

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 IPR2024-00116
U.S. Patent No. 11,307,369

**PETITION [2 of 2] FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,307,369 [Claims 23-40]**

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PETITIONER'S EXHIBIT LIST

Exhibit Number	Description
1001	U.S. Patent No. 11,307,369 to Takano et al. ("369 Patent")
1002	File History of U.S. Patent No. 11,307,369 to Takano et al.
1003	International Publication No. WO 2015/027033 to Scherer et al. ("Scherer")
1004	International Publication No. WO 2017/127208 to Lee ("Lee")
1005	U.S. Publication No. 2017/0227720 to Lin ("Lin")
1006	<i>Curriculum Vitae</i> of James F. Brennan III, Ph.D.
1007	Exhibit I of Complaint – Claim Chart U.S. Patent No. 11,307,369 and MMC, <i>Senko Advanced Components, Inc. v. US Conec, Ltd.</i> , No. 1:23-cv-00083 (D. Del. Jan. 24, 2023), ECF No. 1-1
1008	Childers, Darrell, et al., "Multi-Fiber, MT Ferrule Endface Fiber Tip Displacement Model for Physical Contact Interconnects," White Paper (2006)
1009	U.S. Publication No. 2016/0238796 to Nguyen et al. ("Nguyen")
1010	U.S. Patent No. 8,465,317 to Gniadek et al. ("Gniadek")
1011	Declaration of James F. Brennan III, Ph.D. (IPR2024-00115)
1012	Declaration of James F. Brennan III, Ph.D. (IPR2024-00116)
1013	Wenke, I.G., "Report on Fiber Optic Cables," <i>HSB Technical Report</i> (2015)
1014	Kant, K., "Data Center Evolution: A Tutorial on State of the Art, Issues, and Challenges," <i>Computer Networks</i> , 53:2939-65 (2009)
1015	Curran, M. & Shirk, B., "Basics of Fiber Optics", accessed at https://www.fibersystems.com/pdf/whitepapers/Basics-of-Fiber-Optics.pdf (May 2016)
1016	"19-Inch Rack," <i>Lite-On</i> , accessed at https://liteon-cips.com/products/racks/19-inch-rack/

Exhibit Number	Description
1017	“Fiber Optic Rack Mount Enclosure, 3-Panel 1 RMS,” <i>Computer Cable Store</i> , accessed at https://www.computercablestore.com/fiber-optic-rack-mount-enclosure-3-panel-1-rms
1018	“Fiber Optic Connector Tutorial,” Fibermart, accessed at https://www.fiber-mart.com/news/fiber-optic-connector-tutorial-a-848.html
1019	U.S. Patent No. 5,615,293 to Sayegh (“Sayegh”)
1020	Complaint, Senko Advanced Components, Inc. v. US Conec Ltd., Case No. 1:23-cv-00083 (D. Del.)

I. INTRODUCTION

Petitioner US Conec Ltd. (“Petitioner”) requests *inter partes* review (“IPR”) and cancellation of claims 23–40 of U.S. Patent No. 11,307,369 (“the ’369 patent”) to Takano et al., which is assigned to Senko Advanced Components, Inc. (“PO”). The claims recite an optical fiber connector configured to hold a multi-fiber ferrule with the fibers in a row parallel to a transverse axis and having a latch positioned above the connector housing along the transverse axis. EX1001, claims 23, 39, 40.

These claims do not recite a patentable invention. The claimed orientation of the ferrule and latch was well known at the time the application for the ’369 patent was filed, and the additional claimed features are incidental details that can also be found in the prior art. EX1003; EX1005; EX1009; EX1010.

Accordingly, there is at least a reasonable likelihood that at least one claim of the ’369 patent is unpatentable. Petitioner respectfully requests that the Board institute trial on the Grounds herein and determine that claims 23–40 are unpatentable.

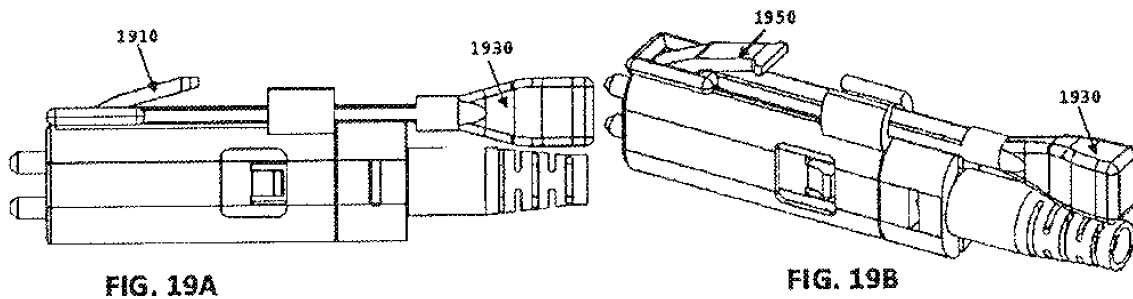
II. THE ’369 PATENT

A. Priority

The ’369 patent issued on April 19, 2022 from U.S. Patent Application No. 17/370,057 (“the ’057 application”), and claims a priority date of July 14, 2017 through a chain of provisional and non-provisional prior applications.

B. Claimed Embodiment

The '369 patent discloses several distinct embodiments. EX1001, FIGs. 3-69. The claims of the '369 patent use several terms, such as “transverse axis,” “elongate arm,” “front end portion,” “rear end portion,” and “edge” that do not appear in the Specification. But the embodiments illustrated in Figures 19A-19D, of which Figures 19A and 19B are reproduced below, have some features that appear to be consistent with those of, for example, claim 23.



EX1001, FIGs. 19A, 19B.

The '369 patent describes the embodiment of Figures 19A and 19B as having a push-pull tab 1930 that is separable from a connector housing. EX1001, 12:38-42. The push-pull tab 1930 actuates a latch 1910 “for inserting and extracting the connector from an adapter or transceiver.” *Id.*, 12:42-44.

C. Prosecution History

The '057 application was filed with prosecution claims 1-30, of which claims 1 and 18 were independent. EX1002, 93-97.

PO submitted multiple Information Disclosure Statements citing hundreds of references in total before the first Office Action issued. *Id.*, 178-181, 203-246. In the first Office Action, the Examiner remarked “[t]he numerous references and materials listed on the submitted **47** sheets of the IDS’s make it difficult to determine whether or not any of the references... are material... the submission of voluminous documents in the instant information disclosure statements (here, in excess of **47 sheets** of documents) make it difficult, and likely impossible, for the Patent Office to fairly assess applicants’ application...” *Id.*, 309-10 (emphasis in original).

The first Office Action indicated that prosecution “[c]laims 2-4, 12, 13, 15, 19-21, 29 and 30... would be allowable if rewritten in independent form...” *Id.*, 308. In response, Applicant amended claims 2, 12, 13, 15, 19, 29, and 30 into independent form. *Id.*, 369-76. Prosecution claims 19, 29, and 30 were renumbered to granted claims 23, 39, and 40, respectively, which are challenged herein together with dependent claims 24-38. *Id.*, 393.

III. PERSON OF ORDINARY SKILL IN THE ART

A POSITA in the field of endeavor of the ’369 patent at the time of its earliest claimed priority date would have been a person having: (1) at least a bachelor’s degree in mechanical engineering, electrical engineering, physics, or a related field and three years of experience in fiber optics and fiber optic

connectors; (2) a master's degree in mechanical engineering, electrical engineering, physics, or a related field and at least one year of experience in fiber optics and fiber optic connectors; or (3) industry experience (at least three years) designing fiber optic connectors in lieu of a formal degree. EX1012, ¶¶40-46.

IV. CLAIM CONSTRUCTION

This Petition affords all claims their ordinary and customary meaning. EX1012, ¶¶91-93.

V. OVERVIEW OF THE APPLIED ART

A. Nguyen

U.S. Patent Application Publication No. 2016/0238796 A1 to Nguyen *et al.* published August 18, 2016, and is prior art under AIA 35 U.S.C. § 102(a)(1). EX1012, ¶¶94-95.

Nguyen discloses fiber optic connectors with a “spring push” that “allows for fiber optic connectors to be installed and removed from adapters in high density applications.” EX1009, Abstract. Within Nguyen's disclosure, spring push 100 forms part of fiber optic connector 200 having release handle 300. EX1009, ¶¶23, 24, 27, FIGs. 5-7, 10-12; EX1012, ¶96.

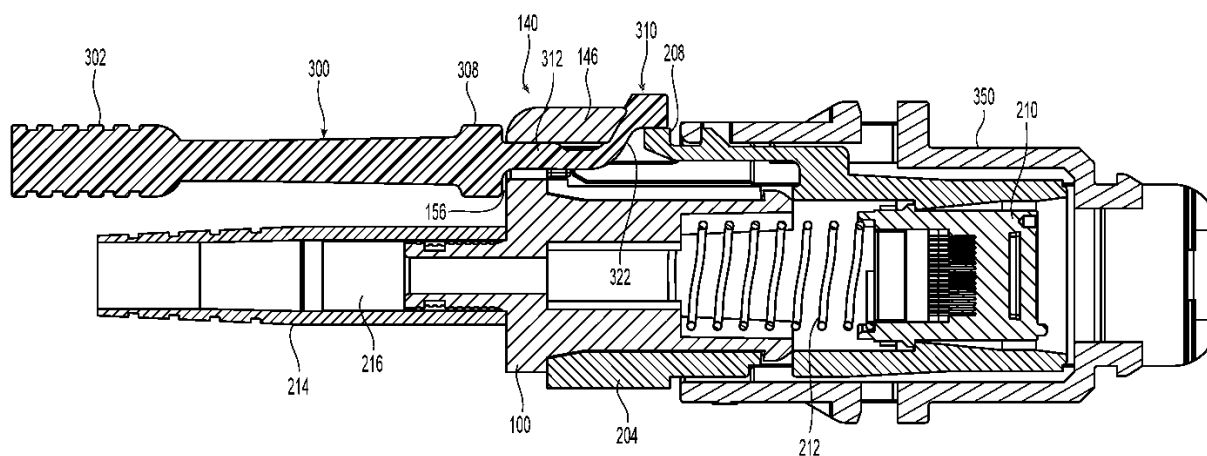
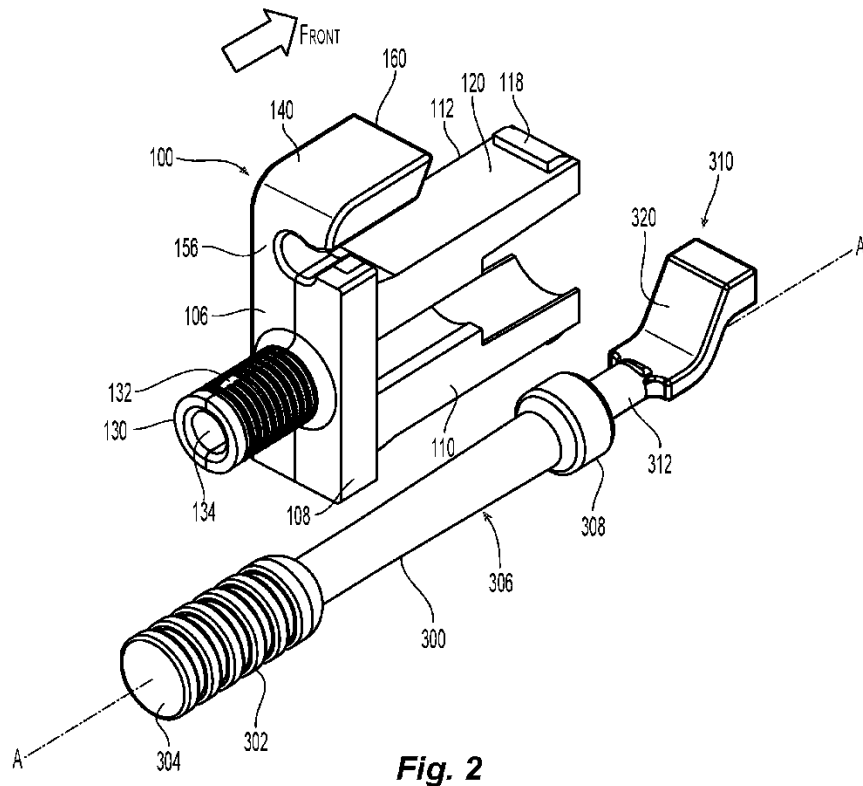


Fig. 10

EX1009, FIG. 10.

Nguyen's spring push 100 comprises crimp portion 130. EX1009, ¶26, FIG. 2; EX1012, ¶97.



EX1009, FIG. 2.

Nguyen explains “crimp portion [has] a central opening to allow optical fibers to pass therethrough.” EX1009, ¶3. Nguyen’s connector further comprises a single “fiber optic ferrule” 210. EX1009, ¶¶23, 33, FIGs. 9, 10; EX1012, ¶98.

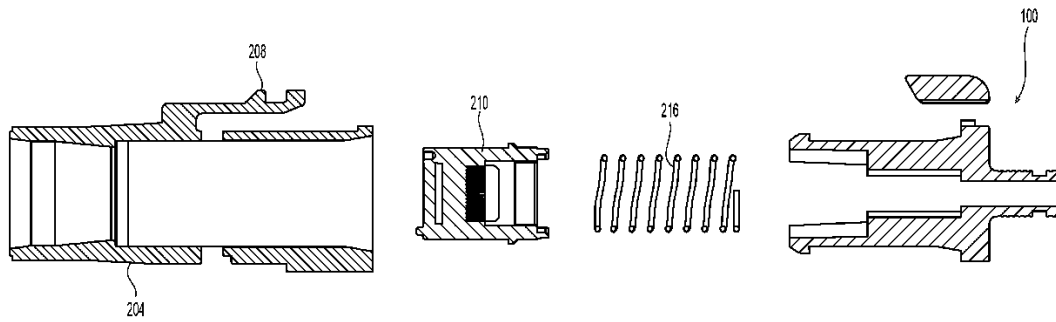


Fig. 9

EX1009, FIG. 9.

From the shape of single ferrule 210, and because crimp portion 130 is configured to allow multiple optical fibers to pass therethrough as noted above, ferrule 210 would have been recognizable to a POSITA as a multi-fiber ferrule with fibers arranged in a row extending on the plane of FIGs. 9, 10. EX1012, Section VII.A; EX1012, ¶99.

Nguyen's handle 300 comprises "distal end 310" that "extends upward (in the figures, but away from the two generally parallel extensions 110,112 and out of the axis A-A) so that it extends beyond the terminal surface 162 of the distal end 160 of second portion 146 and rests on the latch 208 when the handle 300 is disposed within the slot 150." EX1009, ¶32, FIGs. 8, 11; EX1012, ¶100.

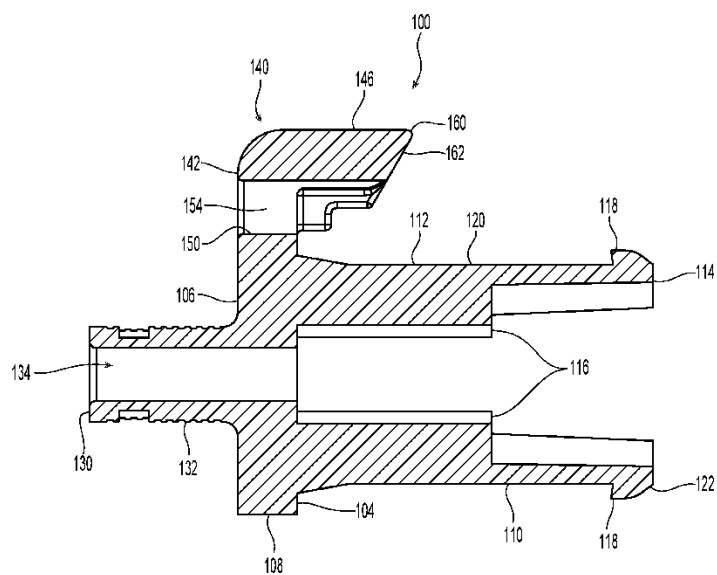


Fig. 4

EX1009, FIG. 8.

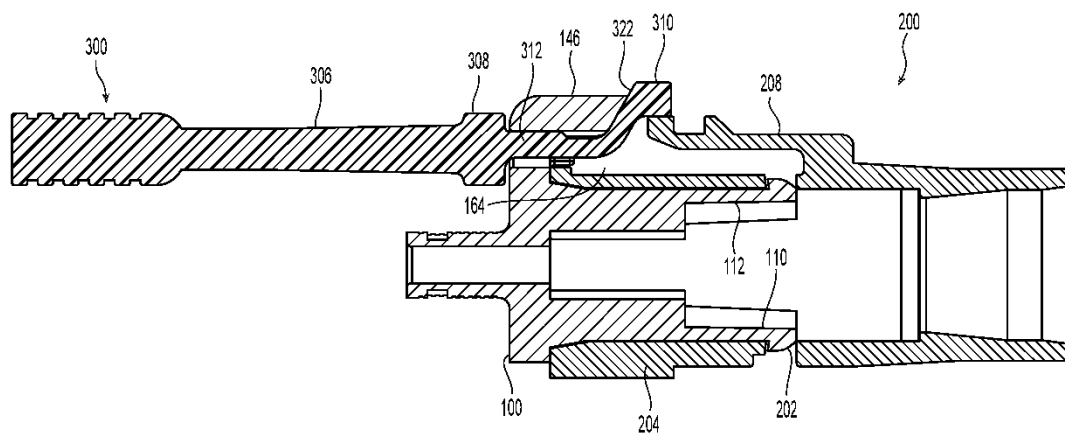


Fig. 11

EX1009, FIG. 11.

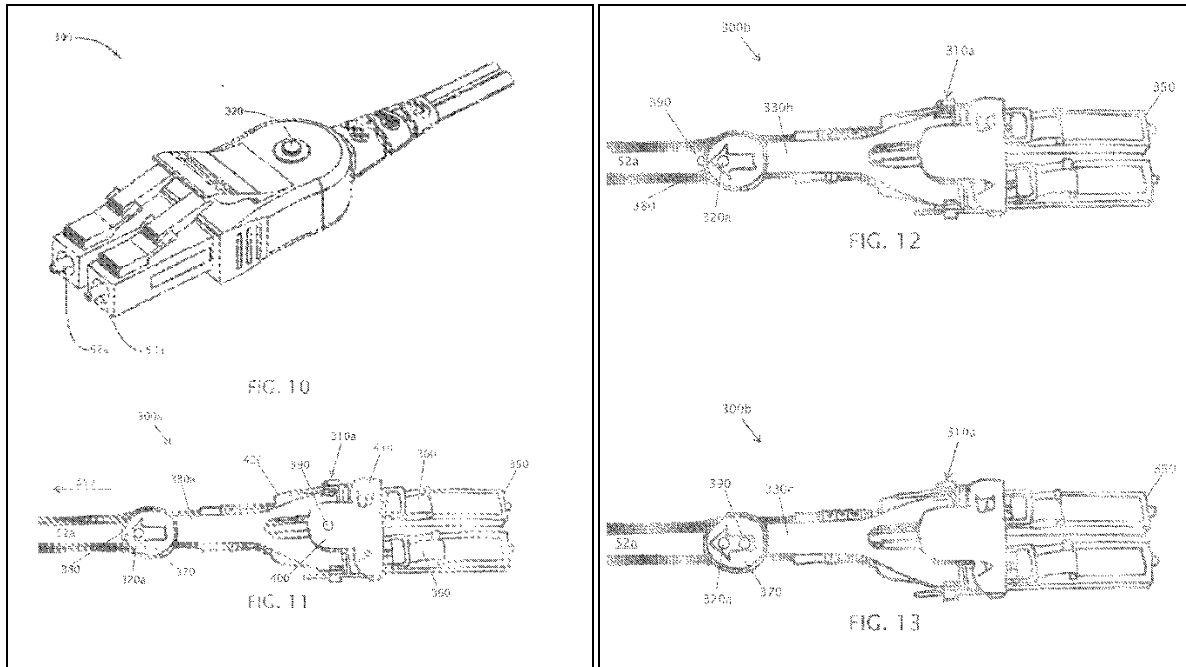
300.” EX1009, ¶32. Thus, pulling the handle 300 disengages the latch 208 from an adapter and allows the user to withdraw the connector 200. EX1012, ¶103.

B. Scherer

International Application No. WO2015/027033 to Scherer *et al.* (“Scherer”) published February 26, 2015, and is prior art under AIA 35 U.S.C. § 102(a)(1). EX1012, ¶¶104-105.

Scherer relates to devices and techniques for networking cables, including optical fiber cables. EX1003, ¶2. Scherer teaches that its techniques can be applied to fiber optic cables, and provides multiple “[e]xamples of connectors for optical-fiber cables” which “include single-fiber (e.g., LC) connectors, multi-fiber (e.g., MPO and/or MTP) connectors, and/or any other optical-fiber connectors (e.g., SC, ST, and the like).” EX1003, ¶50; EX1012, ¶106.

Scherer explains “FIGS. 11-14 depict...cables 300a, 300b, 300c with fiber-optic cable connector hoods 310a, 310b, 310c.” EX1003, ¶51. Scherer depicts distal, connecting ends of an optical fiber cable (referred to as “transmission line 52a”) protruding from front ends of the connector hoods pictured in Figures 10-13. EX1003, FIGs. 10-13; EX1012, ¶107.

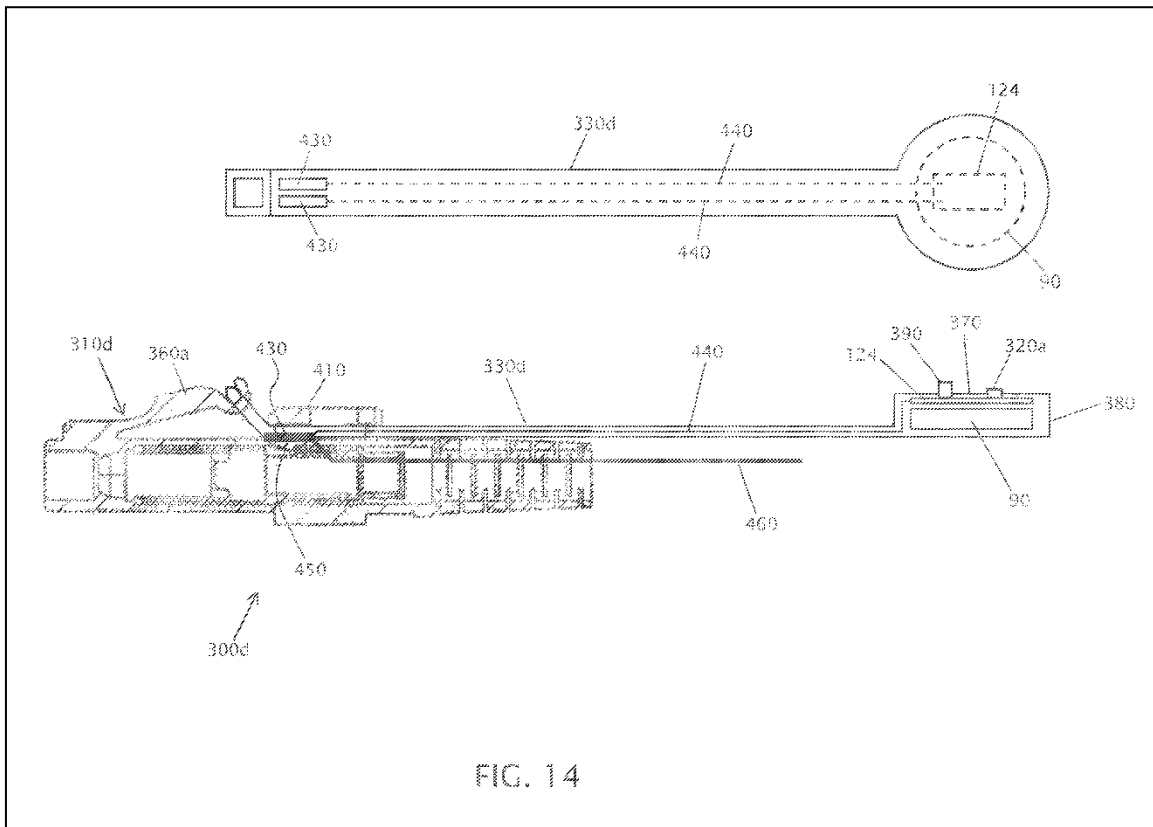


EX1003, FIGs. 10-13.

Hoods 310a, 310b, 310c “each include[] an extender or remote release tab (330a, 330b, 330c) which improves the ease of releasing the respective connector in high-density environments because the extender or remote release tab can simply be pulled by a user in a direction 340 away from a distal end 350 of the connector to laterally compress the lever(s) (360) of the connector toward the transmission line(s) 52a.” EX1003, ¶51. Compressing the lever releases the connector because Scherer’s levers function to resist release of connector hoods from a mating connector or jack. EX1003, ¶¶ 5, 10; EX1012, ¶108.

Scherer discloses “FIG. 14 depicts cutaway side view of a first end of a fourth embodiment 300d of the present fiber-optic cables. Cable 300d is similar to cable 300c with the primary exception that cable 300d includes only a single fiber

optic cable (which is omitted for clarity).” EX1003, ¶54. Thus, like the connector hoods 310a, 310b, 310c, Scherer’s “connector hood 310d includes extender 300d [sic¹] that is configured to be removably coupled to connector body 400a such that extender 300d [sic] can slide relative to connector body 400a to depress or compress lever 360a.” EX1003, ¶54; EX1012, ¶109.



EX1003, FIG. 14.

