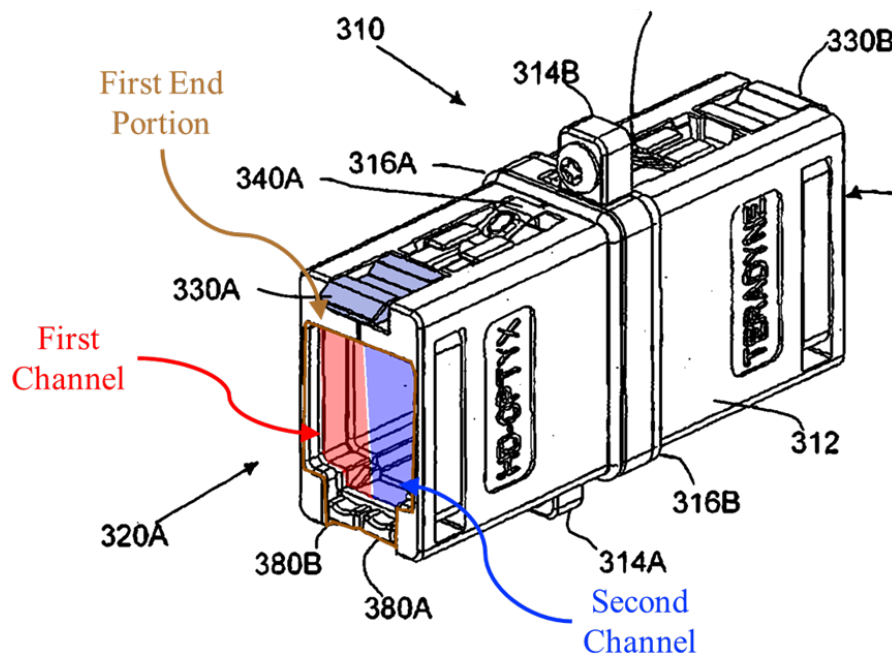
Tsuzaki discloses an adapter having first and second longitudinal ribs wherein the height of the first rib is visibly much greater than that of the second rib.



Accordingly, Kiani, Szilagy, and Tsuzaki disclose all the limitations of claim 8, and would have been obvious to combine. Section XV.B.

K. Claim 9

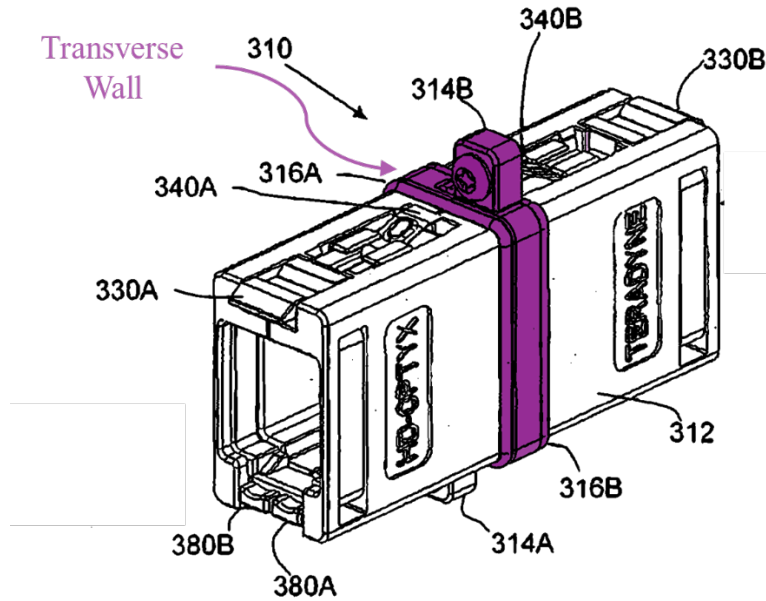
As the Office found, Kiani discloses an adapter having a channel that opens through the first end portion of the outer housing. EX1002, 0248-0250. Kiani describes that connector 110 engages with adapter 310 via opening 320a. EX1007, ¶¶45-48, 57.



EX1007, FIG. 3 (annotated).

L. Claim 10

As the Office found, Kiani discloses a transverse wall extending between the upper wall and the lower wall at a location longitudinally spaced apart from the first end portion of the outer housing. EX1002, 0248-0250. Figure 3 illustrates this transverse wall.