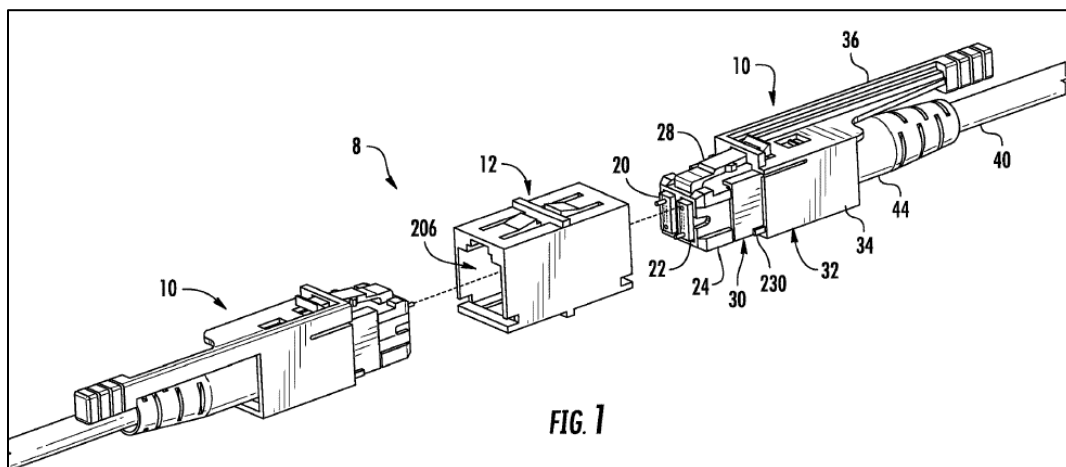
¹ Scherer refers to a “cable 300d” three times and “extender 330d” in the same paragraph, so “extender 300d” is a clerical error and should be “330d.” EX1012, ¶109.

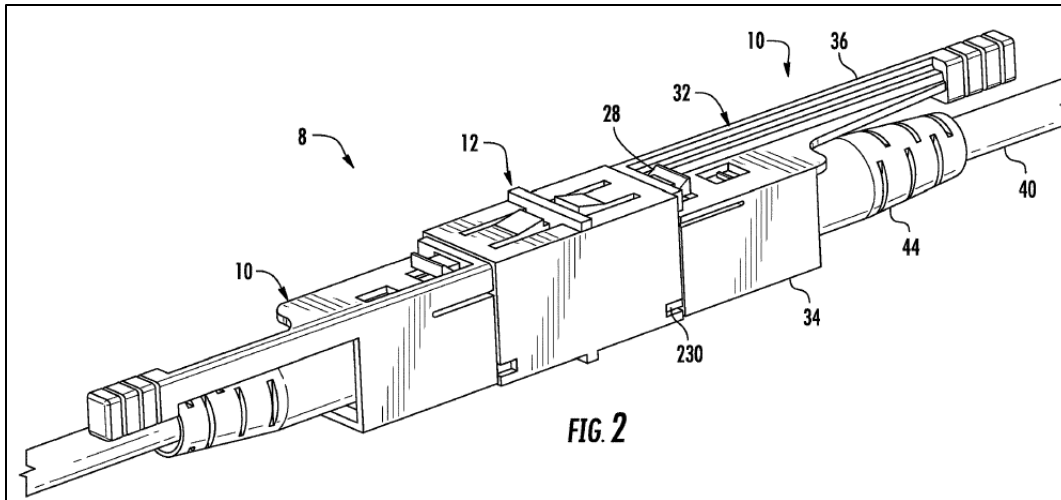
The Grounds are based on Scherer Figure 14, with reference to Figures 11-13. Figure 14 is generally alike to those of Figures 11-13 “with the primary exception that cable 300d includes only a single fiber optic cable.” EX1003, ¶54; EX1012, ¶¶109-110.

C. Lin

U.S. Patent Application Publication No. 2017/0227720 to Lin (“Lin”) published on February 9, 2017, and is prior art under AIA 35 U.S.C. § 102(a)(1). EX1012, ¶¶111-112.

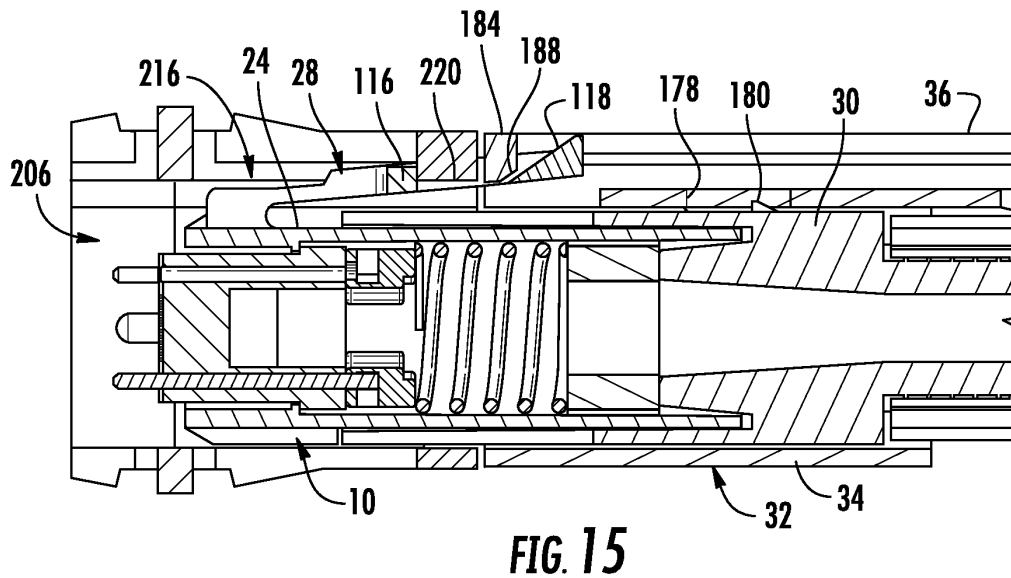
Lin’s “disclosure relates generally to fiber optic connectors, and more particularly to fiber optic connectors that include multiple, multi-fiber ferrules, such as MT ferrules.” EX1005, ¶2. Lin discloses a fiber optic connector system 8 that includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25; EX1012, ¶¶113-115.





EX1005, FIGs. 1, 2.

Fiber optic connector 10 includes latch arm 28 that extends outwardly from body 24 and handle 36 that is pulled rearward to depress latch arm 28 toward body 24. EX1005, ¶26, FIGs. 15-17. This operation allows connector 10 to be removed from adapter 12. EX1005, ¶26, FIGs. 15-18; EX1012, ¶116.



EX1005, FIG. 15.



EX1005, FIG. 17.

Fiber optic connector 10 includes two multi-fiber ferrules 20, 22. EX1005, ¶26, FIGs. 4, 5; EX1012, ¶117.



FIG. 5

EX1005, FIGs. 4, 5.

Multi-fiber ferrules 20, 22 “each include two rows of the bores 48,” which support the respective optical fibers (i.e., the optical fibers that extend from within

the fiber optic cable 30). EX1005, ¶¶27-28. “For example, the first and second ferrules 20, 22 may each be a mechanical transfer (MT) ferrule like those used in known multi-fiber push-on (MPO) connectors.” *Id.*, ¶28; EX1012, ¶118.

D. Gniadek

U.S. Patent No. 8,465,317 to Gniadek (“Gniadek”) was granted on June 18, 2013, and is prior art under AIA 35 U.S.C. § 102(a)(1). EX1012, ¶¶119-120.

Gniadek’s disclosure “relates to interconnect technology. More specifically, the present disclosure relates to interconnect technology used in electrical and optical systems.” EX1010, 1:13-1:15; EX1012, ¶121.

Gniadek discloses a latching connector 816 for an optical fiber transmission medium 812. EX1010, 16:18-25; EX1012, ¶122.

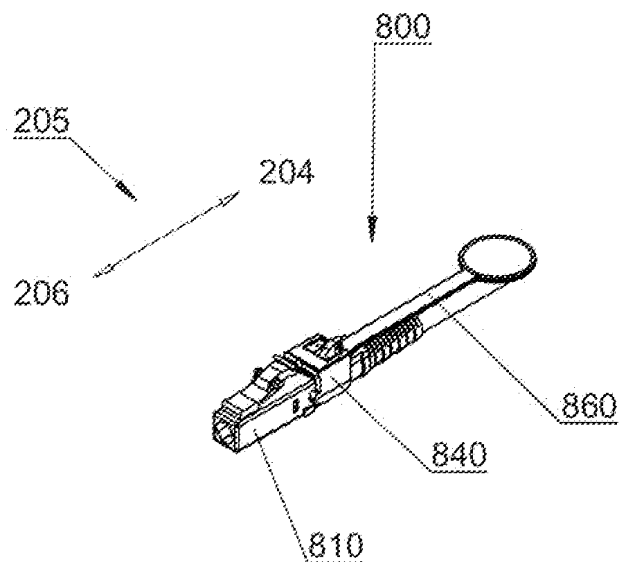


FIG. 21

EX1010, FIG. 21.

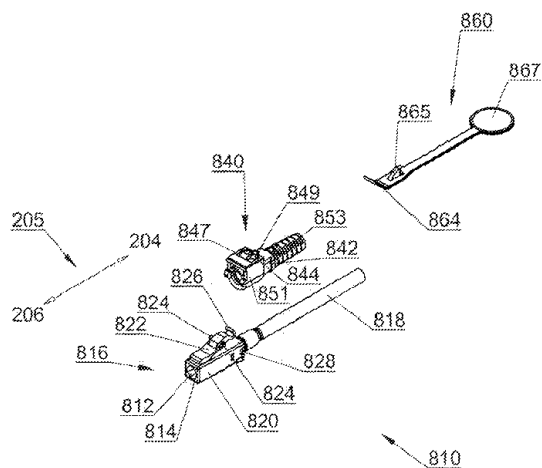


FIG. 22

EX1010, FIG. 22.

Connector 816 includes a lever 822 with latches 824. EX1010, 16:20-30. An extender 860 is connected to lever 822 such that pulling extender 860 depresses lever 822. EX1010, 17:20-29; EX1012, ¶123.

Connector 816 includes a trap 828, and a boot 840 includes a protruding member 851 configured to be received in trap 828 to couple boot 840 to connector 816. EX1010, 17:2-11; EX1012, ¶124.

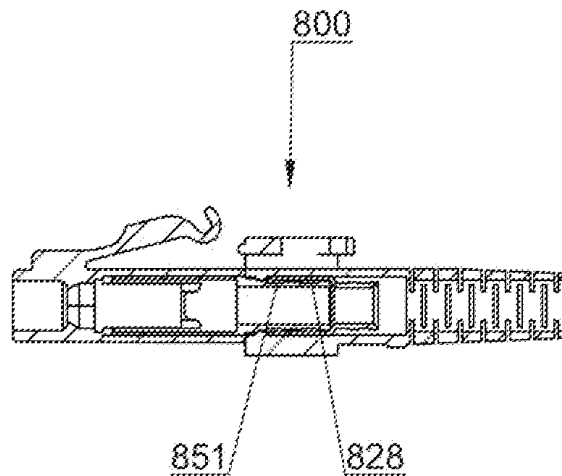


FIG. 23
SECTION VIEW OF 800

EX1010, FIG. 23.

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

Petitioner provides a Ranking Document demonstrating why two Petitions are necessary to fully challenge this patent. EX1012, ¶¶125-128.

This table summarizes the Grounds for claims 1-22 found in IPR2024-00115):

Ground	Basis	Reference(s)	Claims
1	§ 103	Scherer (EX1003) and Lee (EX1004)	1-17, 20, and 21
2	§ 103	Scherer, Lee, and Gniadek (EX1010)	18, 19, and 22
3	§ 102	Lee	1-17, 20, and 21
4	§ 103	Lee	18, 19, 21, and 22

This table summarizes the Grounds for claims 23-40 found in IPR2024-00116:

Ground	Basis	Reference(s)	Claims
1	§ 102	Nguyen (EX1009)	23-26 and 40
2	§ 103	Nguyen and Lin (EX1005)	27-39
3	§ 103	Scherer and Lin	23-36, 39, and 40
4	§ 103	Scherer, Lin, and Gniadek (EX1010)	37 and 38

VII. GROUND 1: NGUYEN ANTICIPATES CLAIMS 23-26 AND 40.

Nguyen discloses all of the features in independent claim 23, independent claim 40, and dependent claims 24-26 of the '369 patent. EX1012, ¶¶129-133.

A. Claim 23

1. Preamble²

Nguyen discloses “a fiber optic connector 200 that can be used with the inventive spring push 100” and “includes the connector housing 204, a ferrule 210, a spring 212, the spring push 100, and a boot 214.” EX1009, ¶¶33; EX1012, ¶¶134-137.

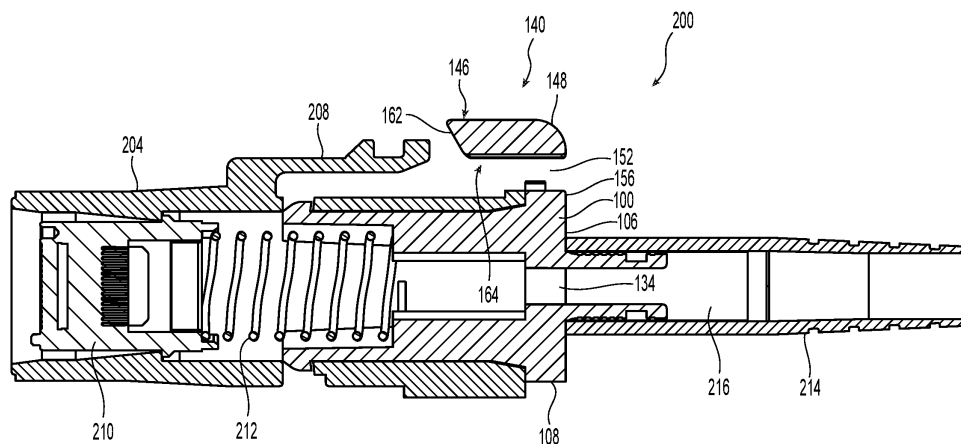


Fig. 8

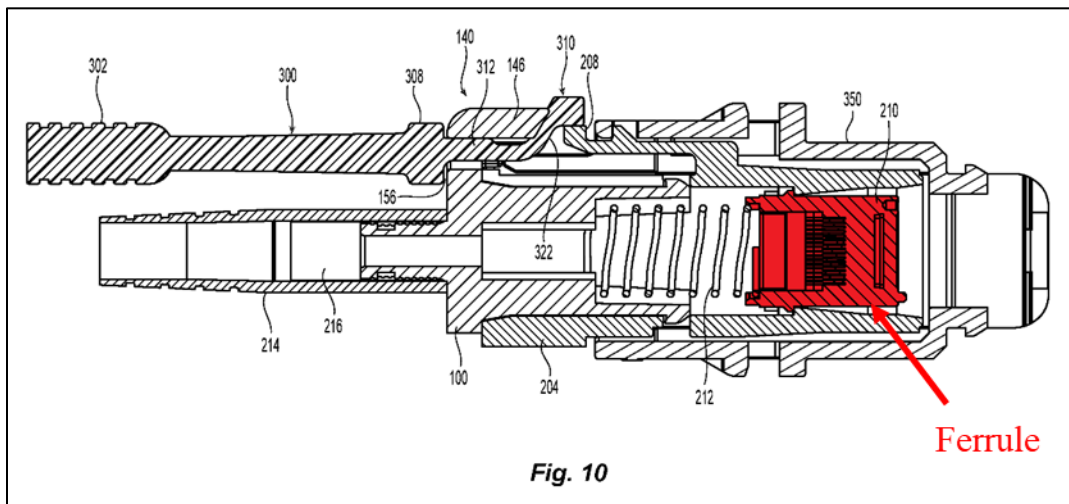
EX1009, FIG. 8.

The “fiber optic connector 200” is an “optical fiber connector” within the plain and ordinary meaning of that term. EX1012, ¶¶91-93, 134-137.

² Petitioner does not acquiesce to any preambles being limiting.

2. [23.1]

Nguyen's fiber optic connector 200 comprises a single ferrule 210. EX1009, ¶33, FIG. 10. A POSITA would recognize the ferrule 210 as a multi-fiber ferrule configured to terminate a plurality of optical fibers from its features as shown in Figure 10. EX1012, ¶¶138-141.



EX1009, FIG. 10 (annotated).

Additionally, the connector 200 comprises a crimp portion 130. EX1009, ¶26, FIG. 2. Nguyen explains “the crimp portion [has] a central opening to allow optical fibers to pass therethrough.” EX1009, ¶3; EX1012, ¶¶138-141.

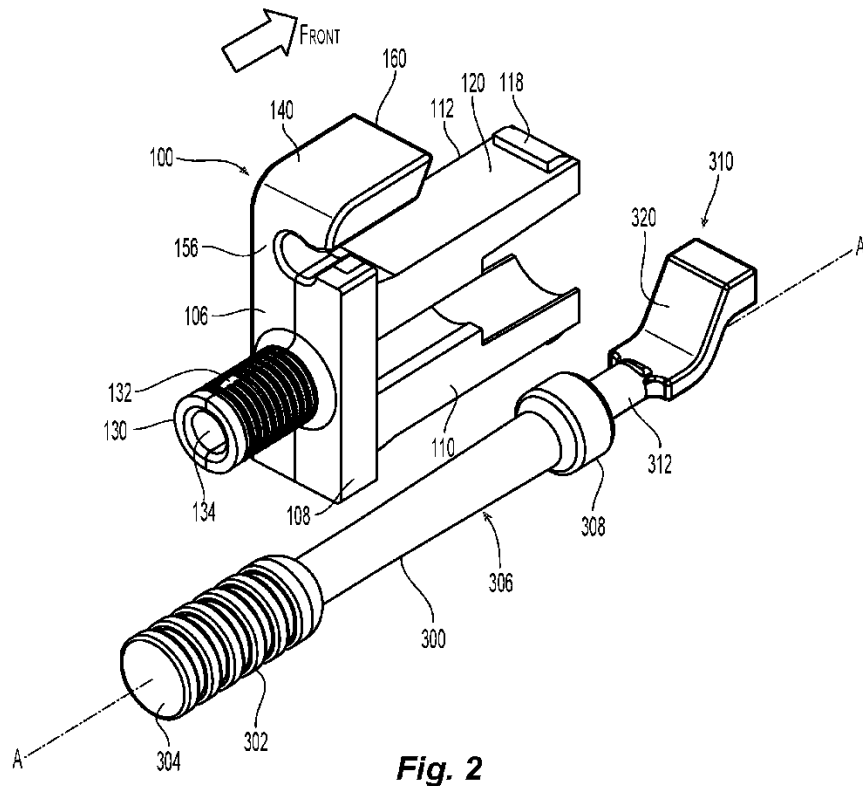


Fig. 2

EX1009, FIG. 2.

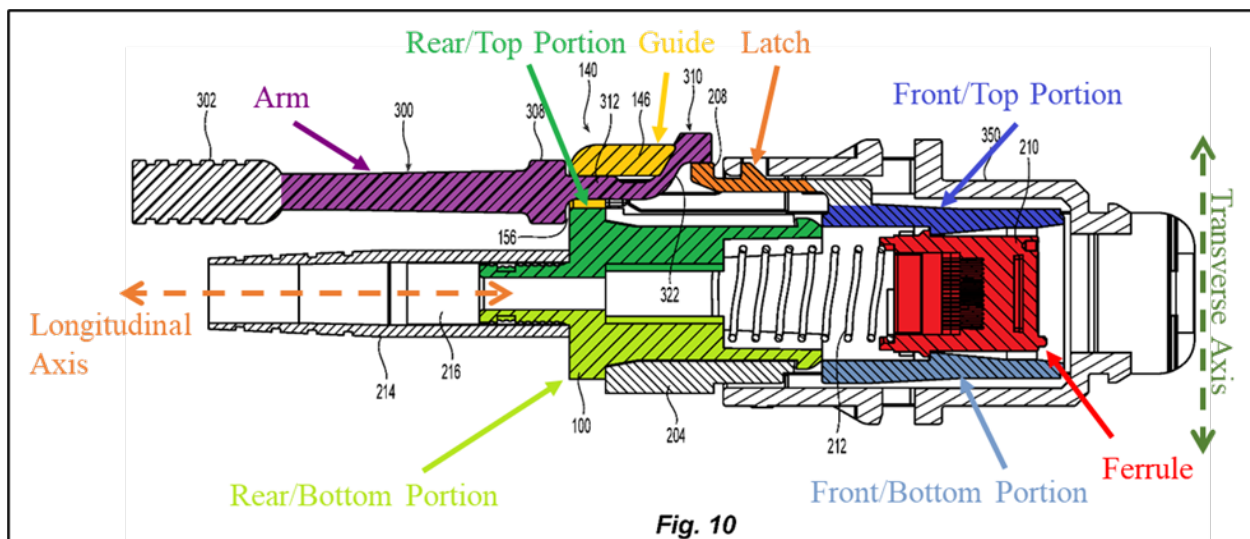
Because the crimp portion is configured “to allow optical fibers,” plural, “to pass through,” EX1009, ¶3, and connector 200 comprises only a single ferrule 210, ferrule 210 is necessarily a multi-fiber ferrule 210 configured to terminate a plurality of fibers. EX1012, ¶¶138-141.

3. [23.2]

Nguyen’s connector 200 includes a “connector housing 204” and “spring push 100” that are coupled together. EX1009, ¶24, FIGs. 6, 8-10. While Nguyen uses the term “connector housing” to refer to the element numbered 204 within

Nguyen's disclosure, housing 204 and spring push 100 coupled together form a structure within the plain and ordinary meaning of the term "connector housing."
EX1012, ¶¶142-150.

The connector housing provided collectively by Nguyen's "housing 204" and "spring push 100" has a front end portion and a rear end portion spaced apart along a longitudinal axis, as well as a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis. EX1009, FIGs. 6, 8-10; EX1012, ¶¶142-150.



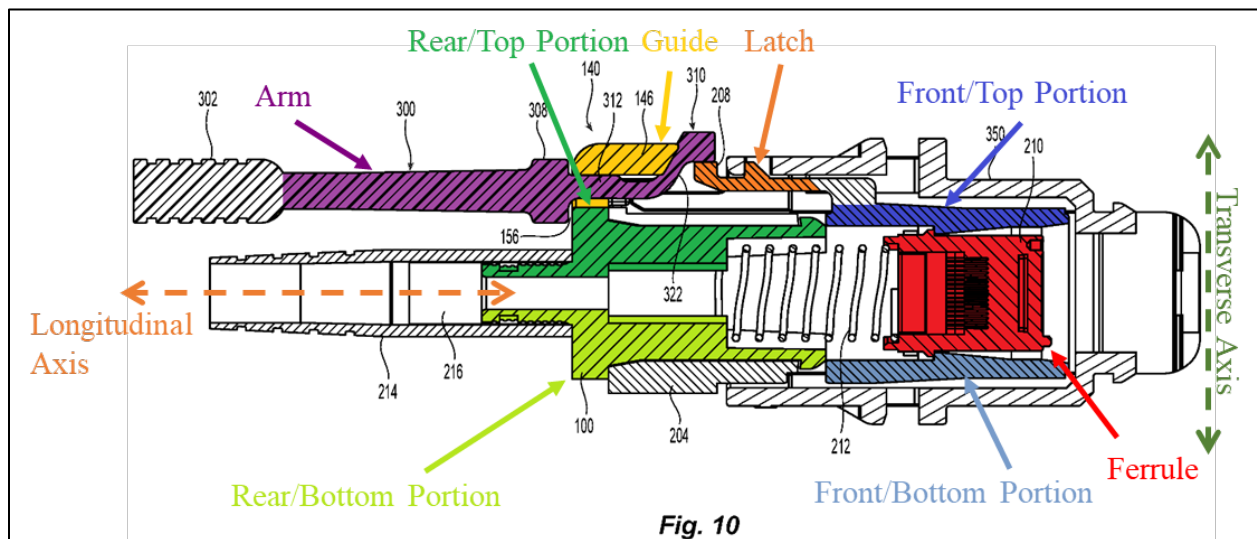
EX1009, FIG. 10 (annotated).

Of the connector housing provided collectively by spring push 100 and housing 204, a part of housing 204 is a front end portion, while a part of spring push 100 is a rear end portion such that the front end portion and rear end portion are spaced apart along the longitudinal axis. A top part of housing 204 and a top

part of spring push 100 collectively form a top portion of the connector housing, while a bottom part of housing 204 and a bottom part of spring push 100 collectively form a bottom portion of the connector housing such that the top portion and bottom portion are spaced apart along a transverse axis perpendicular to the longitudinal axis; EX1012, ¶¶142-150.

4. [23.3]

Nguyen's Figure 10 shows that the front end portion of housing 204 (which is a front body of a connector housing as claimed, Section VII.A.3) is open, exposing multi-fiber ferrule 210 through the front end portion. EX1009, FIG. 10. The purpose of the optical fiber ferrule 210 is therefore for making an optical fiber connection. EX1012, ¶¶151-158.



EX1009, FIG. 10 (annotated).

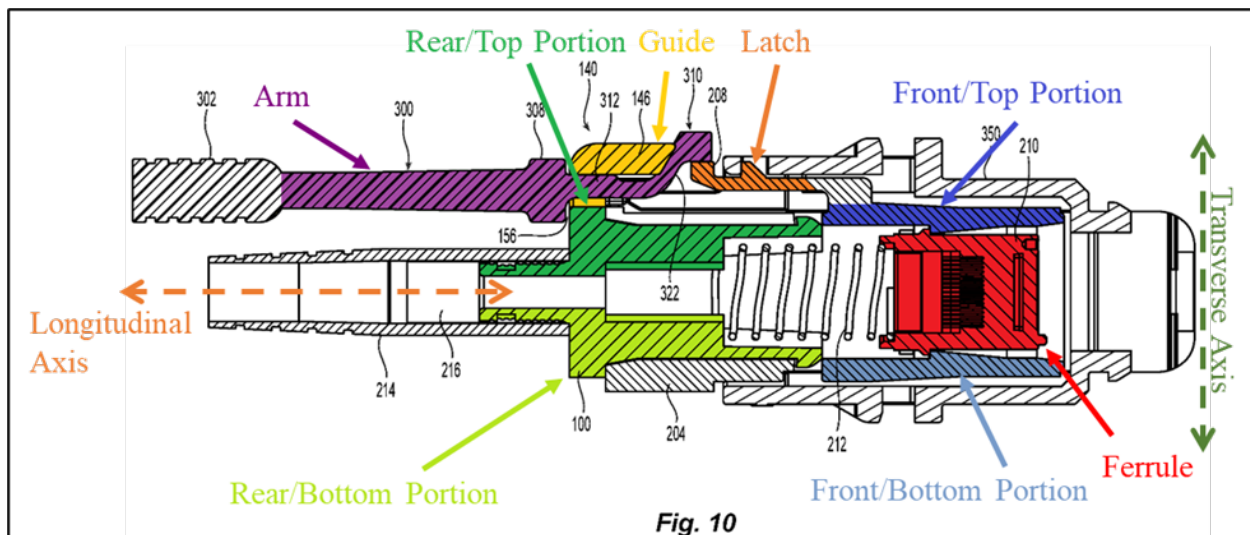
The unlabeled features of ferrule 210 are multiple optical fibers spaced apart in a row that extends on the plane of Figure 10, parallel to the transverse axis.

EX1012, ¶¶151-158.

5. [23.4]

Nguyen discloses a “latch 208” and explains “[a]s is known in the art, the latch 208 secures the connector housing 204 into an adapter, such as the adapter 350 illustrated in Figure 10, to keep the fiber optic connector 200 from being inadvertently removed from the adapter 350.” EX1009, ¶30; EX1012, ¶¶159-160.

Latch 208 is located above the top portion of the connector housing formed collectively by spring push 100 and housing 204. Latch 208 is depressible, as can be seen by comparing the positions of latch 208 in Figures 10 and 12. EX1009, FIGs. 10, 12; EX1012, ¶161.

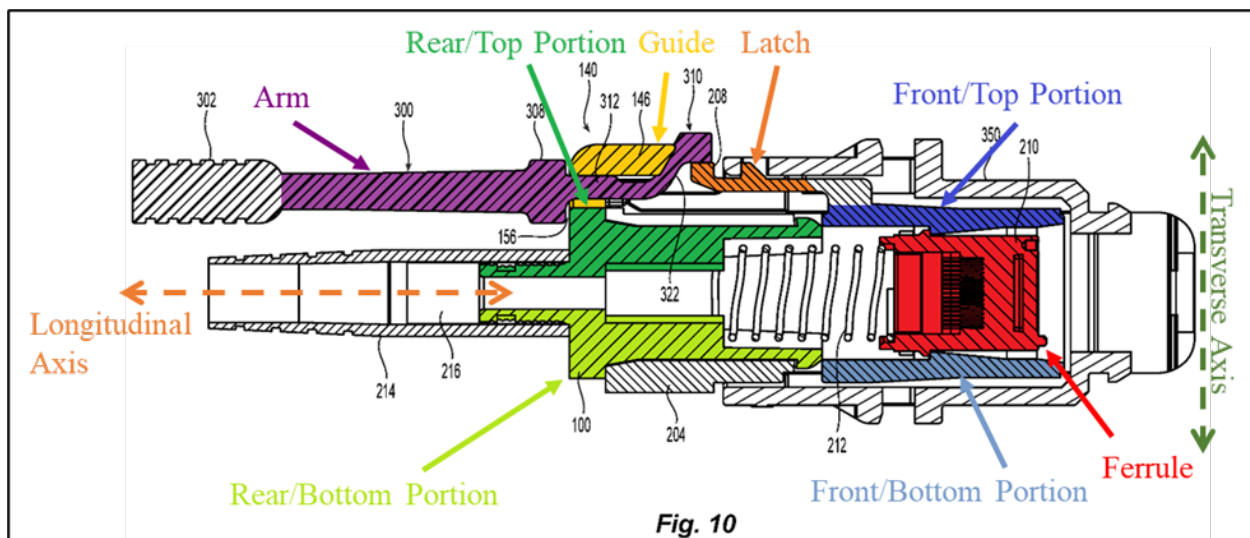


EX1009, FIG. 10 (annotated).

Latch 208 is therefore a depressible latch above a top portion of the connector housing. EX1012, ¶¶159-163.

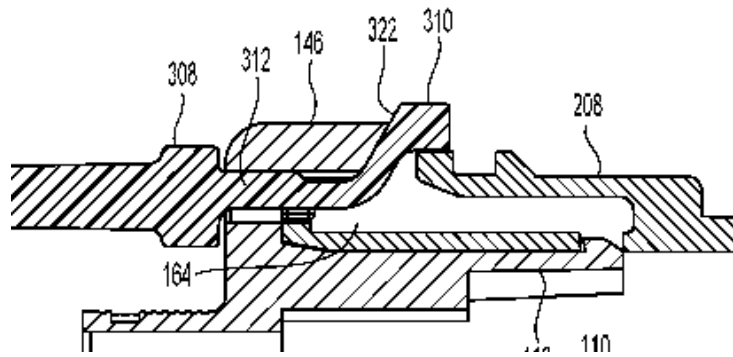
6. [23.5]

Connector 200 comprises an elongate arm provided by part of an elongate handle 300. Handle 300 is received in a slot 150 of spring push 100. EX1009, ¶27. Spring push 100 cooperates with housing 204 to provide a connector housing as claimed. Section VII.A.3. Thus, because handle 300 is coupled to spring push 100 by slot 150, it provides an elongate arm connected to the connector housing. Further, the elongate arm provided by handle 300 is connected to the connector housing provided collectively by spring push 100 and housing 204 above the top portion of that connector housing. EX1009, ¶27, FIG. 10; EX1012, ¶¶164-165.

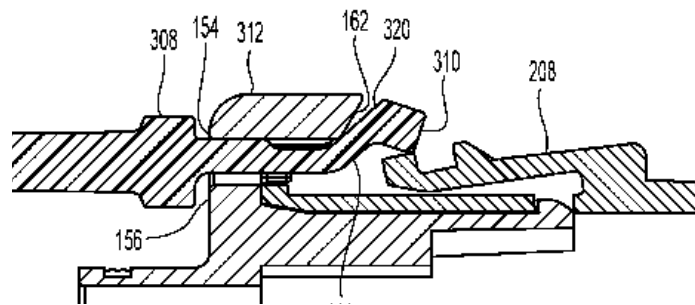


EX1009, FIG. 10 (annotated).

Handle 300 is also configured to be pulled to actuate latch 208. EX1009, ¶32, FIGs. 11, 12; EX1012, ¶166.



EX1009, FIG. 11 (cropped).

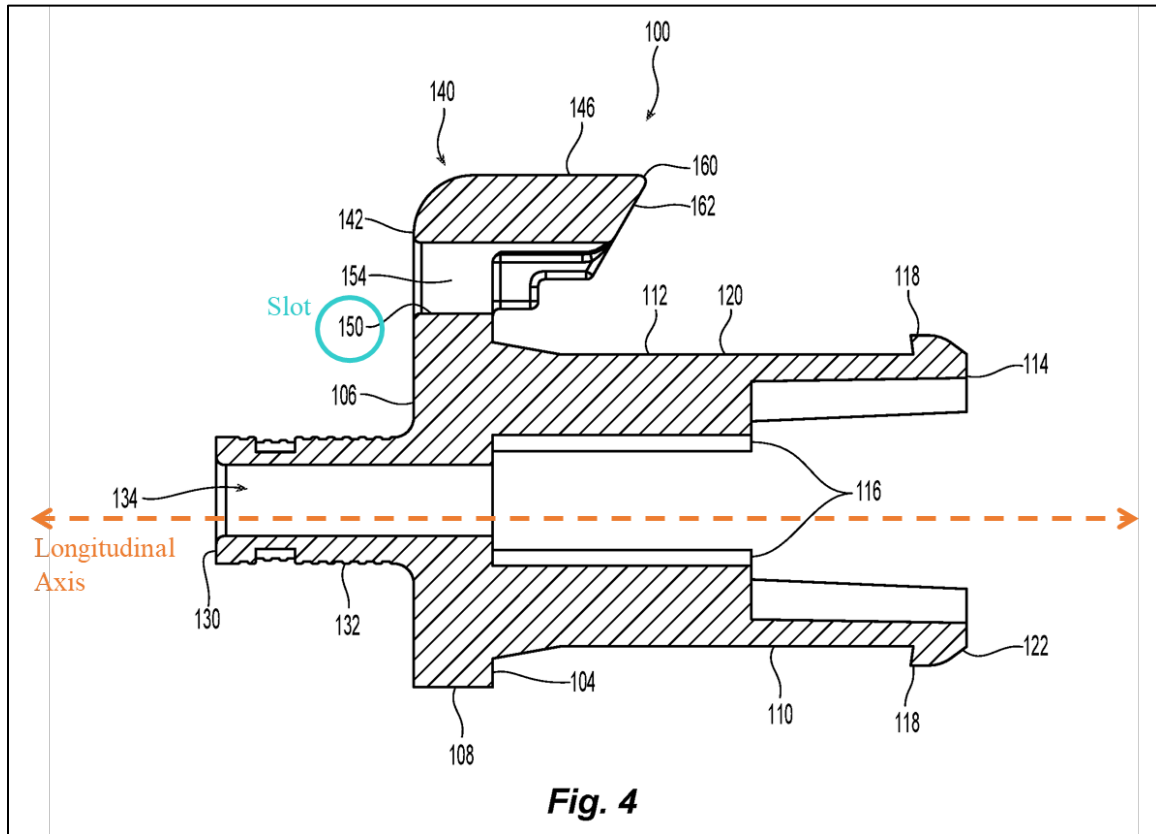


EX1009, FIG. 12 (cropped).

Nguyen' shows in Figures 11 and 12 that pulling arm 300 rearward actuates latch 208 by depressing latch 208 toward connector housing and describes the interaction of arm 300 and latch 208 in paragraph 32. EX1009, ¶32, FIGs. 11, 12; EX1012, ¶¶167-169. Handle 300 therefore provides an elongate arm connected to the connector housing above the top portion of the connector housing and configured to be pulled rearward to actuate depressible latch 208 as claimed. EX1012, ¶¶164-170.

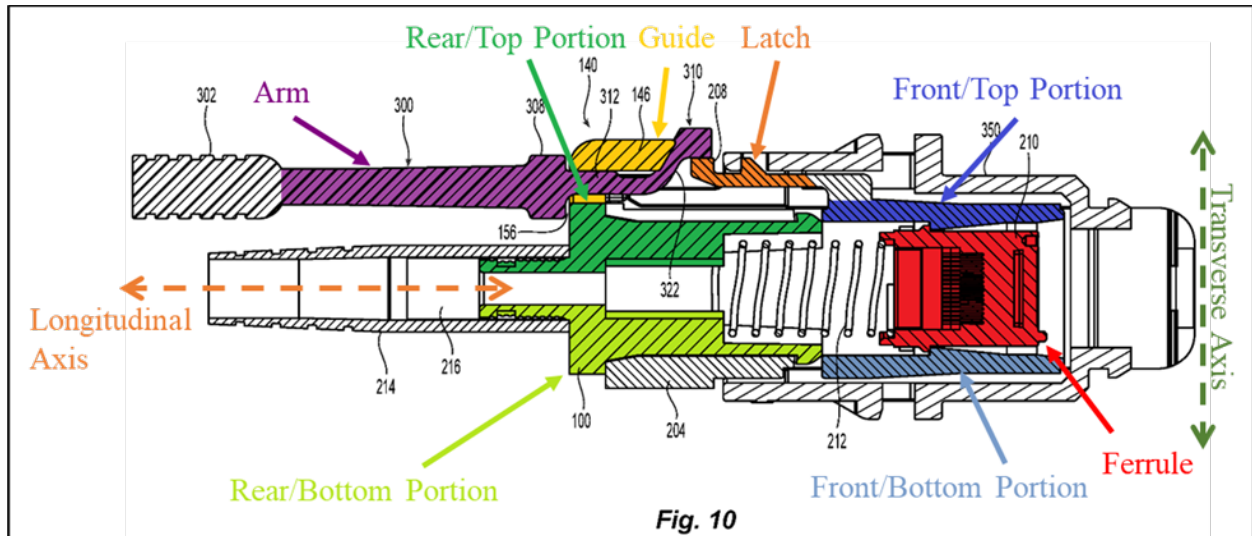
7. [23.6]

Handle 300 is connected to spring push 100 by slot 150. EX1009, ¶27;
EX1012, ¶¶171-172.



EX1009, FIG. 4 (annotated).

The portion of spring push 100 that defines slot 150 is therefore a guide for handle 300. That guide can be seen above the top portion of the connector housing formed by spring push 100 and housing 204 in Figure 10. EX1012, ¶173.

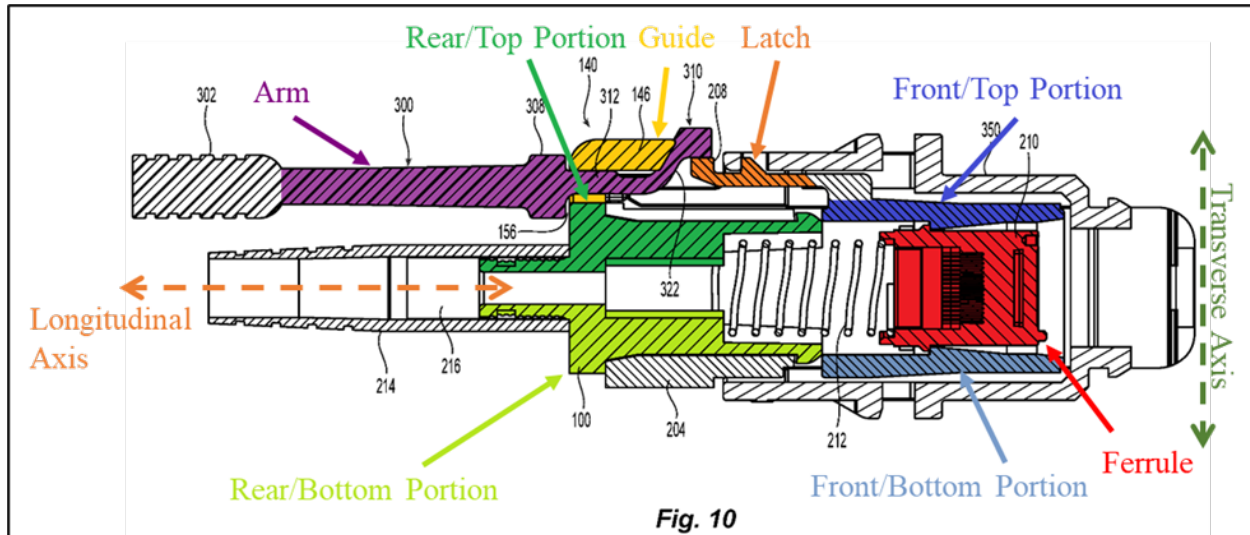


EX1009, FIG. 10 (annotated).

Because spring push 100 cooperates with housing 204 to provide a connector housing, and spring push 100 comprises the guide as shown above, the connector housing defined by the coupling of spring push 100 and housing 204 comprises a guide connecting an elongate arm in the form of handle 300 to optical fiber connector 200. EX1012, ¶¶174-176.

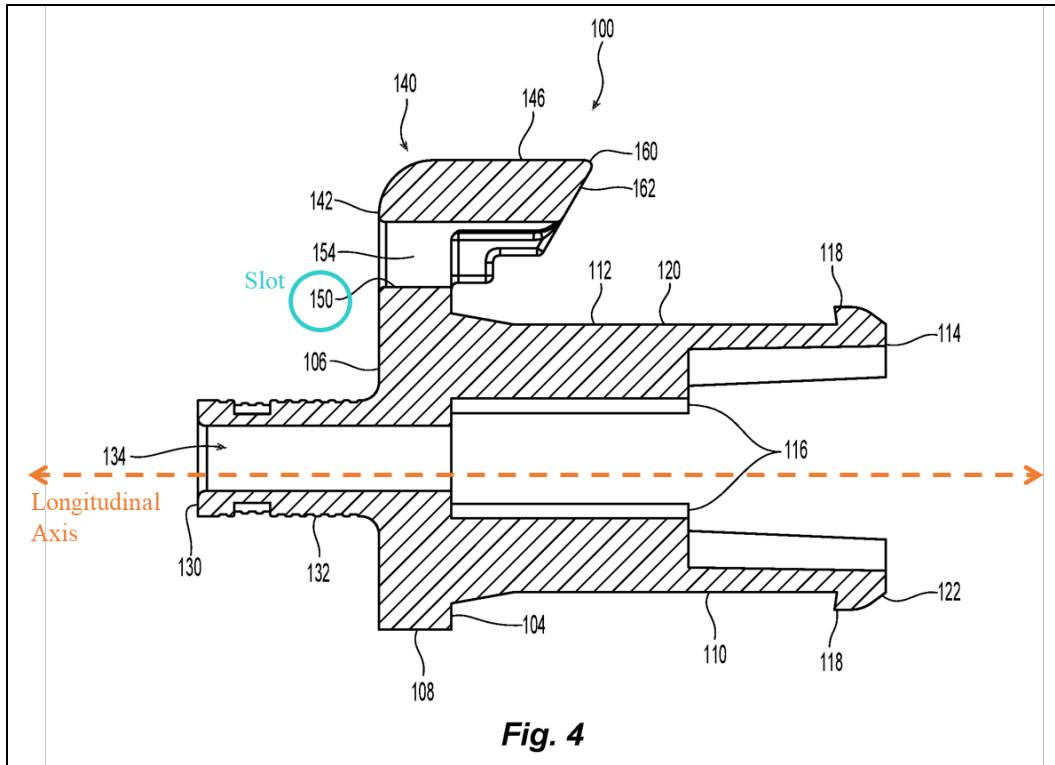
B. Claim 24

Nguyen's spring push 100 defines a guide. Section VII.A.7; EX1012, ¶¶177-182.



EX1009, FIG. 10 (annotated).

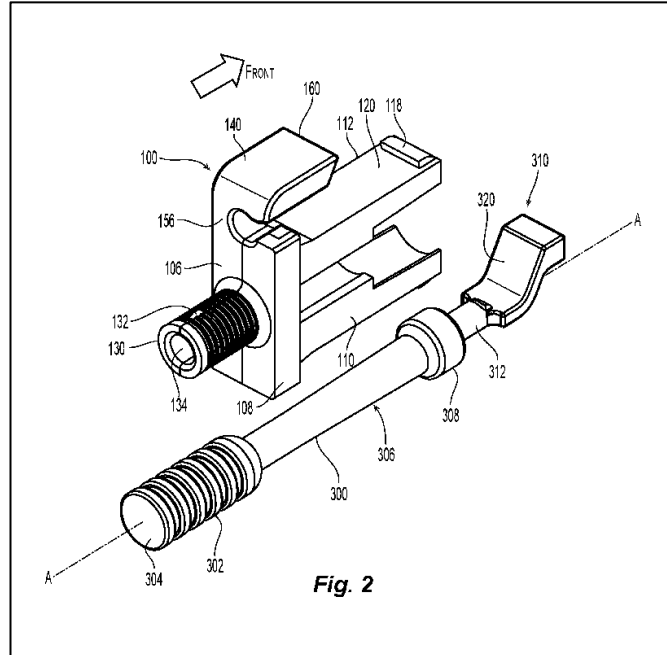
The portion of spring push 100 that defines the guide comprises slot 150 configured to receive an elongate arm in the form of handle 300. EX1009, ¶27. Slot 150 can be seen extending along the longitudinal axis, for example, in Figure 4. EX1012, ¶¶177-182.



EX1009, FIG. 4 (annotated).

A “slot” is within the plain and ordinary meaning of the word “groove.”

EX1012, ¶¶177-182. Moreover, Nguyen depicts slot 150 as having the shape of a groove. EX1009, FIGs. 2, 4; EX1012, ¶¶177-182.

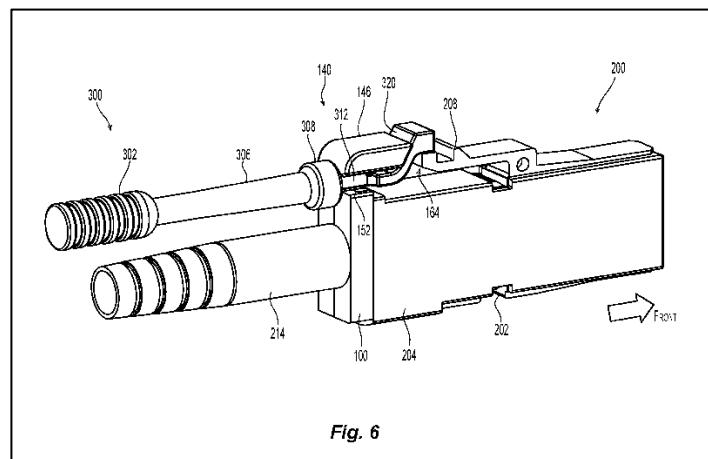


EX1009, FIG. 2.

C. Claim 25

The elongate arm provided by handle 300 is slidably received in slot 150.

EX1009, ¶¶27 (“The slot 150 receives a handle 300”), 32 (describing that the handle 300 can be pulled rearwardly when received in the slot 150), FIG. 6 (showing the handle 300 in a portion 152 of the slot 150); EX1012, ¶¶183-186.

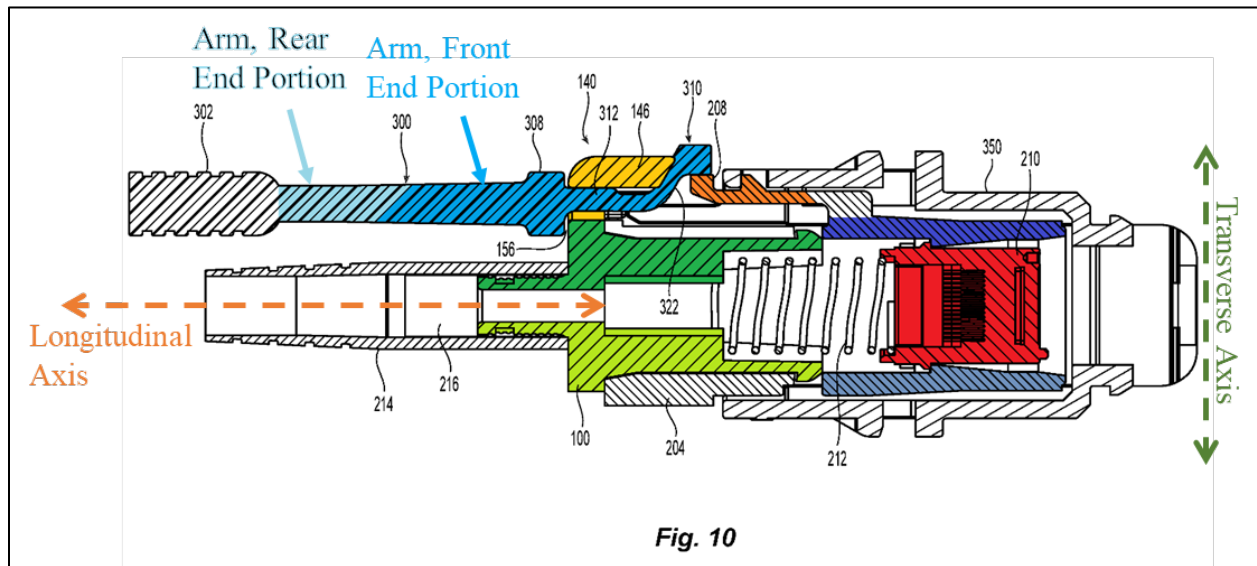


EX1009, FIG. 6.

D. Claim 26

The part of Nguyen's handle 300 providing the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis.

EX1009, FIG. 10; EX1012, ¶¶187-193.



EX1009, FIG. 10 (annotated).

E. Claim 40

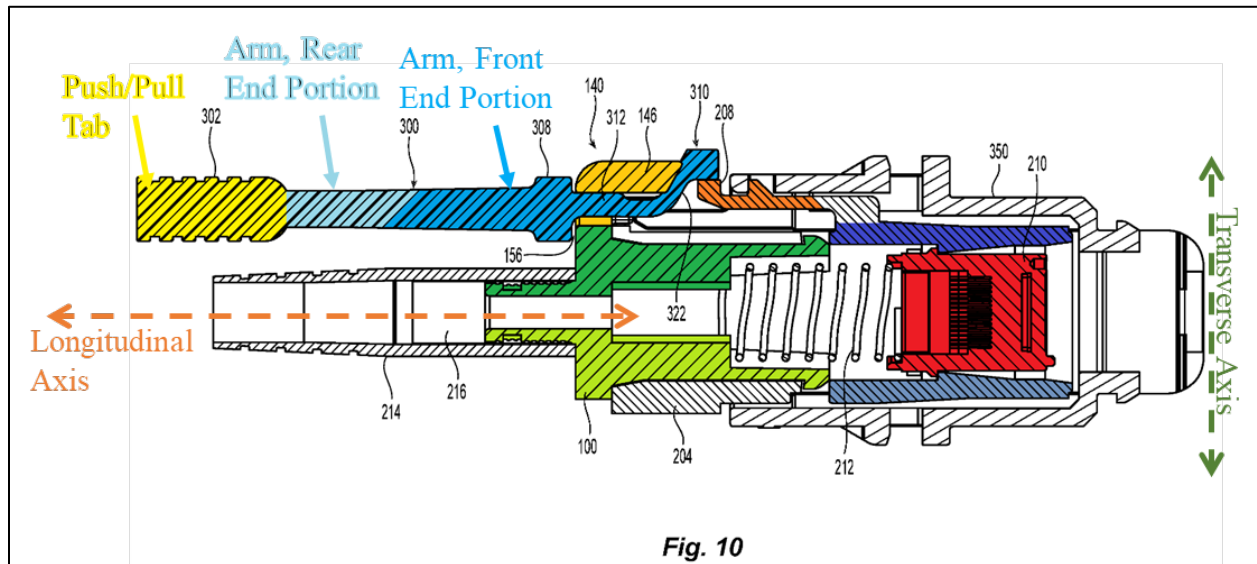
1. Preamble – [40.6]

The preamble of claim 40 is identical to the preamble of claim 23, and [40.1]-[40.5] are identical to [23.1]-[23.5]. EX1012, ¶194. Nguyen therefore discloses the preamble of claim 40 and [40.1]-[40.5] for the reasons explained above with regard to the preamble of claim 23 and [23.1]-[23.5]. Sections VII.A.1-6; EX1012, ¶¶195-200.