EX1007, FIG. 3 (annotated).

M. Claim 11

As the Office found, Kiani discloses a transverse wall that includes a socket in each of the first and second channels configured to receive a ferrule of one of the optical fiber connectors. EX1002, 0248-0250. Kiani discloses that ferrule 260 of Figure 2 is the connecting portion of the connector that is received by adapter 310.



EX1007, FIG. 2 (annotated).



EX1007, FIG. 3 (annotated).

N. Claim 12

As the Office found, Kiani discloses first and second channels configured to receive cylindrical ferrules. EX1002, 0248-0250. Figure 1 illustrates an optical connector 110 which may be a duplex connector having a pair of ferrules. EX1007, ¶35, FIG. 1. Kiani explains that the ferrules may be “industry standard cylindrical ferrules.” EX1007, ¶43.

O. Claim 13

As the Office found, Kiani discloses a multi-fiber connector comprising a multi-fiber ferrule. EX1002, 0248-0250. Kiani describes that “FIG. 1 illustrates a duplex connector containing two ferrules, each aligning multiple fibers.” EX1007, ¶42.

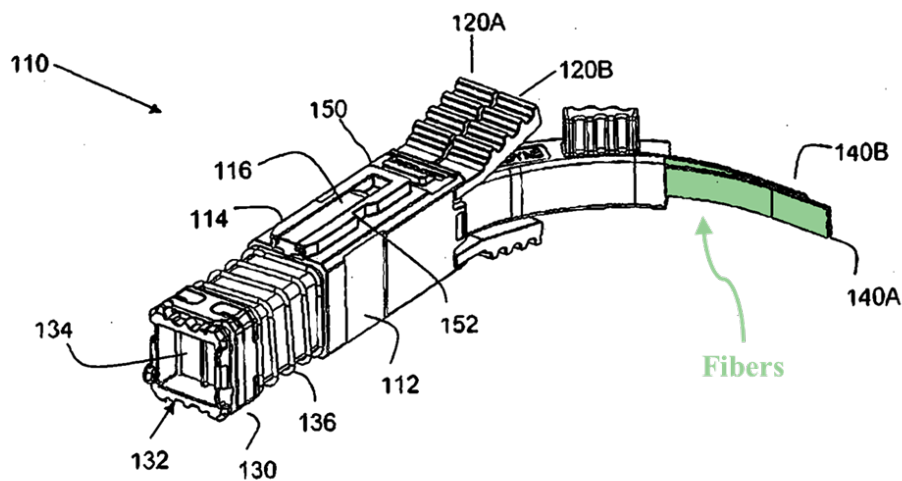


FIG. 1

EX1007, FIG. 1 (annotated).

XVI. THE BOARD SHOULD NOT DISCRETIONARILY DENY THE PETITION UNDER *FINTIV*.

The '836 patent is currently involved in a parallel district-court case that was filed on January 24, 2023. *Senko Advanced Components, Inc. v. US Conec Ltd.*, No. 1:23-cv-00083 (D. Del. Jan. 24, 2023), which was stayed until at least December 20, 2023. The Board should not deny this Petition under *Fintiv* because, as provided above, the Petition sets forth a compelling unpatentability challenge to at least one claim. Further, if 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. Accordingly, *Fintiv* does not favor denial of institution. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (P.T.A.B. Mar. 20, 2020).

XVII. CONCLUSION

Claims 1-13 are unpatentable and *inter partes* review is warranted.

Respectfully submitted,

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Date: December 30, 2023

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CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Petition for *Inter Partes* Review complies with the type-volume limitation of 14,000 words, comprising 12,213 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Petition for *Inter Partes* Review complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman font.

Respectfully submitted,

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/Jason D. Eisenberg/

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CERTIFICATE OF SERVICE (37 C.F.R. §§ 42.6(e), 42.105(a))

I certify that the above-captioned **PETITION FOR *INTER PARTES***
REVIEW FOR U.S. PATENT NO. 11,333,836 and associated Exhibits 1001-
1027 were served in their entireties upon the Patent Owner on December 30, 2023,
via FedEx® Express at the following addresses:

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11,333,836

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