[40.6] is identical to the additional features of claim 26. Nguyen therefore discloses [40.6] for the reasons explained above with regard to claim 26. Section VII.D; EX1012, ¶201.

2. [40.7]

Nguyen's handle 300 further comprises a push-pull tab in the form of grasping portion 302, which is usable for both pushing and pulling on the handle 300. EX1009, ¶¶31, 32. Grasping portion 302 extends from the rear end portion of the elongate arm provided by the handle 300. EX1009, FIG. 10; EX1012, ¶¶202-206.



EX1009, FIG. 10 (annotated).

VIII. GROUND 2: NGUYEN IN VIEW OF LIN RENDERS OBVIOUS CLAIMS 27-39.

Nguyen in view of Lin renders obvious claims 27-39 of the '369 patent.

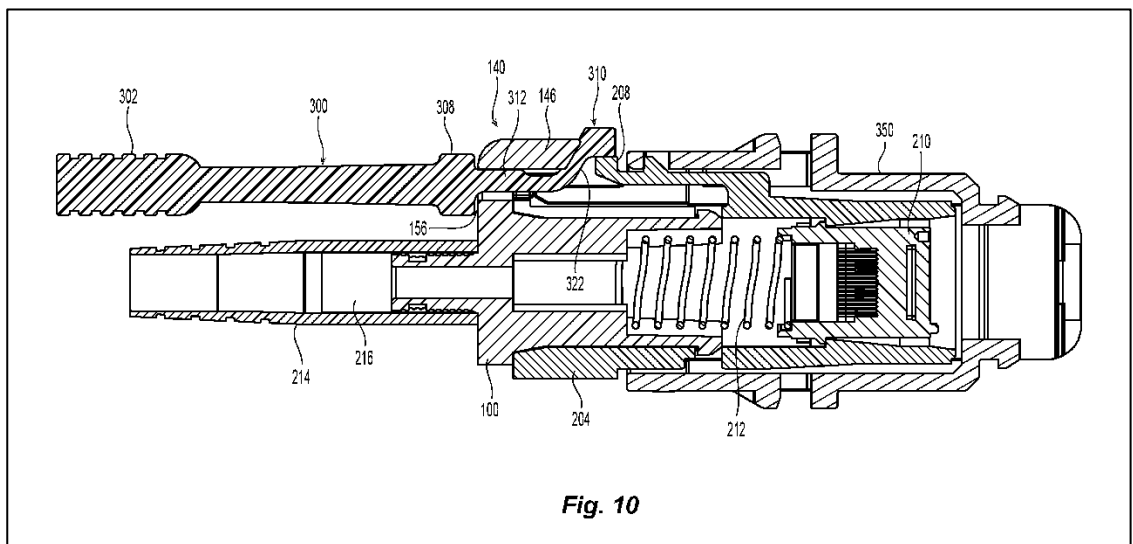
Claim 39 is an independent claim. EX1012, ¶207.

A. Motivation to Combine

1. Nguyen

Nguyen discloses fiber optic connector 200 for multi-fiber ferrule 210, in which the fibers are arranged in a vertical row, connector 200 having latch 208 and elongate release handle 300 both being positioned above the connector housing.

Section V.B; EX1009, ¶¶3, 23, 24, 26, 27, FIGs. 5-7, 10-12; EX1012, ¶¶208-211.



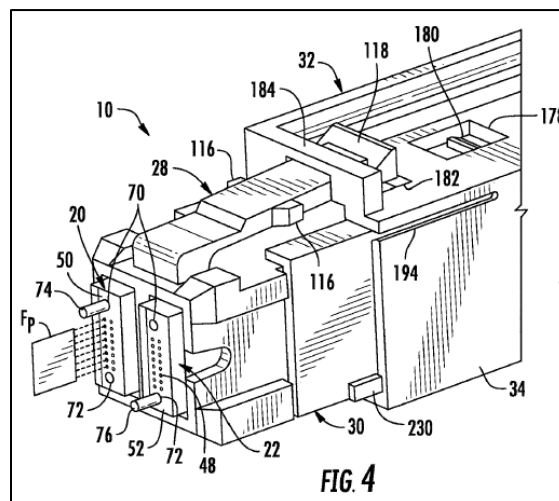
EX1009, FIG. 10.

PO may allege that Nguyen does not expressly teach wherein the front end portion of the handle 300 defines an opening, and the latch 208 is received in the opening. PO may further allege that Nguyen does not expressly teach wherein the

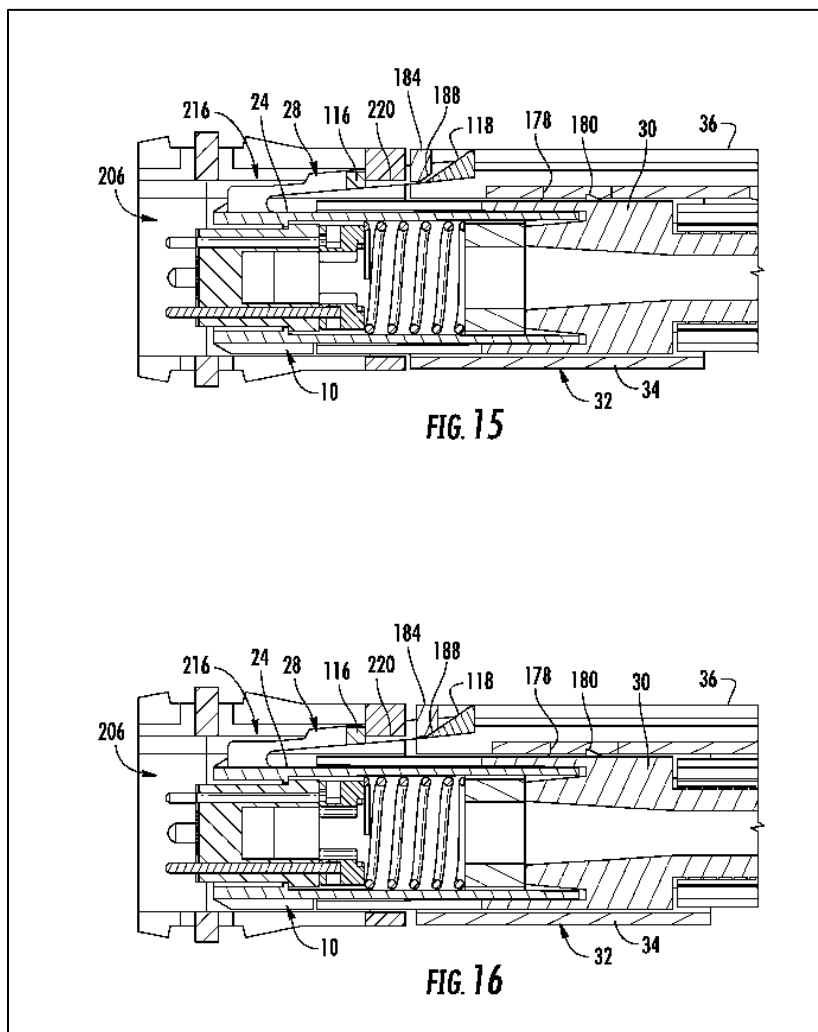
handle 300 includes an edge defining a front end of the opening, the edge opposing the upper surface of the latch 208, and wherein the edge slides longitudinally along the upper surface to depress the latch 208. PO may further allege that Nguyen does not expressly teach wherein the latch 208 extends upward along the transverse axis as the latch 208 extends along the longitudinal axis from its front end portion to its rear end portion. But these features were well known in the art. EX1012, ¶¶208-211.

2. Lin

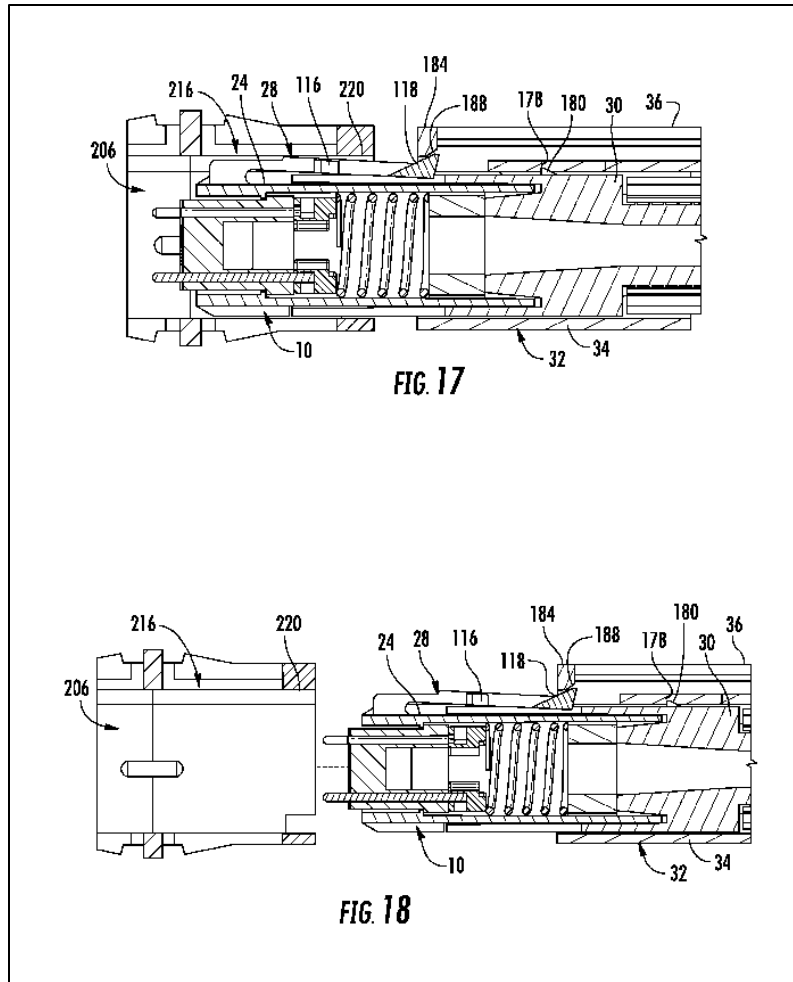
Lin similarly discloses a fiber optic connector 10 for multi-fiber ferrules 20, 22, in which the fibers are arranged in vertical rows, the connector 10 having a latch arm 28 and an outer body 32 including an elongate release handle 36, with the latch arm 28 and the handle 36 both being positioned above the connector housing. Section V.C; EX1005, ¶¶25, 27, 28, 45, 58, FIGs. 4, 15-18; EX1012, ¶¶212-219.



EX1005, FIG. 4.



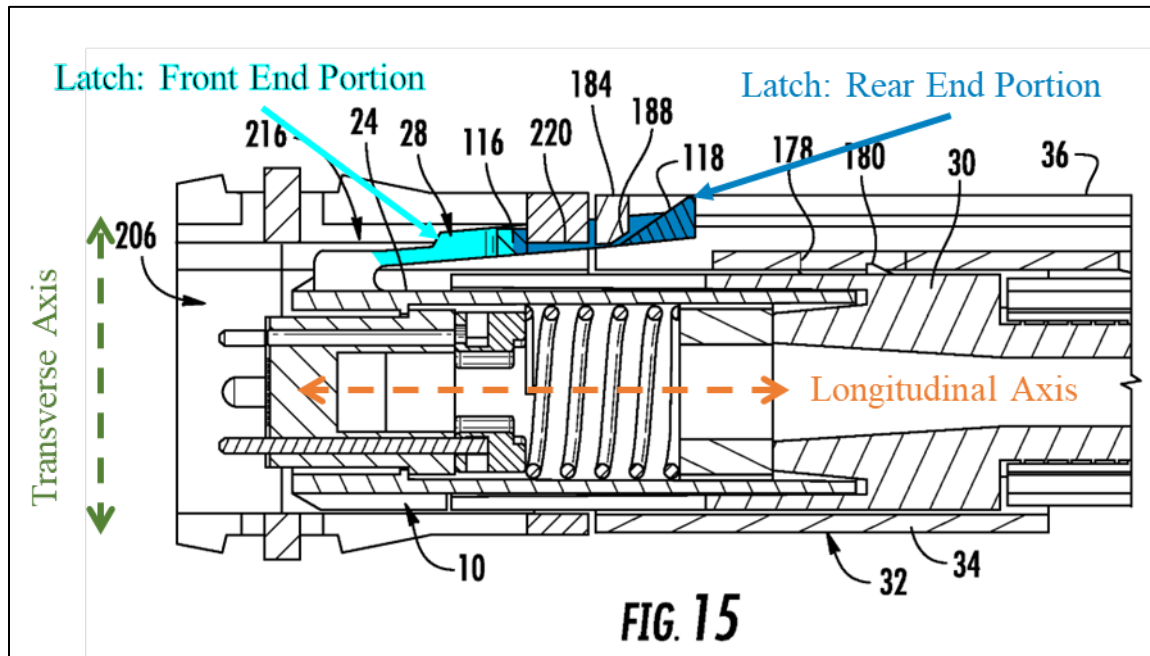
EX1005, FIGs. 15, 16.



EX1005, FIGs. 17, 18.

The front end portion of outer body 32 defines an opening 180, and latch 28 is received in opening 180. EX1005, ¶45, FIG. 4. Outer body 32 includes an edge, provided by a crossbar 184, defining a front end of the opening 182, the edge opposing the upper surface of latch 28, and wherein the edge slides longitudinally along the upper surface to depress latch 28. EX1005, ¶¶45, 58, FIGs. 15-18. Latch 28 extends upward along the transverse axis as latch 28 extends along the longitudinal axis from its front end portion to its rear end portion. EX1005, FIG.

15; EX1012, ¶¶212-219.



EX1005, FIG. 15 (annotated).

3. How to Combine

A POSITA would have found it obvious to modify Nguyen's handle 300 and latch 208 to interact in a manner similar to Lin's handle 36 and latch arm 28 because both Nguyen and Lin disclose connectors for enabling remote release of multi-fiber ferrules by pulling a handle rearwardly to depress a latch positioned similarly relative to the orientation of the fibers of the ferrule or ferrules. EX1012, ¶¶220-223.

Thus, a POSITA would have found it obvious to extend Nguyen's latch 208 to include a ramp, similar to the ramp 118 of Lin's latch 28, and provide an opening with a crossbar at the front end of Nguyen's arm 300 to receive the latch

208 and engage the ramp similarly to how Lin's opening 18 and crossbar 184 receive Lin's latch 28 and engage Lin's ramp 118. *Id.*

The POSITA would also have found it obvious to tilt Nguyen's latch 208 to extend upward in the proximal direction to engage the arm 300 as Lin's latch 28 extends upward into the opening 182. *Id.*

4. Why to Combine

A POSITA would have considered this modification to be a simple structural change that would improve the construction of Nguyen's latching and actuating mechanisms. EX1012, ¶¶220-223. The POSITA would also have recognized Lin's actuating mechanism with an opening and crossbar to be more reliable than Nguyen's, and would therefore have been motivated to incorporate features from Lin to make Nguyen's connector more reliable. *Id.* Such a modification would have been obvious to try to prevent the actuating components from breaking or separating. *Id.* The modification would also have been a simple substitution of one known element for another having predictable results, because the structure taken from Lin and the structure replaced in Nguyen are equivalent mechanisms for performing the same function of depressing a latch when an arm is pulled rearwardly. *Id.*

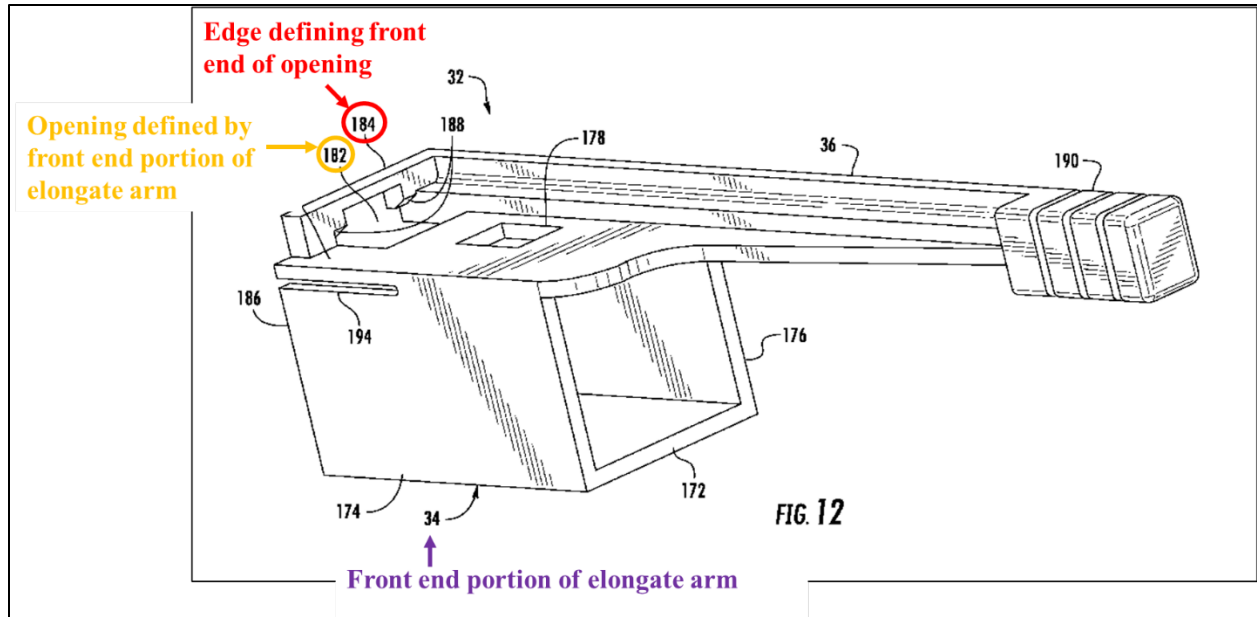
5. Expectation of Success

A POSITA would have recognized that Nguyen and Lin provide interrelated teachings in the same field of endeavor. EX1012, ¶¶220-223. With that in mind, a POSITA would have expected to achieve predictable results by modifying Nguyen in view of Lin as described above. *Id.* Further, because the modification amounts to replacing Nguyen's mechanism for depressing a latch when an arm is pulled rearwardly with Lin's equivalent mechanism for performing the same function, the modification would have had predictable results leading the POSITA to have a reasonable expectation of success. *Id.*

B. Claim 27

Lin discloses claim 27, and it would have been obvious to modify Nguyen in view of Lin to meet claim 27. Section VIII.A; EX1012, ¶¶208-223.

Nguyen discloses an elongate arm in the form of a handle 300 that comprises a front end portion and a rear end portion. Section VII.D; EX1009, ¶27, FIG. 10; EX1012, ¶¶224-236.



EX1005, FIG. 12 (annotated).

Further, crossbar member 184 “includes downwardly-facing, sloped (i.e., angled) surfaces 188 for cooperating with the ramp 118 (FIG. 8) on the latch arm 28,” and as shown in Lin’s Figures 15-18 surfaces 188 oppose the upper surface of latch arm 28 provided by ramp 118. EX1005, ¶45, FIGs. 15-18; EX1012, ¶¶224-236.

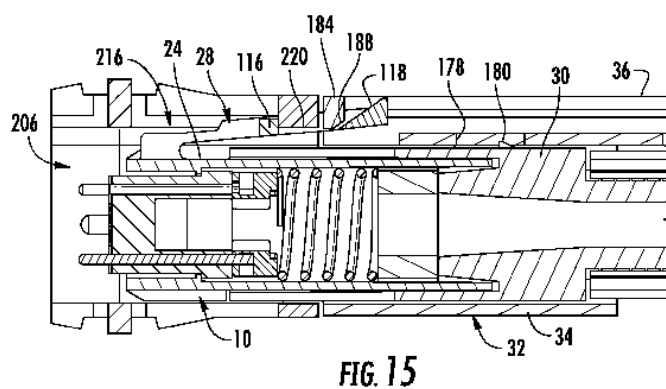


FIG. 15

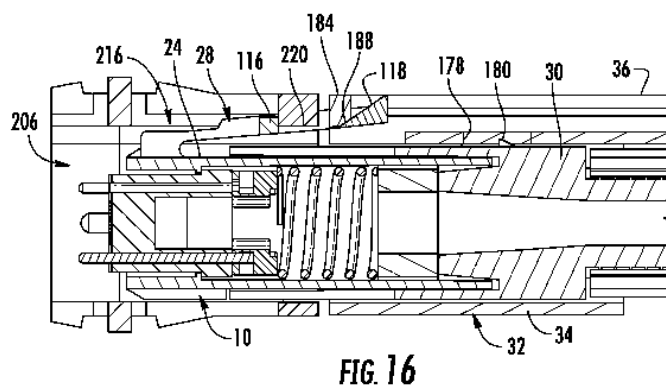
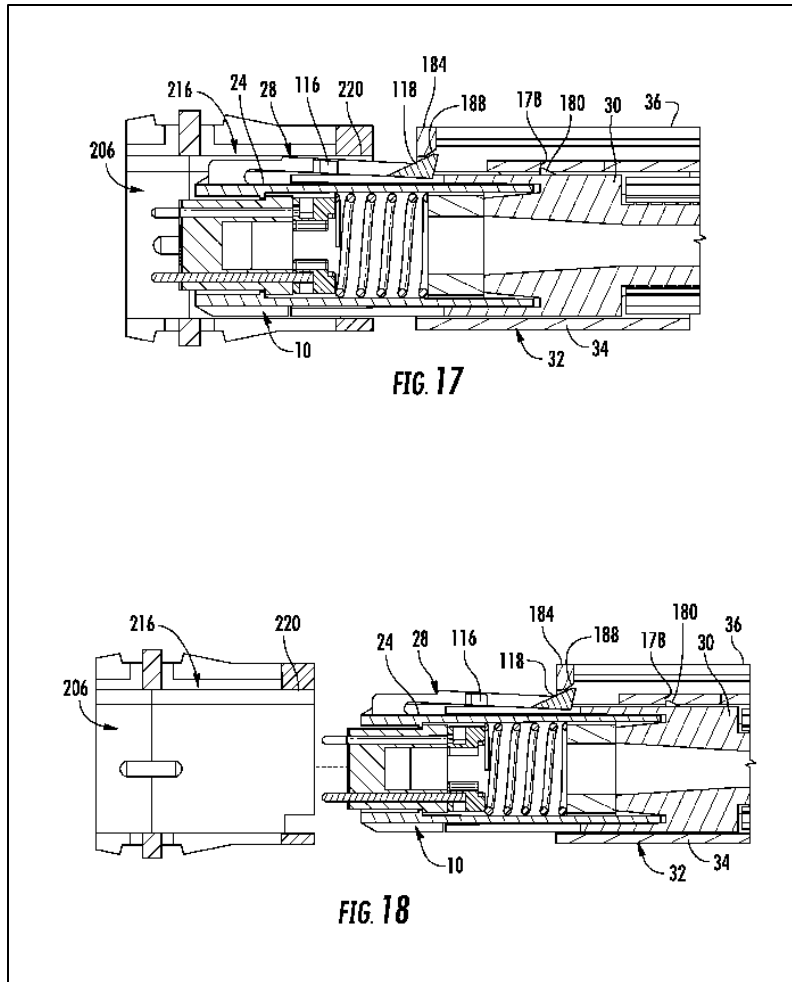


FIG. 16

EX1005, FIGs. 15, 16.



EX1005, FIGs. 17, 18.

Pulling handle 36 rearwardly causes crossbar 184 to slide on the ramp 188 and depress latch arm 28. EX1005, ¶58. Thus, Lin discloses a front end portion of the elongate arm provided by outer body 32 and handle 36 defines a latch opening 182. *Id.*, ¶45, FIG. 12; EX1012, ¶¶224-236.

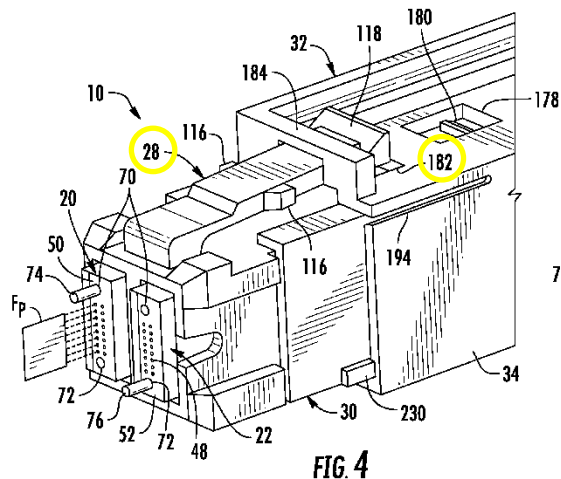
A POSITA would have found it obvious to modify Nguyen to have the foregoing features from Lin. Section VII.A; EX1012, ¶¶208-223, 224-236. The result of this modification would have met claim 27. EX1012, ¶¶224-236.

C. Claim 28

Lin discloses the additional features of claim 28, and it would have been obvious to modify Nguyen in view of Lin to have those features. EX1012, ¶¶237-241.

PO may allege that Nguyen does not expressly disclose wherein the latch 208 is received in an opening defined in the front end portion of the elongate arm provided by handle 300. But Lin does. Section VII.B; EX1005, ¶50, FIG. 4; EX1012, ¶¶237-241.

Lin discloses a depressible latch arm 28 received in a latch opening 182 defined in a front end portion of an elongate arm provided by the outer body 32 and handle 36. Section VII.B; EX1005, ¶50, FIG. 4; EX1012, ¶¶237-241.



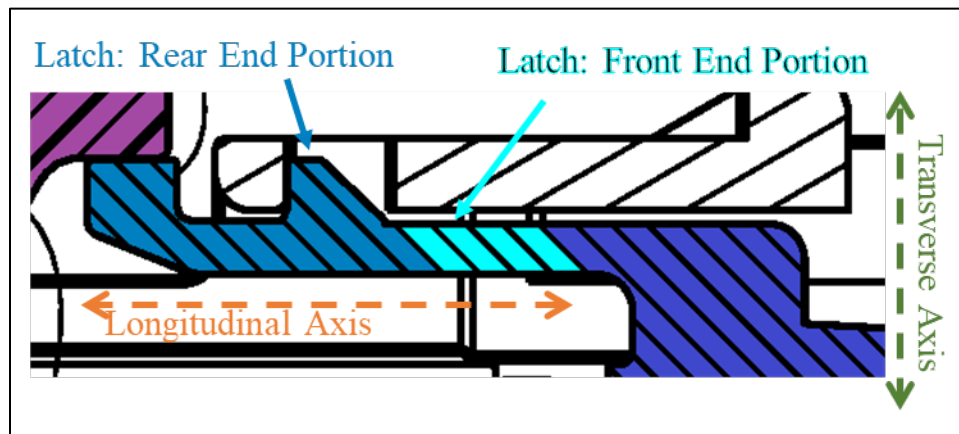
EX1005, FIG. 4 (annotated).

A POSITA would have found it obvious to modify Nguyen to have the foregoing features from Lin. Section VIII.A; EX1012, ¶¶208-223. The result of this modification would have met claim 28. EX1012, ¶¶237-241.

D. Claim 29

Lin discloses the additional features of claim 29, and it would have been obvious to modify Nguyen in view of Lin to have those features. EX1012, ¶¶242-249.

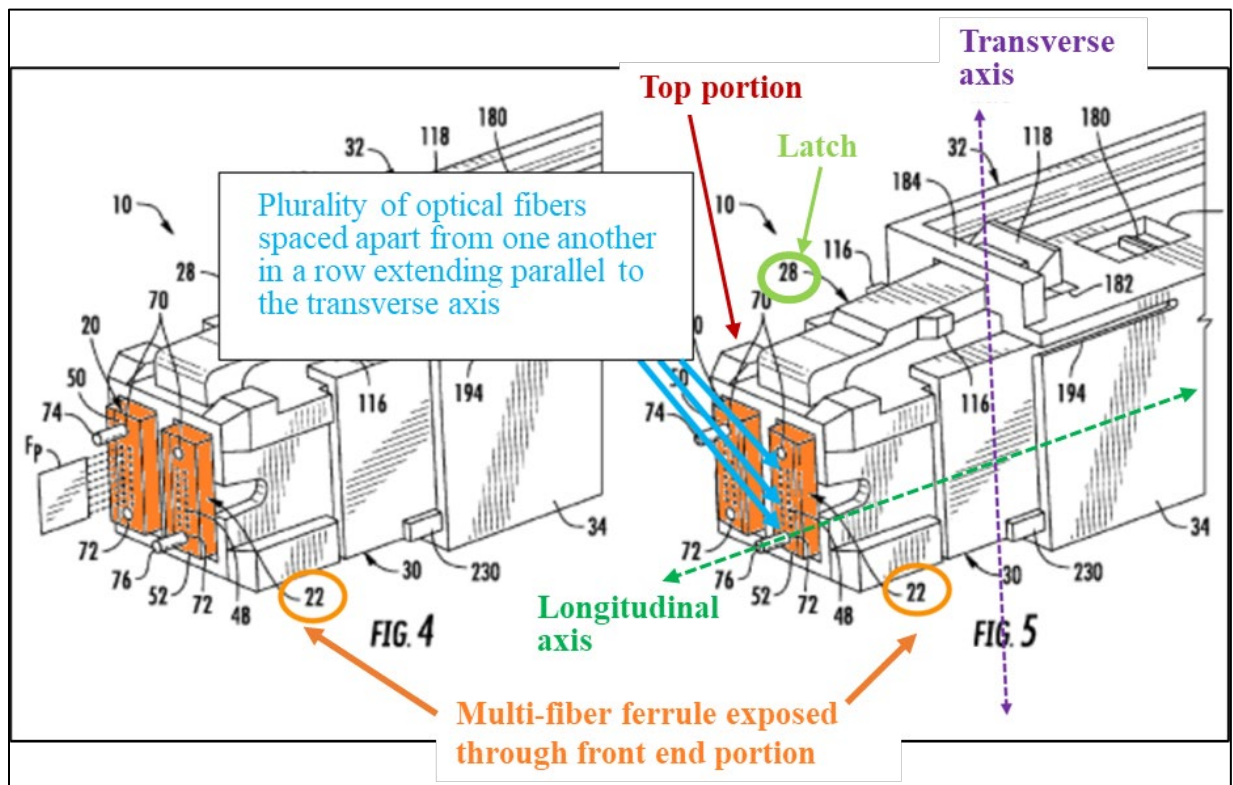
Nguyen's depressible latch 208 has a front end portion and a rear end portion spaced apart along the longitudinal axis. EX1009, FIG. 10; EX1012, ¶¶242-249.



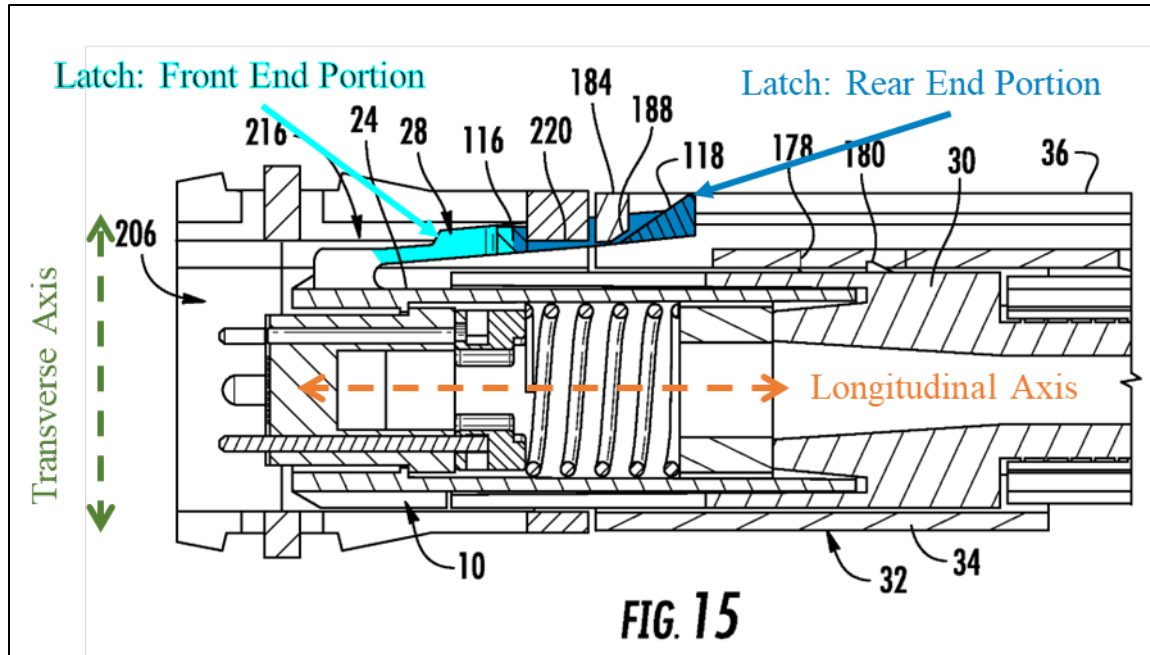
EX1009, FIG. 10 (cropped, annotated).

PO may allege that Nguyen does not expressly disclose wherein depressible latch 208 extends upward along the transverse axis as the depressible latch extends along the longitudinal axis from the front end portion to the rear end portion of the depressible latch 208. But Lin does. EX1005, ¶50, FIGs. 4, 15; EX1012, ¶¶242-249.

Lin discloses a similar optical fiber connector comprising a depressible latch arm 28 having a front end portion and a rear end portion spaced apart along the longitudinal axis and extending upward along the transverse axis as latch arm 28 extends along the longitudinal axis. EX1005, ¶50, FIGs. 4, 15; EX1012, ¶¶242-249.



EX1005, FIGs. 4, 5 (annotated).

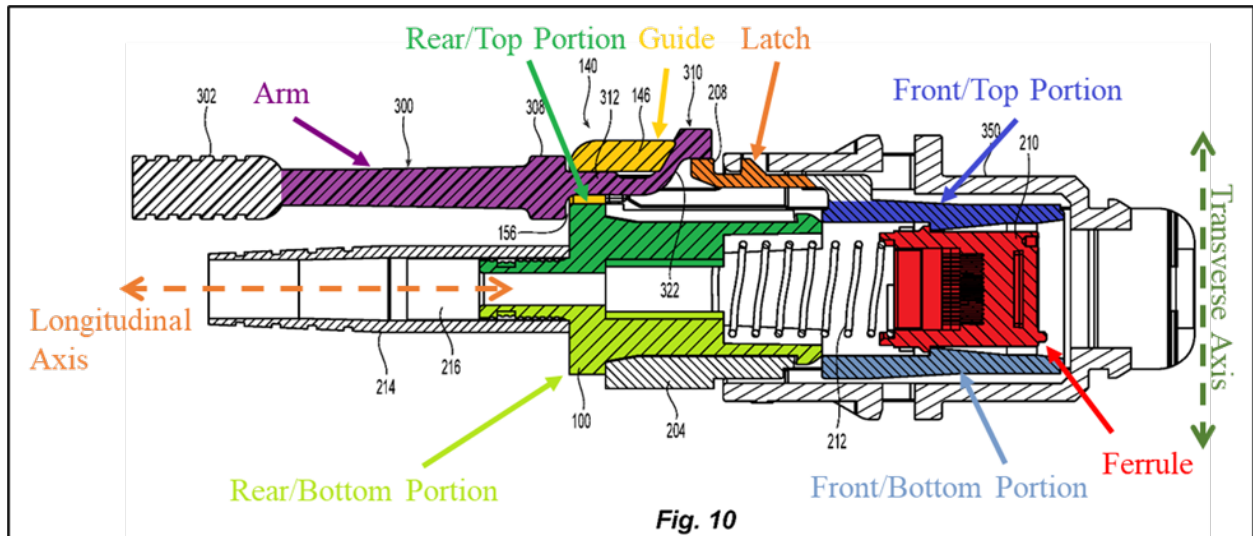


EX1005, FIG. 15 (annotated).

A POSITA would have found it obvious to modify Nguyen's latch 208 to extend upward along the transverse axis as latch 208 extends from the front end portion to the rear end portion in the manner that Lin's latch arm 28 does. Section VIII.A; EX1012, ¶¶208-223. The result of this modification would have had every feature of claim 29. EX1012, ¶¶242-249.

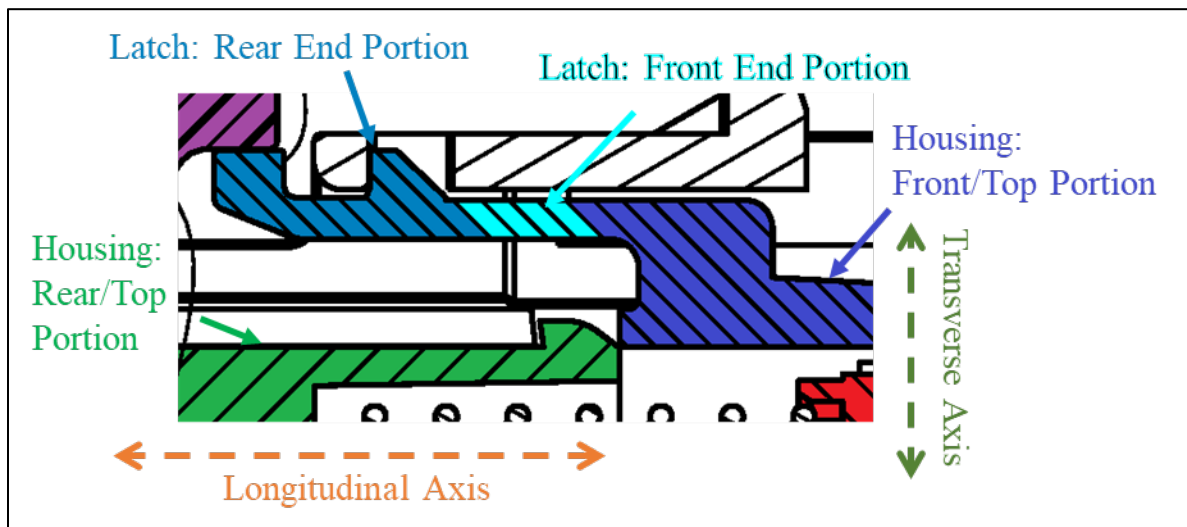
E. Claim 30

Nguyen discloses claim 30. EX1012, ¶¶250-254.



EX1009, FIG. 10 (annotated).

The rear end portion of Nguyen's latch 208 is spaced apart above the top portion of the connector housing provided by Nguyen's spring push 100 and housing 204. EX1009, FIG. 10; EX1012, ¶¶250-254.



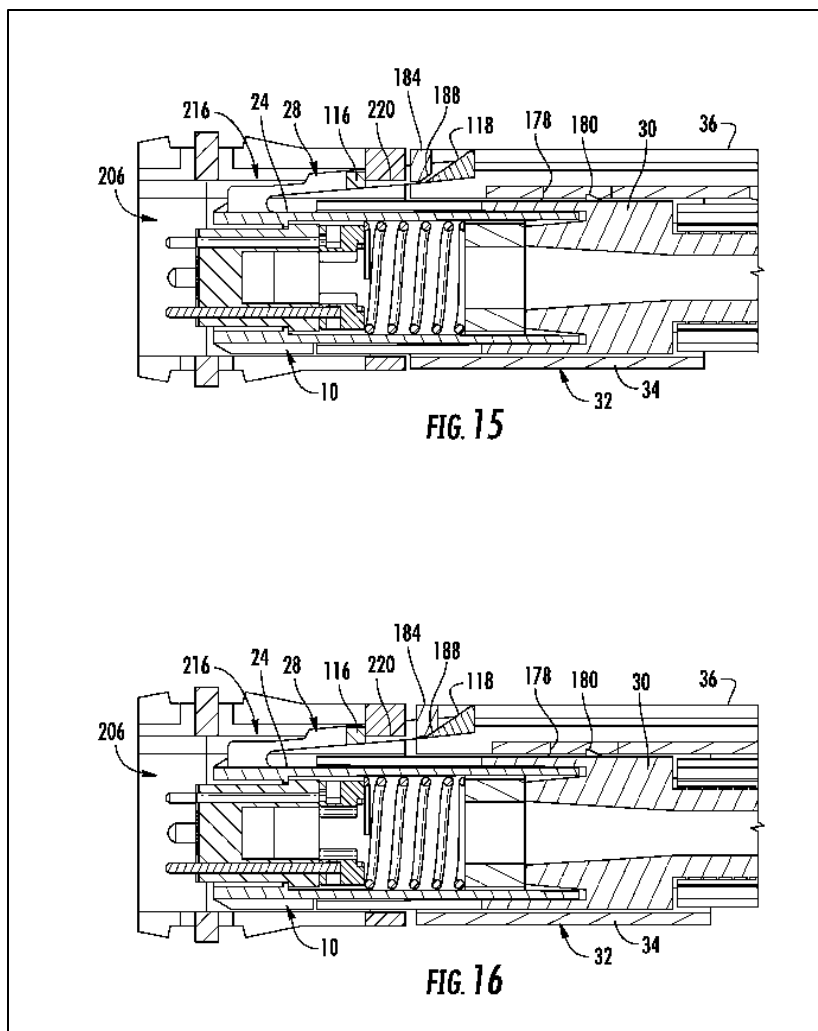
EX1009, FIG. 10 (cropped, annotated).

F. Claim 31

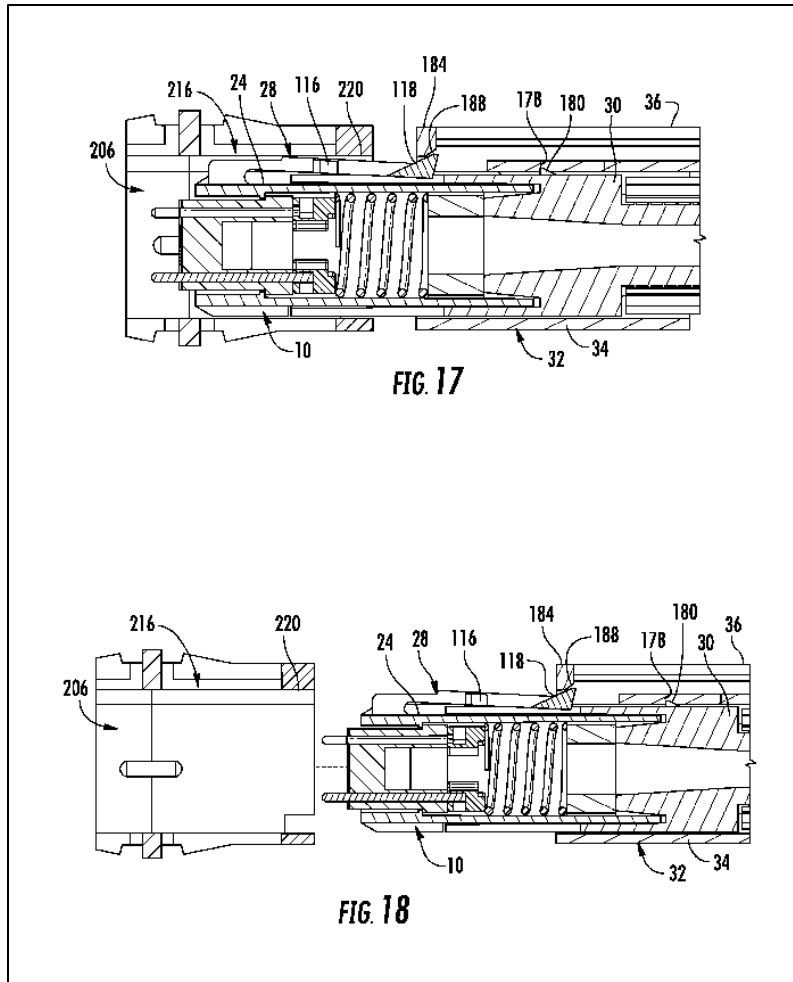
Lin discloses the additional features of claim 31, and it would have been obvious to modify Nguyen in view of Lin to have those features. EX1012, ¶¶255-262.

PO may allege that Nguyen does not expressly disclose wherein the front end portion of the elongate arm provided by Nguyen's handle 300 defines an opening, nor wherein the elongate arm includes an edge defining a front end of the opening. But Lin does. EX1005, ¶45; EX1012, ¶¶255-262.

Lin discloses "a crossbar member 184 extends across the latch opening 182 at a front end 186," meaning the crossbar member 184 provides an edge that defines a front end of the latch opening 182. EX1005, ¶45. Crossbar member 184 "includes downwardly-facing, sloped (i.e., angled) surfaces 188 for cooperating with the ramp 118 (FIG. 8) on the latch arm 28," and, as shown in Lin's Figures 15-18, surfaces 188 oppose the upper surface of the latch arm 28 provided by ramp 118 and provide part of the edge that defines the front end of opening 182. EX1005, ¶45, FIGs. 15-18; EX1012, ¶¶255-262.



EX1005, FIGs. 15, 16.



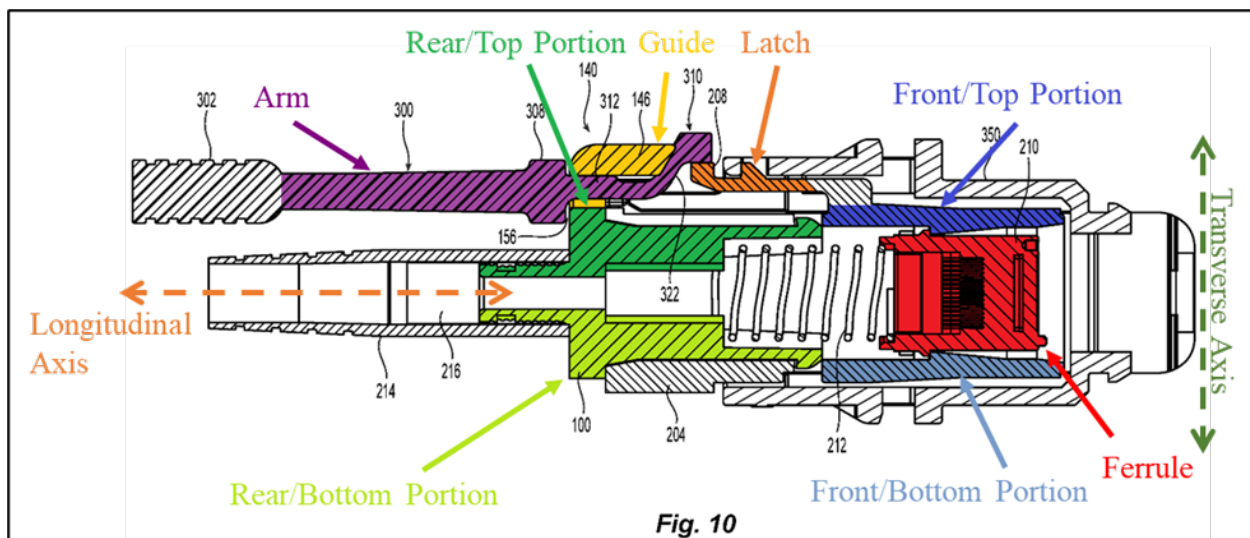
EX1005, FIGs. 17, 18.

Together with the modification described above with regard to claim 27 (Section VIII.B), a POSITA would have found it obvious to modify the front end portion of the elongate arm provided by the handle 300 to include Lin's crossbar 184 to provide an edge defining a front end of the opening for the purpose of engaging depressible latch 208. Section VIII.A; EX1012, ¶¶208-223. The result of this modification would have met claim 31. EX1012, ¶¶255-262.

G. Claim 32

Lin discloses the additional features of claim 32, and it would have been obvious to modify Nguyen in view of Lin to have those features. EX1012, ¶¶263-270.

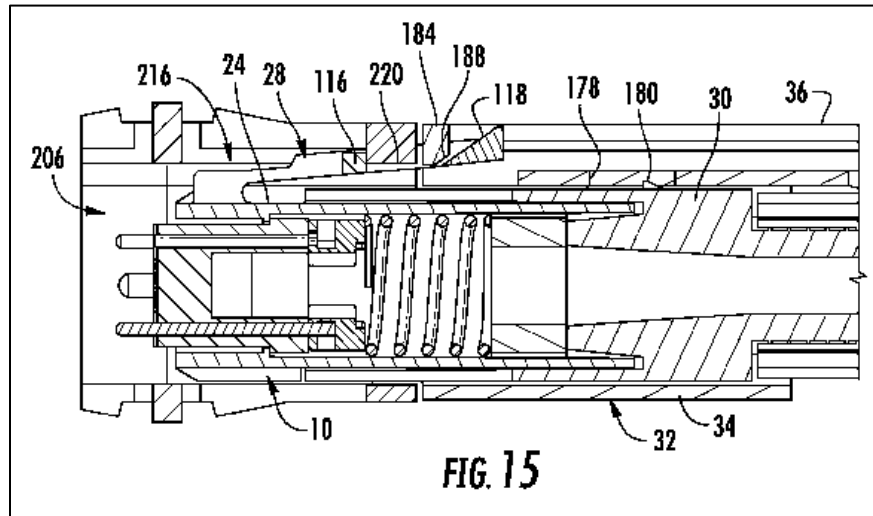
Nguyen's latch 208 has an upper surface, a portion of which abuts a lower surface of end 310 of the handle 300. EX1009, FIG. 10; EX1012, ¶¶263-270.



EX1009, FIG. 10 (annotated).

PO may allege that Nguyen does not expressly disclose an edge defining a front end of an opening included by a front end portion of the arm provided by Nguyen's handle 300 such that Nguyen may not expressly disclose an edge opposing the upper surface of depressible latch 208. But Lin does. EX1005, ¶45, FIGs. 15-18; EX1012, ¶¶263-270.

The edge of Lin's crossbar member 184 that defines the front end of the latch opening 182 includes sloped surfaces 188 that oppose an upper surface (ramp 118) of Lin's latch arm 28. EX1005, ¶45, FIGs. 15-18; EX1012, ¶¶263-270.



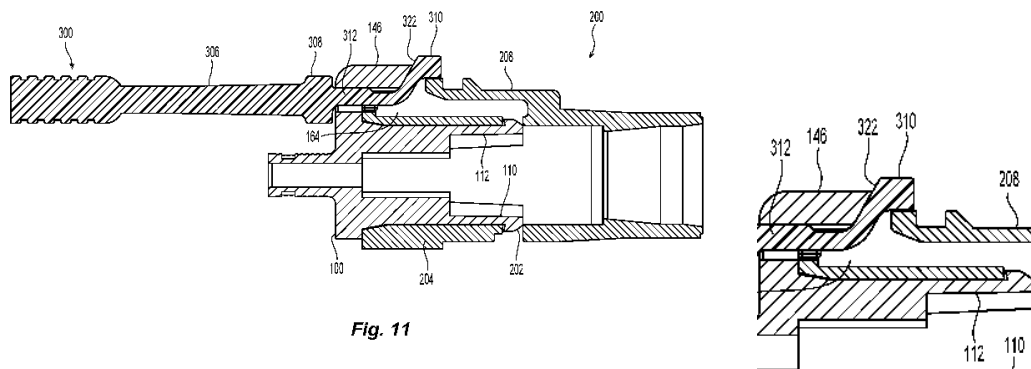
EX1005, FIGs. 15-18.

Thus, together with the modification described above with regard to claim 32 (Section VIII.F), a POSITA would have found it obvious to arrange the edge defining the front end of the opening added to the front end portion of the arm provided by Nguyen's handle 300 to oppose the upper surface of depressible latch 208. Section VIII.A; EX1012, ¶¶208-223. The result of this modification would have met claim 32. EX1012, ¶¶263-270.

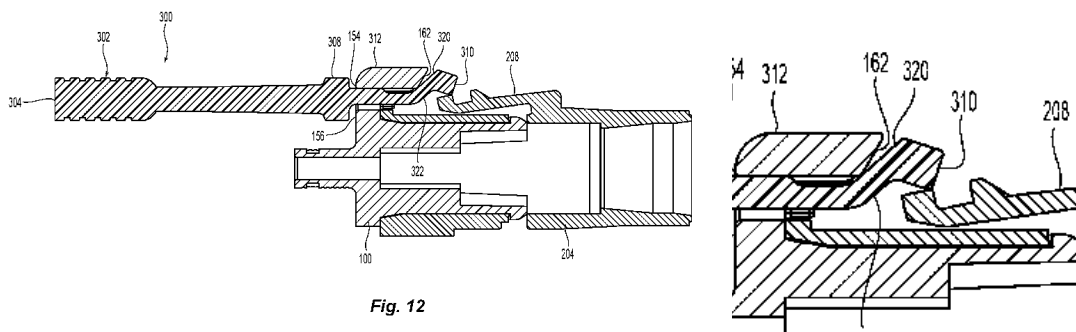
H. Claim 33

Lin discloses the additional features of claim 33, and it would have been obvious to modify Nguyen in view of Lin to have those features. EX1012, ¶¶271-282.

Nguyen discloses wherein the elongate arm provided by handle 300 is configured to be pulled rearwardly along the longitudinal axis to depress depressible latch 208. Section VII.A.5-6; EX1009, ¶32, FIGs. 11, 12; EX1012, ¶¶271-282.



EX1009, FIG. 11 (left: original; right: cropped).

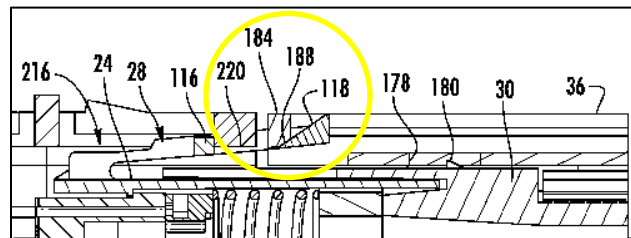


EX1009, FIG. 12 (left: original; right: cropped).

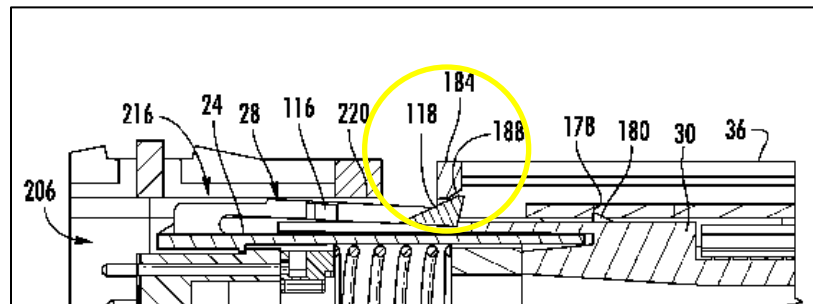
PO may allege that Nguyen does not expressly disclose an edge defining a front end of an opening included by a front end portion of the arm provided by Nguyen's handle 300, such that Nguyen may not expressly disclose whereby the edge slides along the upper surface of latch 208. But Lin does. EX1005, FIGs. 16,

17, ¶58; EX1012, ¶¶271-282.

Lin discloses that the edge of crossbar member 184 defining the front end of latch opening 182 “includes downwardly-facing, sloped (i.e., angled) surfaces 188 for cooperating with the ramp 118 (FIG. 8) on the latch arm 28,” and as shown in Lin’s Figures 15-18 surfaces 188 oppose the upper surface of latch arm 28 provided by ramp 118 and provide part of the edge that defines the front end of opening 182. EX1005, ¶45, FIGs. 15-18. Lin discloses the edge of crossbar member 184 slides longitudinally along the upper surface (ramp 118) of latch arm 208 when the arm provided by outer body 32 and handle 36 is pulled rearwardly to depress latch arm 28. EX1005, FIGs. 16, 17, ¶58; EX1012, ¶¶271-282.



EX1005, FIG. 16 (cropped, annotated).



EX1005, FIG. 17 (cropped, annotated).

Together with the modification described above with regard to claim 32, Section VIII.G, a POSITA would have found it obvious to arrange the edge defining the front end of the opening added to the front end portion of the elongate arm provided by Nguyen's handle 300 to slide longitudinally along the upper surface of depressible latch 208 to the depressible latch when the elongate arm is pulled rearwardly. Section VIII.A; EX1012, ¶¶208-223. The result of this modification would have met claim 33. EX1012, ¶¶271-282.

I. Claim 34

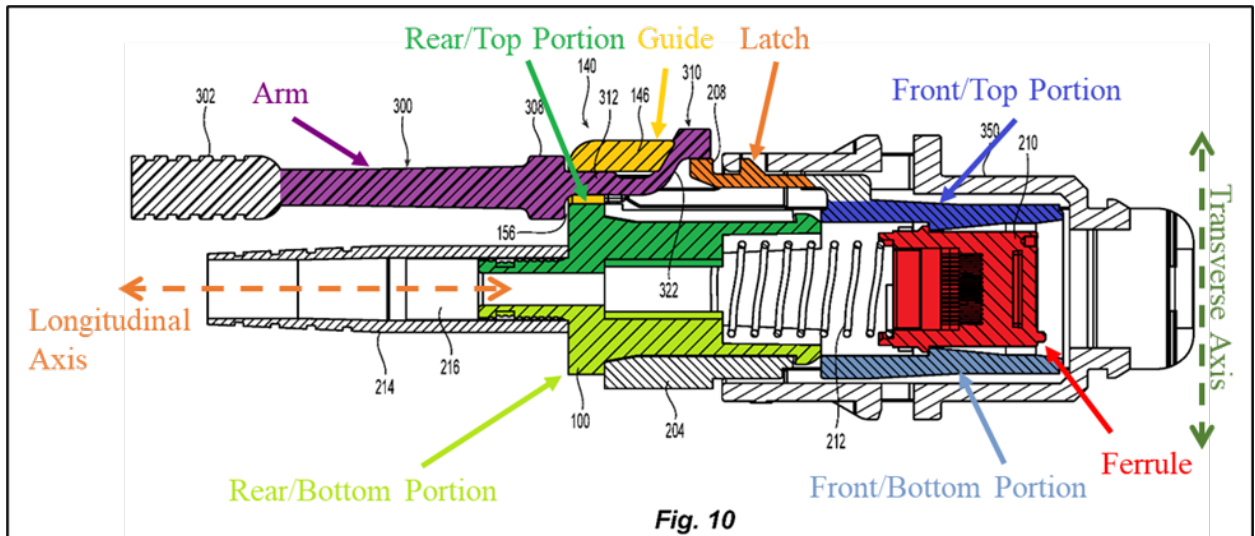
The additional features of claim 34 are identical to those of claim 24. Nguyen anticipates claim 24, and therefore discloses the additional features of claim 34 for the same reasons. Section VII.B; EX1012, ¶¶283-284.

J. Claim 35

The additional features of claim 35 are identical to those of claim 25. Nguyen anticipates claim 25, and therefore discloses the additional features of claim 35 for the same reasons. Section VII.C; EX1012, ¶¶285-286.

K. Claim 36

Nguyen discloses claim 36. EX1012, ¶¶287-298.



EX1009, FIG. 10 (annotated).

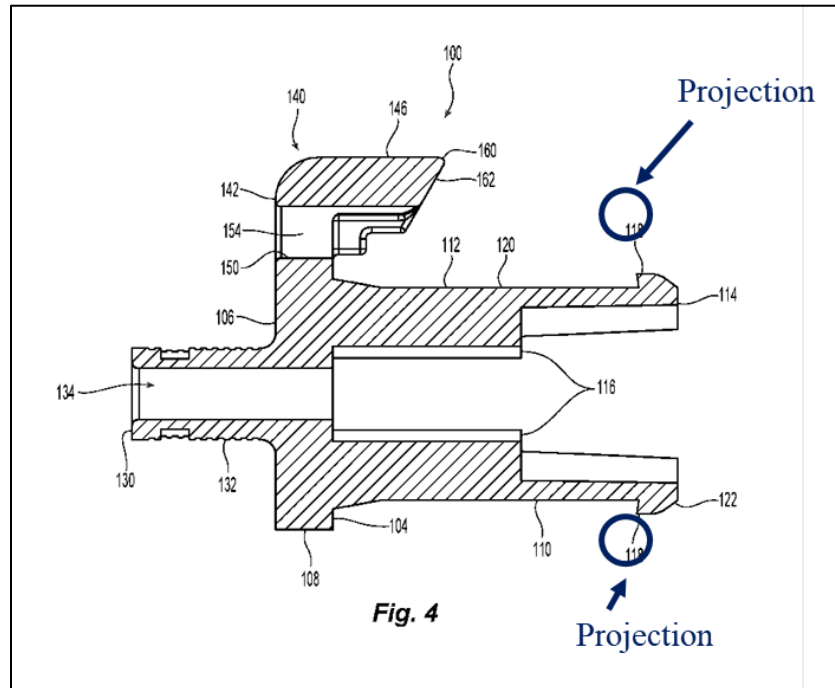
Within the connector housing provided collectively by Nguyen's spring push 100 and housing 204, the part of housing 204 providing the front end portion of the connector housing is a front body, and the part of spring push 100 providing the rear end portion of the connector housing is a back body. Nguyen's connector housing provided by spring push 100 and housing 204 therefore includes a front body and a back body. EX1012, ¶¶287-298.

L. Claim 37

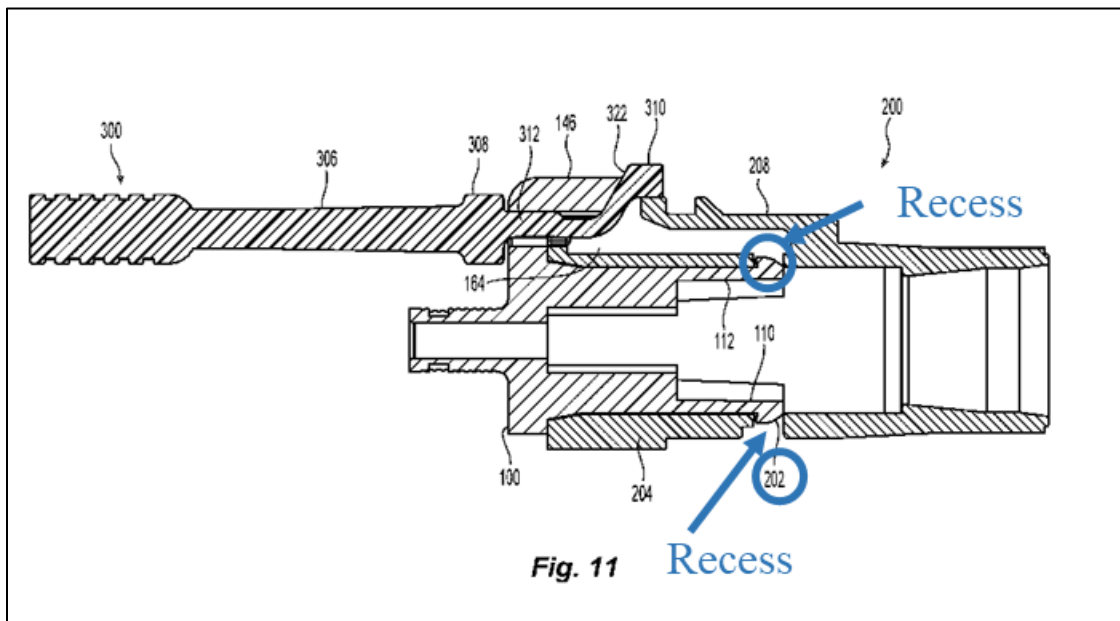
Nguyen discloses claim 37. EX1012, ¶¶299-303.

Nguyen's spring push 100 comprises "generally parallel extensions 110, 112" each of which also has "a projection 118 on an outside surface 120 to engage a corresponding opening in the fiber optic connector 200 to engage recesses or

openings 202 to retain the spring push 100 within the connector housing 204 of the fiber optic connector 200.” EX1009, ¶24, FIGs. 4, 11; EX1012, ¶¶299-303.



EX1009, FIG. 4 (annotated).



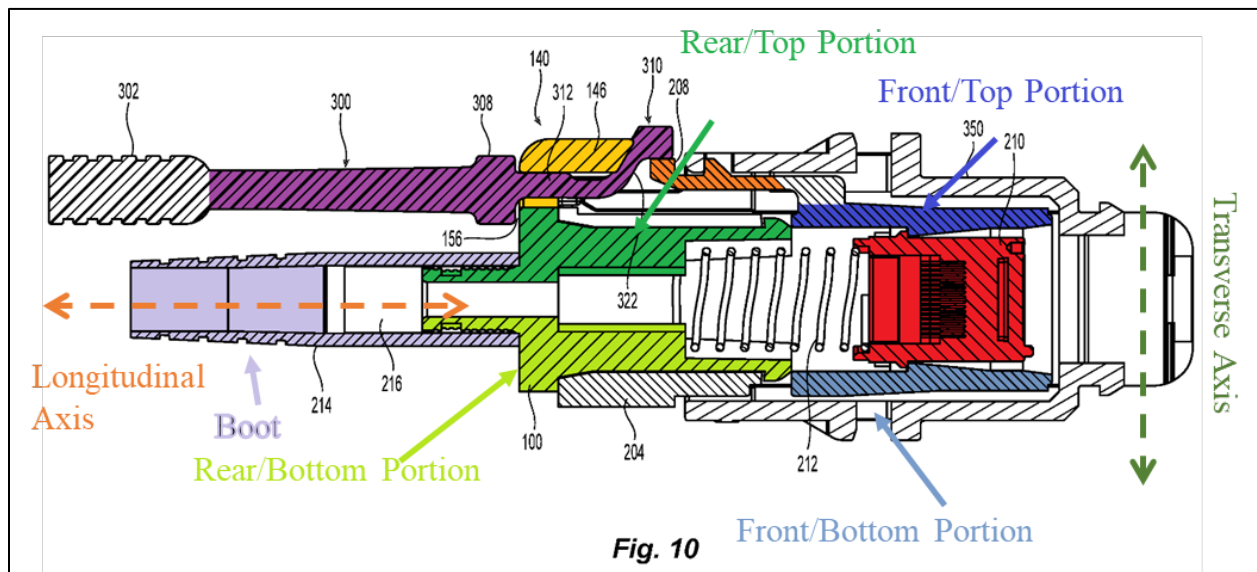
EX1009, FIG. 11 (annotated).

Thus, the front body provided by housing 204 includes a recess in the form of one of the “recesses or openings 202,” and the back body provided by spring push 100 includes a protrusion in the form of one of the projections 118, and projections 118 are received in recesses 202 to connect the back body to the front body. EX1012, ¶¶299-303.

M. Claim 38

Nguyen discloses claim 38. EX1012, ¶¶304-307.

Nguyen discloses a “boot 214.” EX1009, ¶33; EX1012, ¶¶304-307.



EX1009, FIG. 10 (annotated).

Nguyen’s boot 214 extends rearward from the connector housing provided collectively by spring push 100 and housing 204. EX1009, FIG. 10; EX1012, ¶¶304-307.

N. Claim 39

The preamble of claim 39 is identical to the preamble of claim 23, and [39.1]-[39.5] are identical to [23.1]-[23.5]. EX1012, ¶308. Nguyen therefore discloses the preamble of claim 39 and [39.1]-[39.5] for the reasons explained above with regard to the preamble of claim 23 and [23.1]-[23.5]. Sections VII.A.1-6; EX1012, ¶¶309-314.

[39.6] is identical to the additional features recited in claim 26. Nguyen therefore discloses [39.6] for the reasons explained above with regard to claim 26. Sections VII.D; EX1012, ¶315.

[39.7]-[39.13] are identical to the additional features recited in claims 27-33. It therefore would have been obvious to modify Nguyen in view of Lin to have the additional features of [39.7]-[39.13] for the reasons explained above with regard to claims 27-33. Sections VIII.B-H; EX1012, ¶¶316-323.

Every element of claim 39, including the preamble, therefore either appears in Nguyen or would have been obvious to modify Nguyen to include in view of Lin. Accordingly, claim 39 as a whole would have been obvious over Nguyen in view of Lin. Section VIII.A; EX1012, ¶¶208-223, 304-323.

IX. GROUND 3: SCHERER IN VIEW OF LIN RENDERS OBVIOUS CLAIMS 23-36, 39, AND 40.

Scherer in view of Lin renders obvious independent claims 23, 39, and 40 of the '369 patent. Additionally, Scherer in view of Lin renders obvious dependent claims 24-36 of the '369 patent. EX1012, ¶324.

A. Motivation to Combine

1. Scherer

Scherer, like the '369 Patent, discloses optical fiber connectors, including individual connectors configured to connect multiple distinct lines. EX1012, ¶¶325-326; EX1003, ¶¶50-54. Patent Owner may contend that Scherer does not disclose the particular arrangement of a multi-fiber ferrule relative to features of an optical fiber connector recited in claims 23-40. PO may further allege that Scherer does not expressly disclose wherein the edge slides longitudinally along the upper surface of lever 360a when the extender is pulled rearwardly. But these features were well known in the art. EX1012, ¶¶325-326.

2. Lin

Lin similarly discloses an optical fiber connector configured with the connector including a latch above the connector housing and an elongate arm above the body for releasing the latch. Sections V.C, VIII.A. Lin discloses a connector 10 configured to hold multi-fiber ferrules 20, 22 in which the fibers are spaced apart in vertical rows extending parallel to a transverse axis. EX1005, ¶¶27,

29, FIG. 4. Lin further expressly discloses the elongate arm provided by the outer body 32 defining an opening 182 and including a crossbar 184 that provides an edge defining a front end of the opening, wherein the edge slides longitudinally along a top surface of latch 28 when the arm is pulled rearwardly to depress the latch 28. EX1005, ¶¶45, 58, FIGs. 15-18; EX1012, ¶¶327-330.

3. How to Combine

A POSITA would have found it obvious to modify the connector provided by Scherer's cable 300d and connector hood 310d of Figure 14 to include a multi-fiber ferrule oriented with respect to lever 360a as Lin's multi-fiber ferrules 20 and 22 are oriented with respect to Lin's latch arm 28. EX1012, ¶¶331-346. Such modification would have amounted to terminating Scherer's connection line 52a with a multi-fiber ferrule such as Lin's ferrule 20 instead of one of the ferrules Scherer shows in Figures 10-13, and then adjusting the dimensions of Scherer's connector hood 310d to accommodate. *Id.*

A POSITA would also have found it obvious to modify Scherer's extender 330d and lever 360a such that the edge defining the front end of the opening slides longitudinally along the upper surface of the lever 360a when the extender 330d is pulled rearwardly to depress the lever 360a. *Id.*

4. Why to Combine

A POSITA would have recognized that Scherer and Lin both provide interrelated teachings and are in the same field of endeavor. EX1012, ¶¶331-346. Additionally, Scherer and Lin pose similar solutions to the same problem: employing elongate, remote release handles for unlatching and handling connectors in high-density environments. *Id.*; EX1003, ¶51; EX1005, ¶4. A POSITA would be motivated to find solutions to connector density problems and therefore would align a connector like Scherer's with a higher density connector design, like Lin's, because this modification would result in increased connector density, which is a known design motivation in the art. EX1012, ¶¶331-346. Specifically, Lin's connector for multi-fiber ferrules is a development in a field wherein "[t]he demand for high bandwidth tends to drive a need for high-density interconnects, i.e. a large number of optical connections in a given space." EX1005, ¶4.

Additionally, a POSITA would have found modifying Scherer obvious because it would merely amount to finding constructional details in Lin to implement the multi-fiber optical connections Scherer discloses. EX1012, ¶¶331-346. Scherer teaches toward employing multi-fiber ferrules, such as those disclosed in Lin, where Scherer explains that its "cable tracer technologies and techniques can also be included in fiber optic cables," and relevant "[e]xamples of

connectors for optical-fiber cables include single-fiber (e.g., LC) connectors, multi-fiber (e.g., MPO and/or MTP) connectors, and/or any other optical-fiber connectors (e.g., SC, ST, and the like).” EX1003, ¶50; EX1012, ¶¶331-346.

Relatedly, Lin states that its “first and second ferrules 20, 22 may each be a mechanical transfer (MT) ferrule like those used in known multi-fiber push-on (MPO) connectors.” EX1005, ¶28.

Because Scherer and Lin seek to solve some of the same problems in similar ways, a POSITA would have found Lin an obvious source for guidance as to how to implement Scherer’s connector technology with multi-fiber, such as MT style, ferrules. EX1012, ¶¶331-346.

With respect to the modification concerning the edge sliding along the upper surface of the latch, a POSITA would have understood that the sliding edge at the front end of Lin’s opening 182 is an equivalent mechanism to the front end portion of Scherer’s extender 330d that receives the lever 360a, performing the same function of depressing a latch element when an arm is pulled rearward. *Id.* Such a modification would therefore have been a simple substitution of one known element for another performing the same function, and therefore having predictable results. *Id.*

5. Expectation of Success

A POSITA would have had a reasonable expectation of success in modifying Scherer's connector for cable 300d to accommodate Lin's multi-fiber ferrule because Scherer already suggests that its connectors are suitable for multi-fiber ferrules, EX1003, ¶50, and because the modification would have amounted to changing basic structural details of Scherer's connector, which would have been well within the capabilities of a POSITA at the relevant time. EX1012, ¶¶331-346.

A POSITA would also have had a reasonable expectation of success modifying the edge defining the front end of the opening in Scherer's extender 330d to slide longitudinally along the upper surface of the lever 360a because it would amount to replacing a detail of Scherer's mechanism for depressing a latch with an equivalent detail serving the same function within Lin's mechanism for depressing a latch, meaning the results of the modification would have been predictable. *Id.*

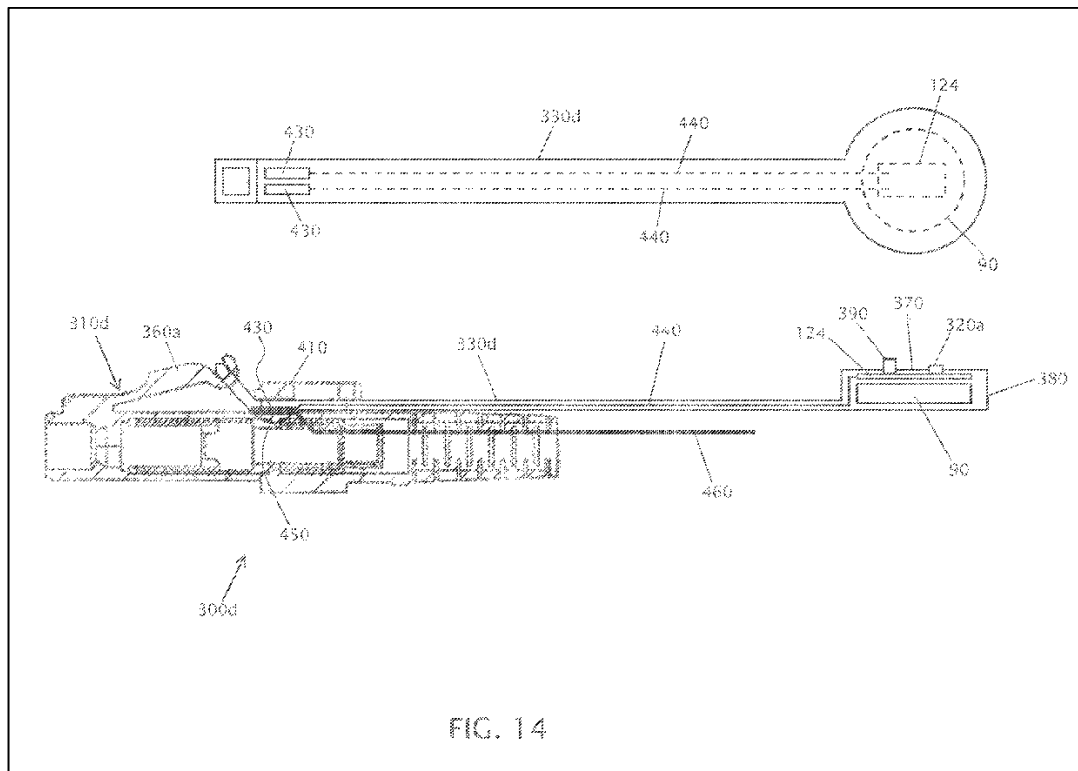
Finally, the modification of extender 330d to have an edge that slides along lever 360a would have only required elongating the portion of the front portion of extender 330d in which the opening that receives the lever 360a is defined so that the edge at the front end of the opening would rest against the ramped upper surface of the lever 360a instead of being seated inside of the hook-shaped recess at the back end of the lever 360a. *Id.*

B. Claim 23

1. Preamble

Scherer discloses the preamble of claim 23. EX1012, ¶¶347-398.

Scherer discloses optical fiber connectors in Figures 10-14. EX1003, ¶¶51-55, FIGs. 10-14; EX1012, ¶¶347-349.



EX1003, FIG. 14.

Scherer explains that “FIGS. 11-14 depict various embodiments of cables 300a, 300b, 300c with fiber-optic cable connector hoods 310a, 310b, 310c” designed in a way that “improves the ease of releasing the respective connector in high-density environments,” and that the connector hood 310d shown in Figure 14 is similar to at least cable 300c. EX1003, ¶¶51, 54; EX1012, ¶¶347-349.

Connector hood 310d and associated transmission line are an assembly forming an optical fiber connector for high-density environments of a type similar to the optical fiber connectors as disclosed in the '369 patent. EX1001, Abstract, 1:34-2:57 (explaining the need for high-density interconnects in data centers and disclosing an optical connector), FIGs. 18A-19D (illustrating example embodiments of an optical fiber connector); EX1012, ¶¶347-349.

2. [23.1]

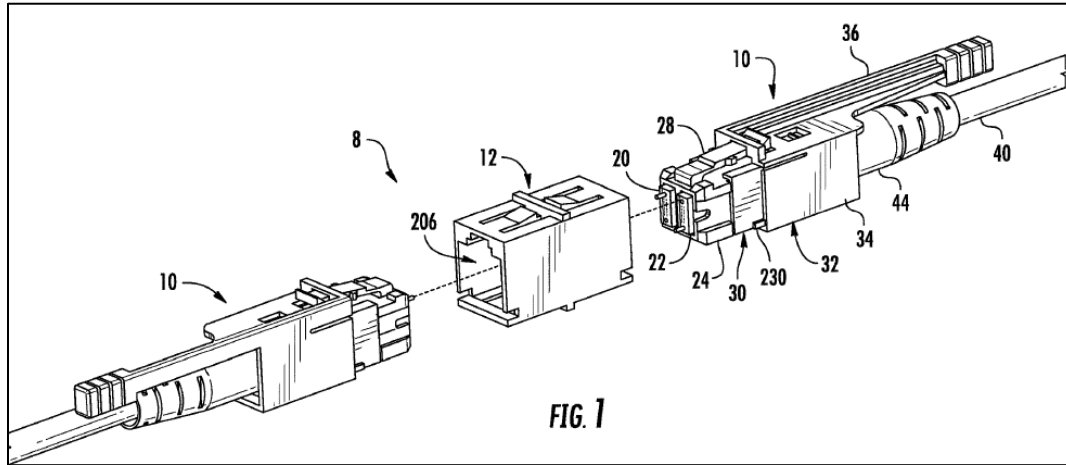
Lin discloses [23.1], and it would have been obvious to modify Scherer in view of Lin to have those features. EX1012, ¶¶350-358.

Scherer discloses connectors for multi-fiber ferrules. EX1003, ¶50 (“Examples of connectors for optical-fiber cables include single-fiber (e.g., LC) connectors, multi-fiber (e.g., MPO and/or MTP) connectors, and/or any other optical-fiber connectors (e.g., SC, ST, and the like).”); EX1012, ¶¶350-358.

However, PO may allege that Scherer does not expressly disclose a multi-fiber ferrule implemented with the cable 300d and connector hood 310d depicted in Figure 14. But Lin discloses these features. EX1005, ¶2; EX1012, ¶¶350-358.

Lin’s “disclosure relates generally to fiber optic connectors, and more particularly to fiber optic connectors that include multiple, multi-fiber ferrules, such as MT ferrules.” EX1005, ¶2.

Lin discloses a “fiber optic connector system 8” that includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25; EX1012, ¶¶350-358.



EX1005, FIG. 1.

Lin’s connector 10 is configured for use with multi-fiber ferrules 20, 22. EX1005, ¶28; EX1012, ¶¶350-358.

Lin therefore discloses an optical fiber connector 10 comprising a multi-fiber ferrule 20 configured to terminate a plurality of optical fibers. EX1005, ¶28; EX1012, ¶¶350-358.

It would have been obvious to modify Scherer’s connector hood 310d to be an optical fiber connector including an MT style multi-fiber ferrule like Lin’s ferrule 20. Section IX.A; EX1012, ¶¶325-346.

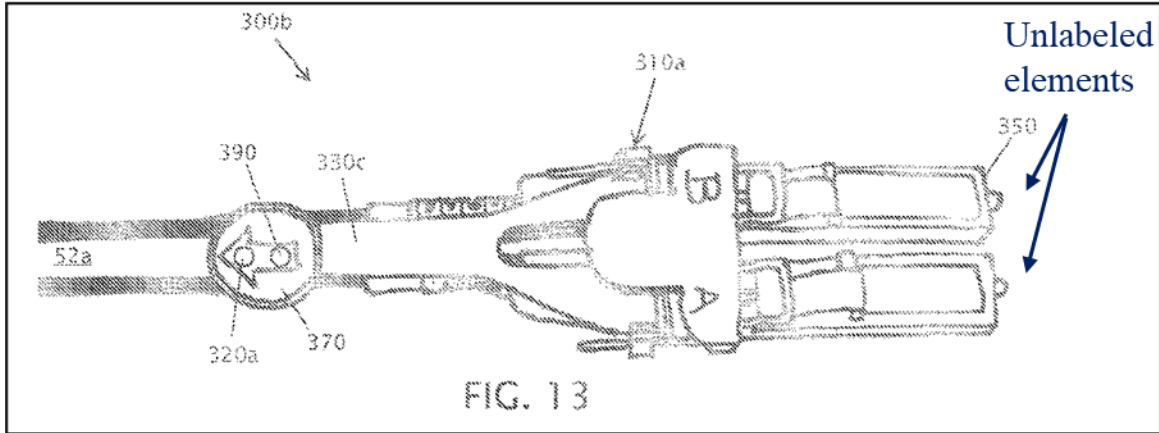
3. [23.2]

Scherer discloses [23.2]. EX1012, ¶¶359-371.

Scherer discloses a connector housing having a front end, rear end, top portion, and bottom portion along the axes recited in this claim. EX1003, ¶¶50, 51, 53, FIG. 14. The portion of Scherer's connector hood 310d that surrounds the empty space through which the transmission line 52a would extend defines a "connector housing" as used in this claim. EX1003, ¶¶50, 51, 53, FIG. 14; EX1012, ¶¶359-371.

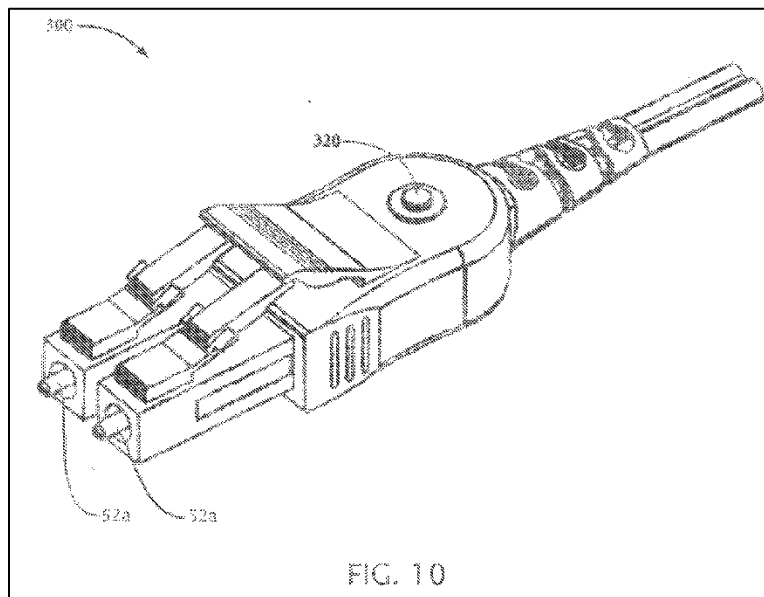
"FIG. 14 depicts cutaway side view of a first end of a fourth embodiment 300d of the present fiber-optic cables. Cable 300d is similar to cable 300c with the primary exception that cable 300d includes only a single fiber optic cable (which is omitted for clarity)." EX1003, ¶54; EX1012, ¶¶359-371.

Figure 13 depicts cable 300c with unlabeled elements exposed through the front end portion, or distal end 350, of connector hood 310. EX1003, ¶53, FIG. 13; EX1012, ¶¶359-371.



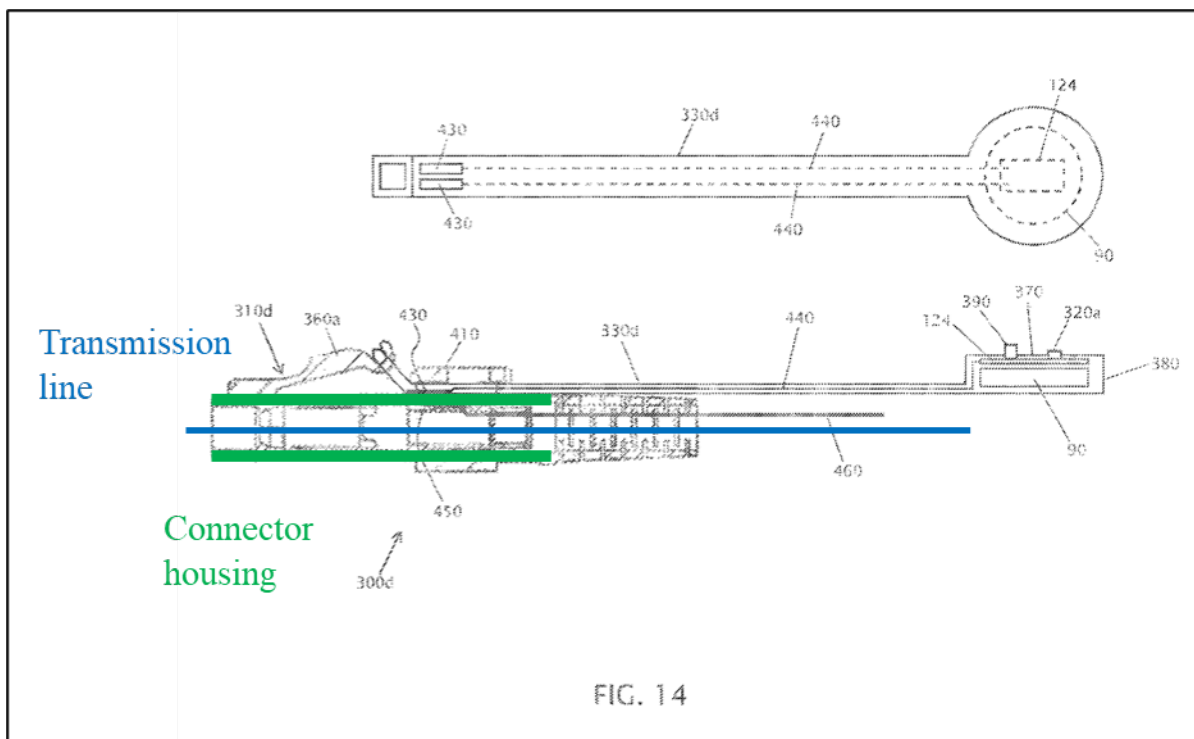
EX1003, FIG. 13 (annotated).

Cables 300a, 300b, 300c each include a “transmission line 52a,” also referred to as a “cable 52a.” EX1003, ¶51. Features resembling the “unlabeled elements” indicated in Figure 13 above are labeled with numeral 52a in Figure 10. EX1012, ¶¶359-371.



EX1003, FIG. 10.

A POSITA would therefore understand from context that Figure 13's annotated "unlabeled elements" are each extensions of "transmission line 52a" or "cable 52a" that Scherer describes as being present in Figure 13. EX1012, ¶¶359-371. Because Scherer states that Figures 13 and 14 are similar, and that the cable is omitted from Figure 14 for clarity, a POSITA would understand from comparing Figures 13 and 14 that transmission line 52a is located at the position shown in annotated Figure 14 below, extending through hood 310d to be exposed through the front end portion thereof. *Id.*

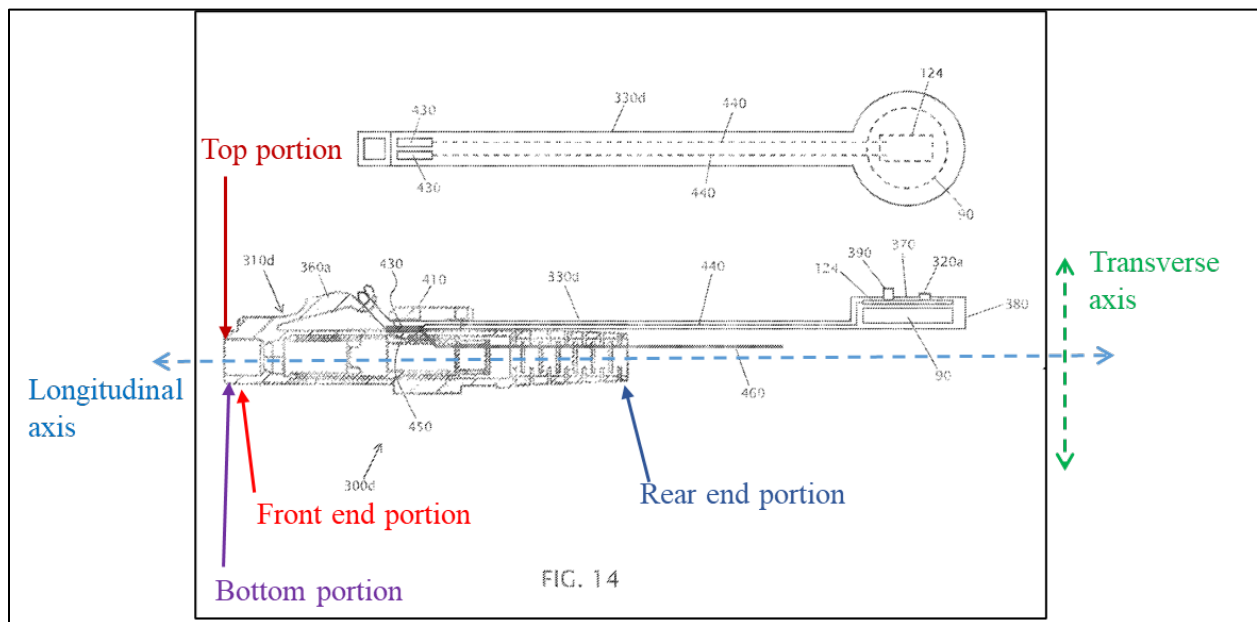


EX1003, FIG. 14 (annotated).

A POSITA would therefore recognize the portion of hood 310d highlighted in green above that surrounds the space through which the transmission line would

extend is a “connector housing” as claimed. EX1012, ¶¶359-371. The highlighted portion of the connector hood 310d is a part of an optical fiber connector that defines a structural housing for transmission line 52a, and thereby teaches a “connector housing.” EX1012, ¶¶359-371.

The connector housing provided by hood 310d has a front end portion and a rear end portion spaced apart along a longitudinal axis as well as a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis as claimed, wherein a lever 360/360a is positioned above the top portion of the connector housing along the transverse axis. EX1003, FIG. 14; EX1012, ¶¶359-371.



EX1003, FIG. 14 (annotated).

Accordingly, Scherer discloses [23.2]. EX1012, ¶¶359-371.

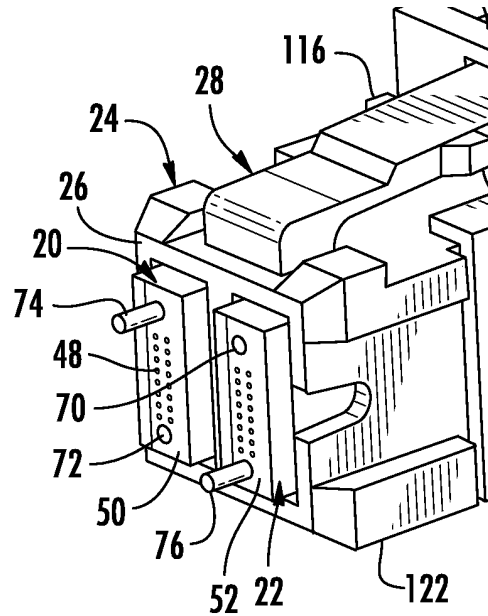
4. [23.3]

Lin discloses [23.3], and it would have been obvious to modify Scherer in view of Lin to have those features. EX1012, ¶¶372-374.

Scherer discloses that the connector housing provided by hood 310d is configured to hold a ferrule such that the ferrule is exposed through the front end portion for making an optical connection. EX1003, ¶¶51, 54, FIGs. 11-14; EX1012, ¶¶372-374. Scherer's Figures 10-13 depict providing two ferrules connected to line 52a and exposed through the front end of a connector. EX1003, ¶¶51-53, FIGs. 10-13. Scherer states Figure 14's connector is alike to that of Figure 13, "with the primary exception that cable 300d includes only a single fiber optic cable (which is omitted for clarity)," so a POSITA would have understood that the connecting features of Figure 14 are also configured for making a connection with a ferrule exposed through the front end. EX1003, ¶54; EX1012, ¶¶372-374.

PO may allege that Scherer does not expressly disclose the connector of Figure 14 being configured to hold a multi-fiber ferrule, specifically, such that the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis. But Lin does. EX1005, ¶¶26, 27-29, FIGs. 3, 4; EX1012, ¶¶372-374.

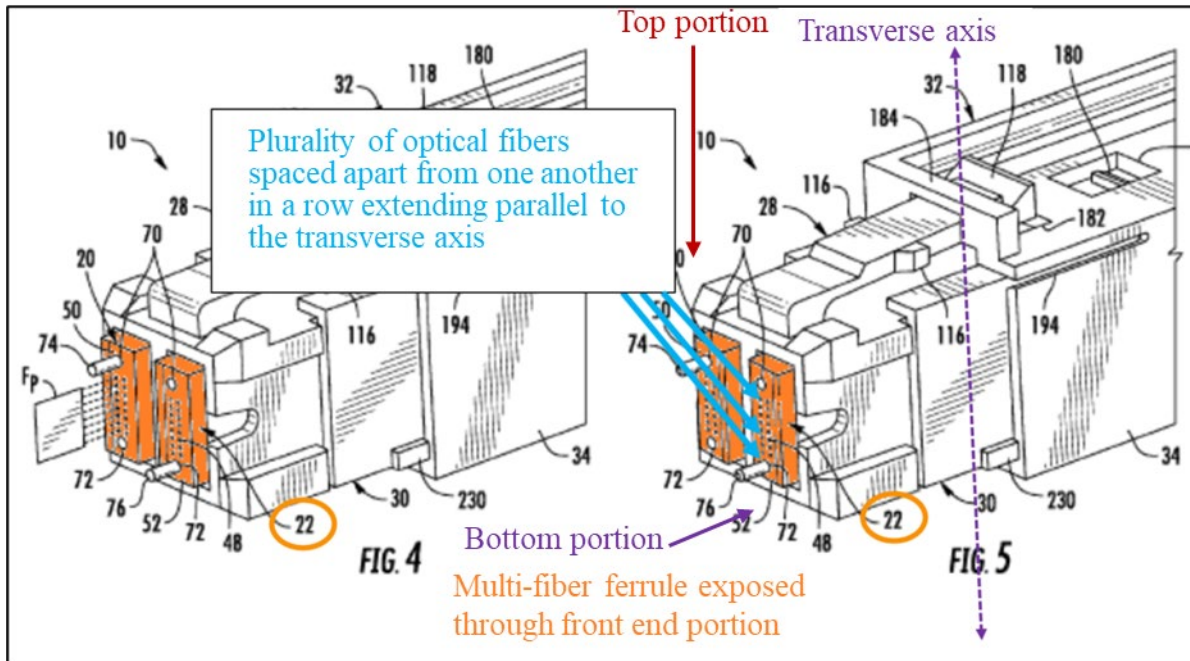
Ferrule 20 is exposed through the front end portion, provided by inner connector body 24, of connector 10. EX1005, FIG. 3; EX1012, ¶¶372-374.



EX1005, FIG. 3 (cropped).

The ferrules are arranged to “facilitate optical coupling between optical fibers carried by the first and second ferrules 20, 22,” meaning ferrule 20 is exposed for making an optical connection. EX1005, ¶29; EX1012, ¶¶372-374.

“The first and second ferrules 20, 22 each include a plurality of bores 48 (also referred to as ‘micro-holes’) that support respective optical fibers (not shown in FIG. 3).” EX1005, ¶27. “The bores 48 in each row extend parallel to each other through at least a portion of the associated first or second ferrule 20, 22. As such, each row defines a respective fiber plane Fp, one of which is schematically illustrated in FIG. 4.” EX1005, ¶29.



EX1005, FIG. 4 (annotated).

Fiber plane Fp is parallel to a transverse axis, which is normal to a longitudinal axis, of the connector housing provided by body 24 and body 30, with latch arm 28 being positioned above a top portion of the connector housing along the transverse axis. EX1005, FIG. 4; EX1012, ¶¶372-374.

Thus, Lin discloses every feature of element [23.3] with respect to how the connector housing provided by bodies 24, 30 holds ferrule 20. EX1012, ¶¶372-374.

A POSITA would have found it obvious to modify Scherer's connector shown in Figure 14 to hold a multi-fiber ferrule such as Lin's ferrule 20 in the same orientation disclosed in Lin, such that the fibers would be spaced apart from one another in a row extending parallel to the transverse axis along which

Scherer's lever 360a is positioned above the top portion of the connector housing provided by Scherer's connector hood 310d. Section IX.A; EX1012, ¶¶ 325-346.

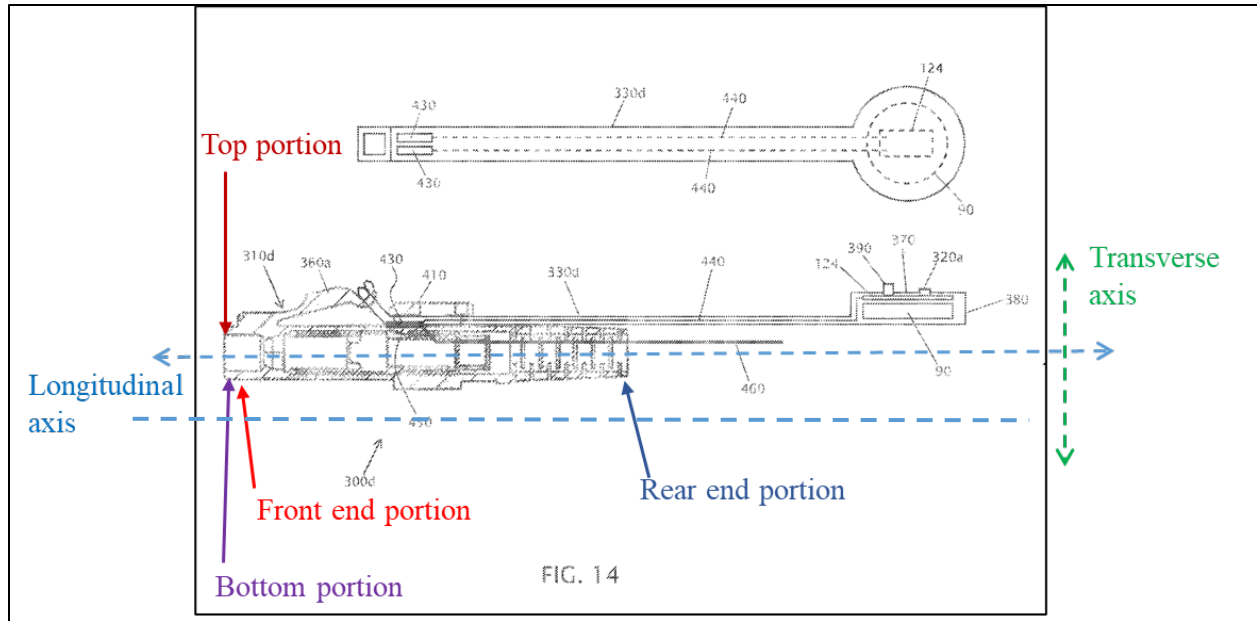
Accordingly, [23.3] would have been obvious over Scherer in view of Lin. Section IX.A; EX1012, ¶¶372-374.

5. [23.4]

Scherer discloses [23.4]. EX1012, ¶¶375-382.

Because [23.2] recites a “connector housing comprising a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis,” the vertical position of elements, such as “top,” “bottom,” and “above,” indicate placement of those elements with respect to the transverse axis.

Scherer shows a lever 360a positioned on an opposite side of the top portion of the connector housing provided by hood 310d from the bottom portion along the transverse axis, making lever 360a above the top portion. EX1003, ¶53, FIG. 14; EX1012, ¶¶375-382.



EX1003, FIG. 14 (annotated).

Scherer states the role of a lever is “to engage the mating connector or jack to resist removal of the distal end” of a connector. EX1003, ¶¶5, 10. Scherer’s Figures 11-13 show remote release tabs 330a, 330b, 330c “improve[] the ease of releasing the respective connector in high-density environments because the extender or remote release tab can simply be pulled by a user... to laterally compress the lever(s) (360),” which is consistent with the role of the lever 360a being to act as a latch that resists removal of the connector from a mating connector or jack. EX1003, ¶51; EX1012, ¶¶375-382. Scherer’s lever 360a is therefore a depressible latch above the top portion of the connector housing as claimed.

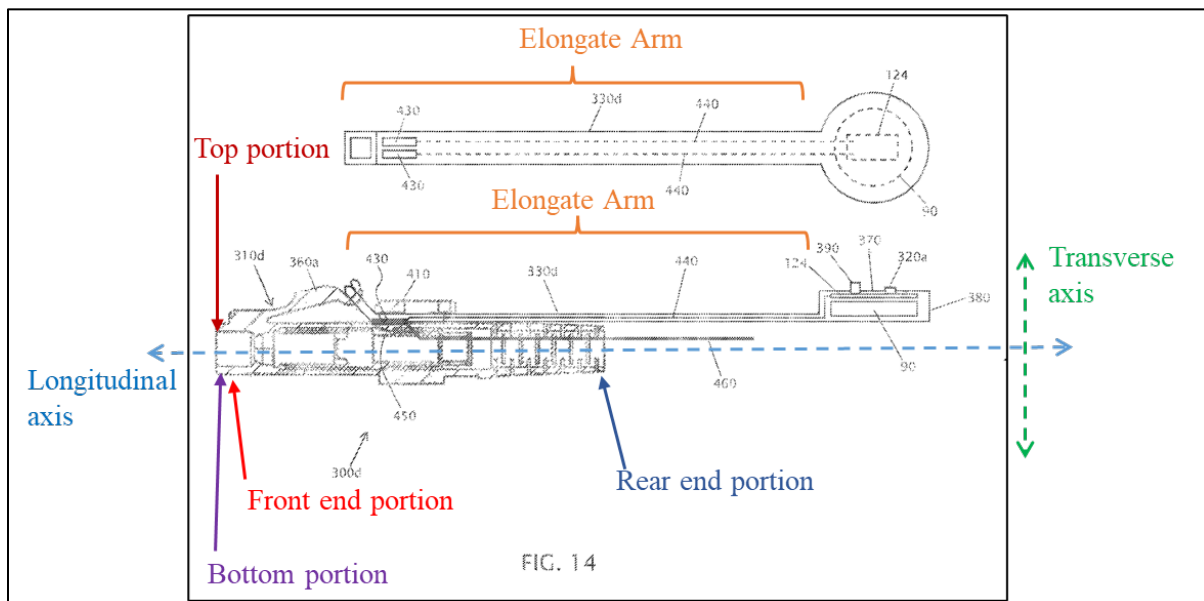
Accordingly, Scherer discloses [23.4]. EX1012, ¶¶375-382.

6. [23.5]

Scherer discloses the features of [23.5]. EX1012, ¶¶383-393.

A POSITA would have interpreted Scherer's extender 330d as providing an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch. EX1012, ¶¶383-393; EX1003, ¶54, FIG. 14. Figures 14's extender 330d is pulled to actuate a depressible latch in the form of lever 360a because, as Scherer explains, the "connector hood 310d includes extender 300d [sic] that is configured to be removably coupled to connector body 400a such that extender 300d [sic] can slide relative to connector body 400a to depress or compress lever 360a." EX1003, ¶54.

Extender 330d not only performs claimed functions, but is above the top portion of the connector housing. EX1003, FIG. 14; EX1012, ¶¶383-393.



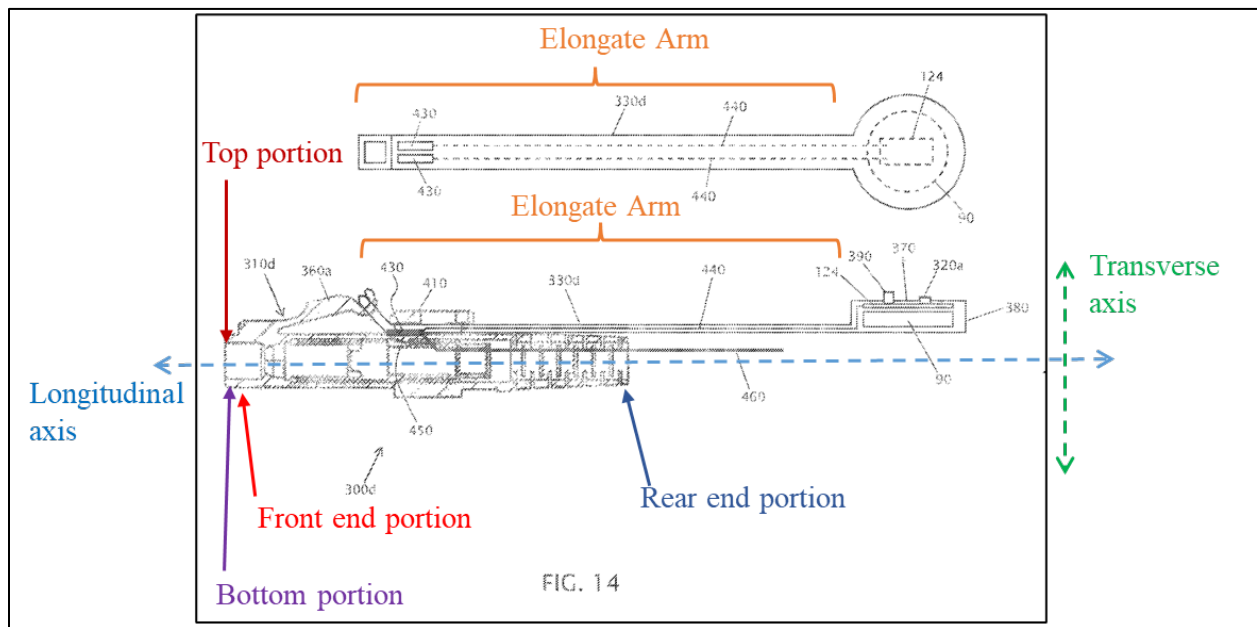
EX1003, FIG. 14 (annotated).

Extender 330d “is configured to be removably coupled to connector body 400a,” EX1003, ¶54, where Figure 14 shows extender 330d is connected to the connector housing above the top portion. EX1012, ¶¶383-393. Extender 330d provides an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate a depressible latch as claimed. *Id.*

Accordingly, Scherer discloses [23.5]. *Id.*

7. [23.6]

Scherer discloses the features of [23.6]. EX1012, ¶¶394-398.



EX1003, FIG. 14 (annotated).

The connector body 400a/410 couples extender 330d to the housing while allowing extender 330d to slide. EX1003, ¶54; EX1012, ¶¶394-398.

Scherer states its connector bodies can define slots in which the respective extenders can be slidably disposed, which correspond to the space between connector body 410 and the top portion of the connector housing. EX1003, ¶8. The slot defined by Scherer's connector body 400/410 is therefore a guide that connects extender 330d to the housing portion of connector hood 310d. EX1012, ¶¶394-398.

C. Claim 24

Scherer discloses claim 24. EX1012, ¶¶399-404.

The space identified above as a “guide” with respect to element [23.6] is termed a “slot” in Scherer's disclosure. EX1003, ¶8.

A slot is within the plain and ordinary meaning of the word “groove,” so the guide defined by Figure 14's optical fiber connector includes a guide defining a groove. EX1012, ¶¶399-404.

Further, it is apparent that the groove extends along the longitudinal axis. EX1003, FIG. 14, ¶54; EX1012, ¶¶399-404.

Scherer's connector housing therefore comprises a guide that defines a groove extending along the longitudinal axis. EX1012, ¶¶399-404; EX1003, ¶¶8, 54.

D. Claim 25

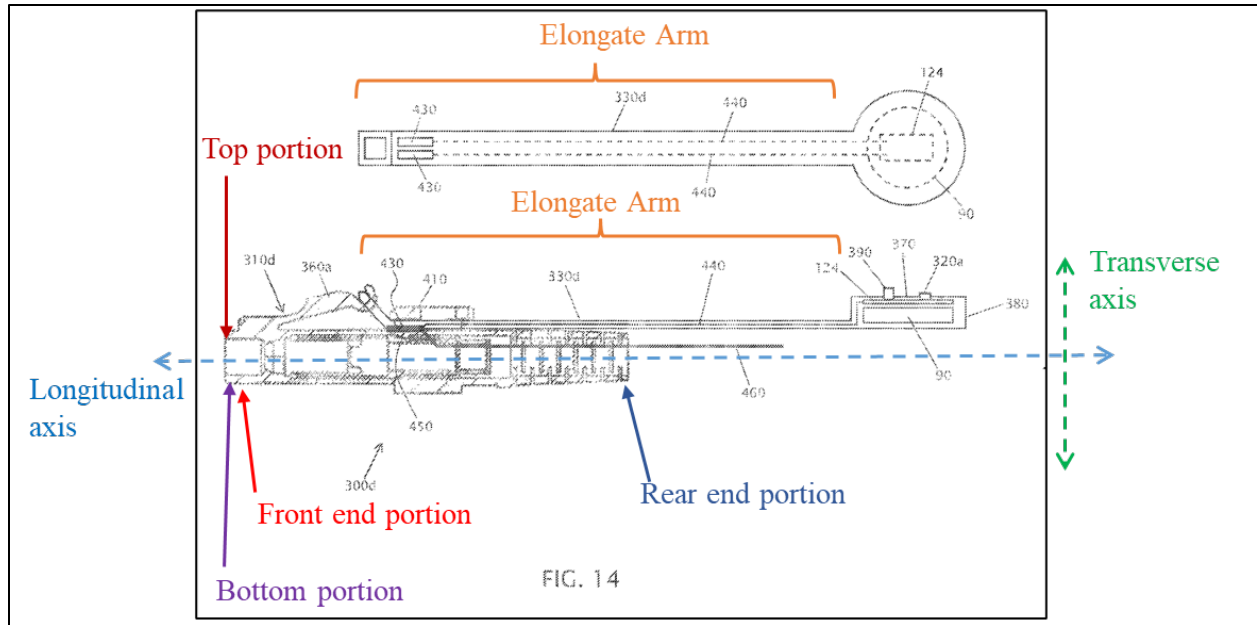
Scherer discloses claim 25. EX1012, ¶¶405-413.

Scherer discloses “the extender is configured to be slidably disposed in the slot.” EX1003, ¶8. “Disposed” is within the plain and ordinary meaning of the word “received” in this context. EX1012, ¶¶405-413. The slot in which the extender is slidably disposed is a “groove” as recited in claim 24. Section IX.C. Scherer therefore discloses that the elongate arm provided by Scherer’s extender 330d is received in the groove provided by Scherer’s slot.

E. Claim 26

Scherer discloses claim 26. EX1012, ¶¶414-418.

The elongate arm provided by Scherer’s extender 330d includes a front end portion and a rear end portion spaced apart along the longitudinal axis. EX1012, ¶¶414-418. Figure 14 shows the front end portion and the rear end portion of the elongate arm (extender 330d). EX1003, FIG. 14.



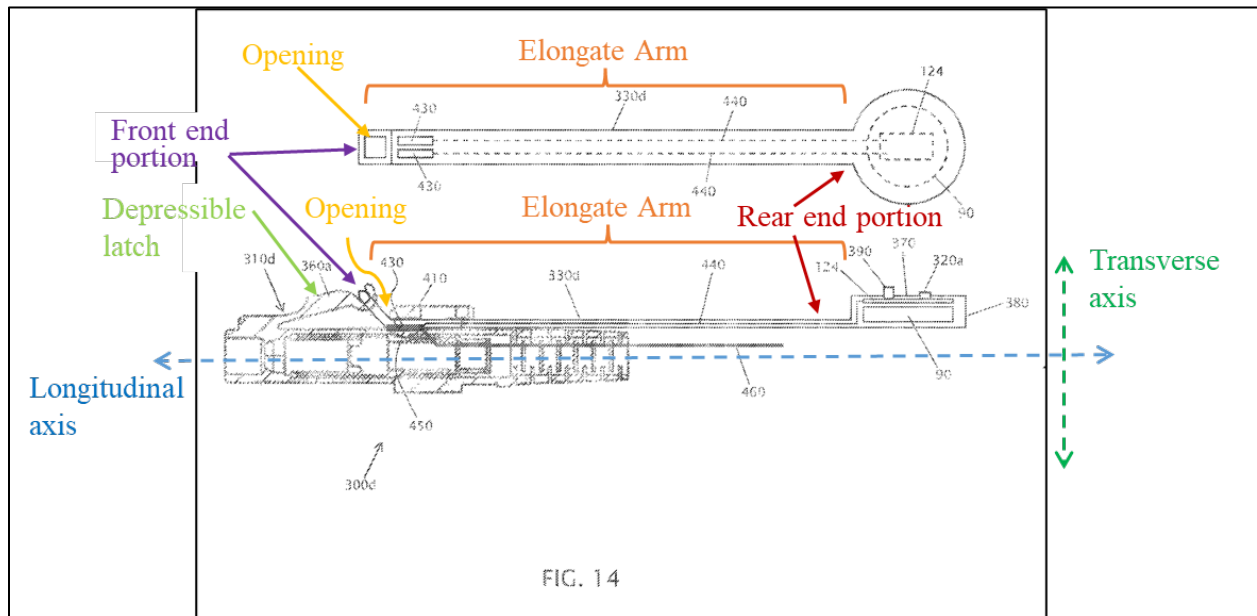
EX1003, FIG. 14 (annotated).

Figure 14 shows the front end portion of the extender 330d that provides an elongate arm is spaced apart from a rear end portion. EX1003, FIG. 14; EX1012, ¶¶414-418.

F. Claim 27

Scherer discloses claim 27. EX1012, ¶¶419-424.

A POSITA would have understood that the front end portion of extender 330d, Section IX.E, defines an opening. EX1012, ¶¶419-424.



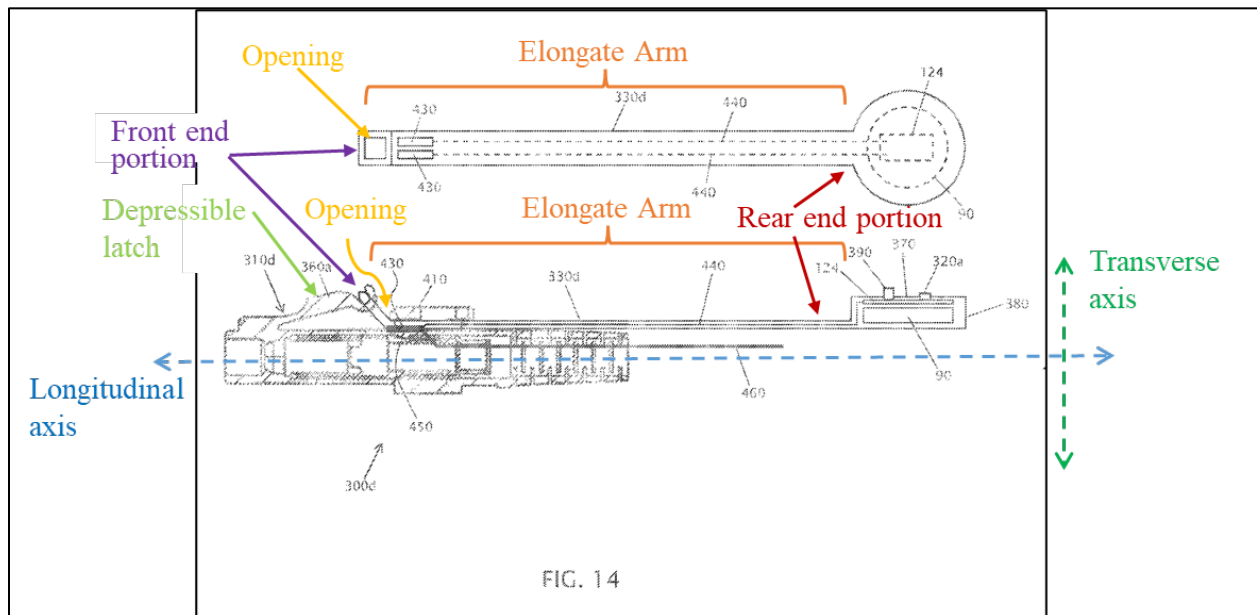
EX1003, FIG. 14 (annotated).

Figure 14 shows front end of extender 330d defines an opening for receiving a hook defined at a rearward end of the lever 360a. EX1012, ¶¶419-424.

G. Claim 28

Scherer discloses claim 28. EX1012, ¶¶425-431.

A POSITA would recognize that the depressible latch provided by Scherer's lever 360d is received in the opening defined in the front end portion of extender 330d. EX1012, ¶¶425-431; EX1003, FIG. 14.



EX1003, FIG. 14 (annotated).

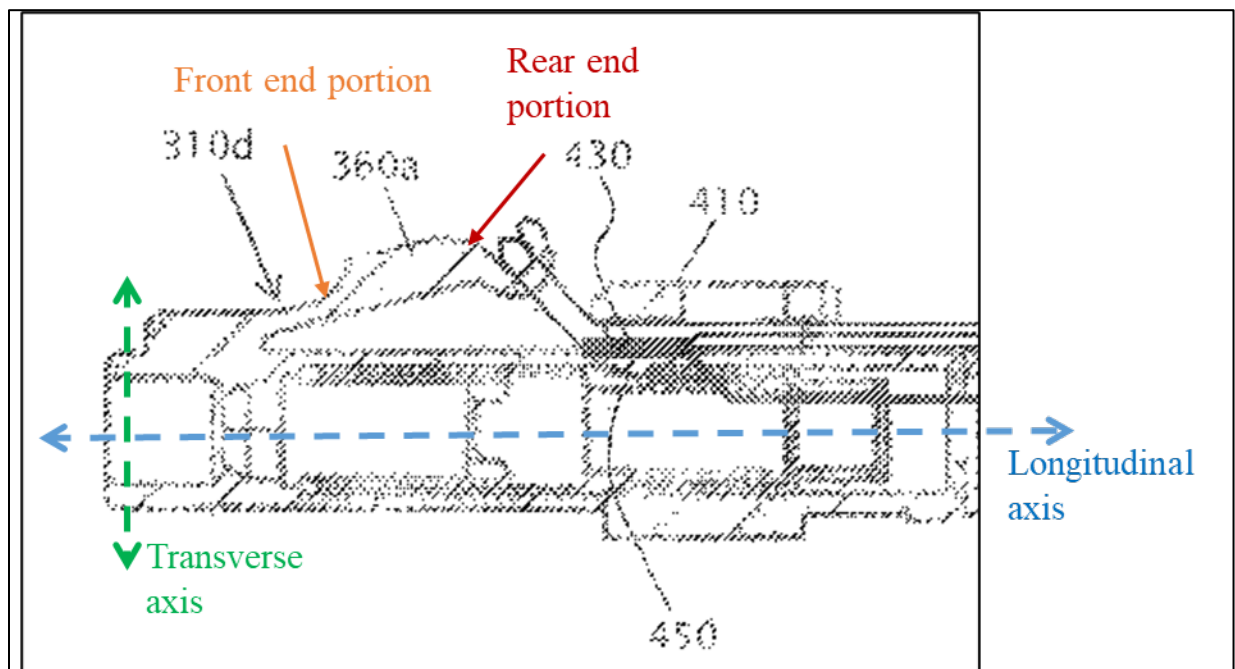
The free end of the lever 360a includes a hook-shaped portion that extends through that opening, so the lever 360a is received in the opening. EX1003, FIG. 14; EX1012, ¶¶425-431.

H. Claim 29

Scherer discloses claim 29. EX1012, ¶¶432-438.

Scherer's Figure 14 depicts a latch provided by the lever 360a extending upward along the transverse axis from a front end portion to a rear end portion, with the front and rear end portions being spaced apart along the longitudinal axis.

EX1003, FIG. 14; EX1012, ¶¶425-431.



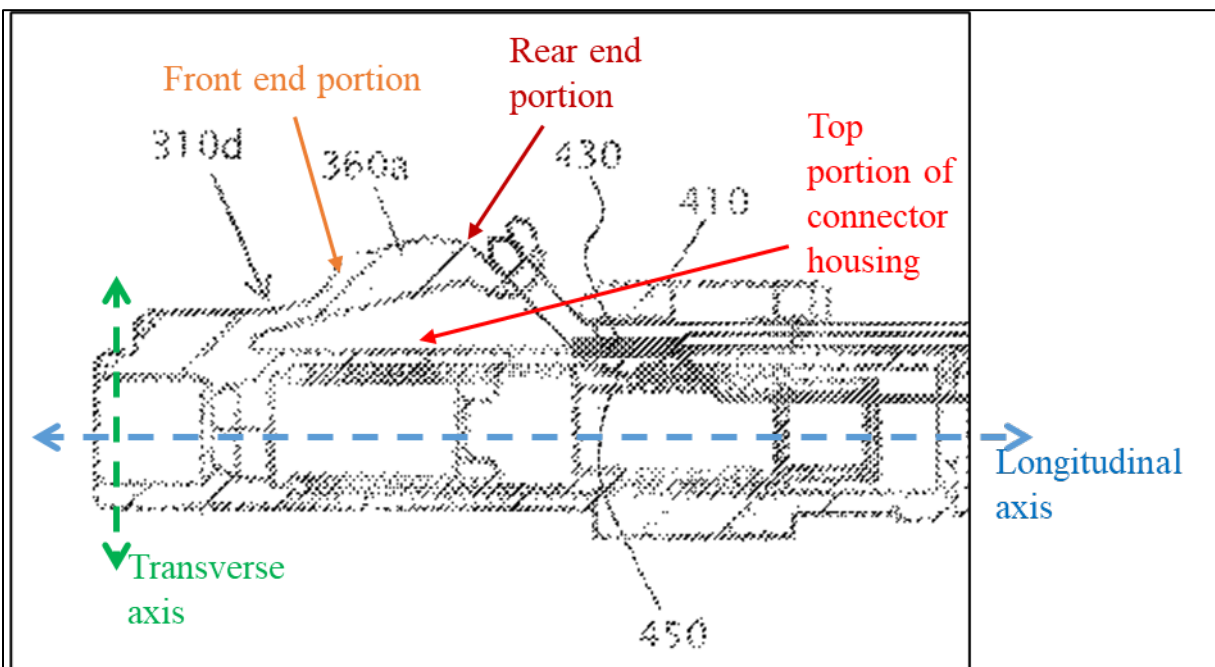
EX1003, FIG. 14 (annotated, cropped).

I. Claim 30

Scherer discloses claim 30. EX1012, ¶¶439-443.

The rear end portion of Scherer's depressible latch (free end of lever 360a) is spaced apart from the connector housing portion of the connector hood 310d along the transverse axis such that it is above the top portion of the connector housing.

EX1003, FIG. 14; EX1012, ¶¶439-443.

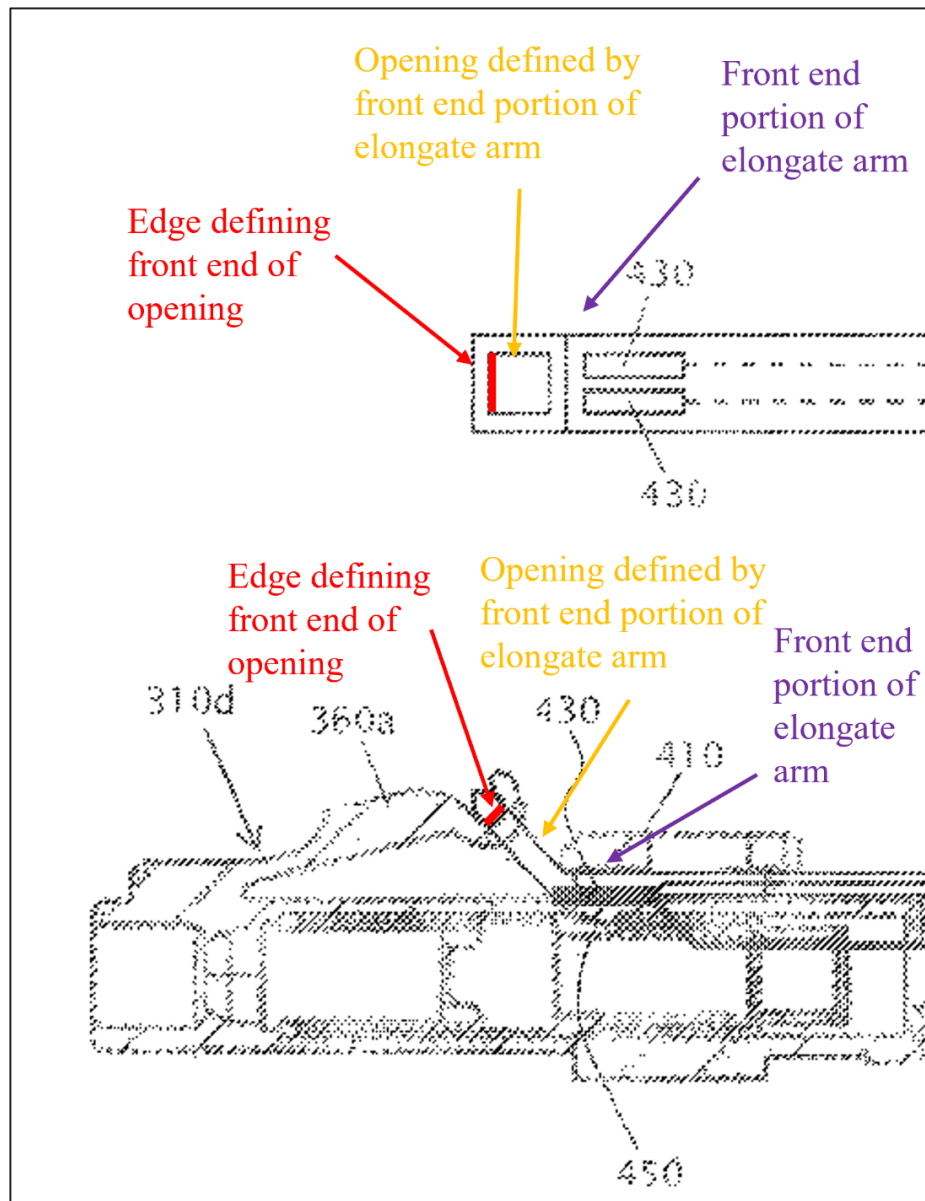


EX1003, FIG. 14 (annotated, cropped).

J. Claim 31

Scherer discloses claim 31. EX1012, ¶¶444-446.

Scherer's Figure 14 depicts that a front end portion of the extender 330d includes an opening as well as an edge that defines a front end of the opening. EX1012, ¶¶444-446; EX1003, FIG. 14.

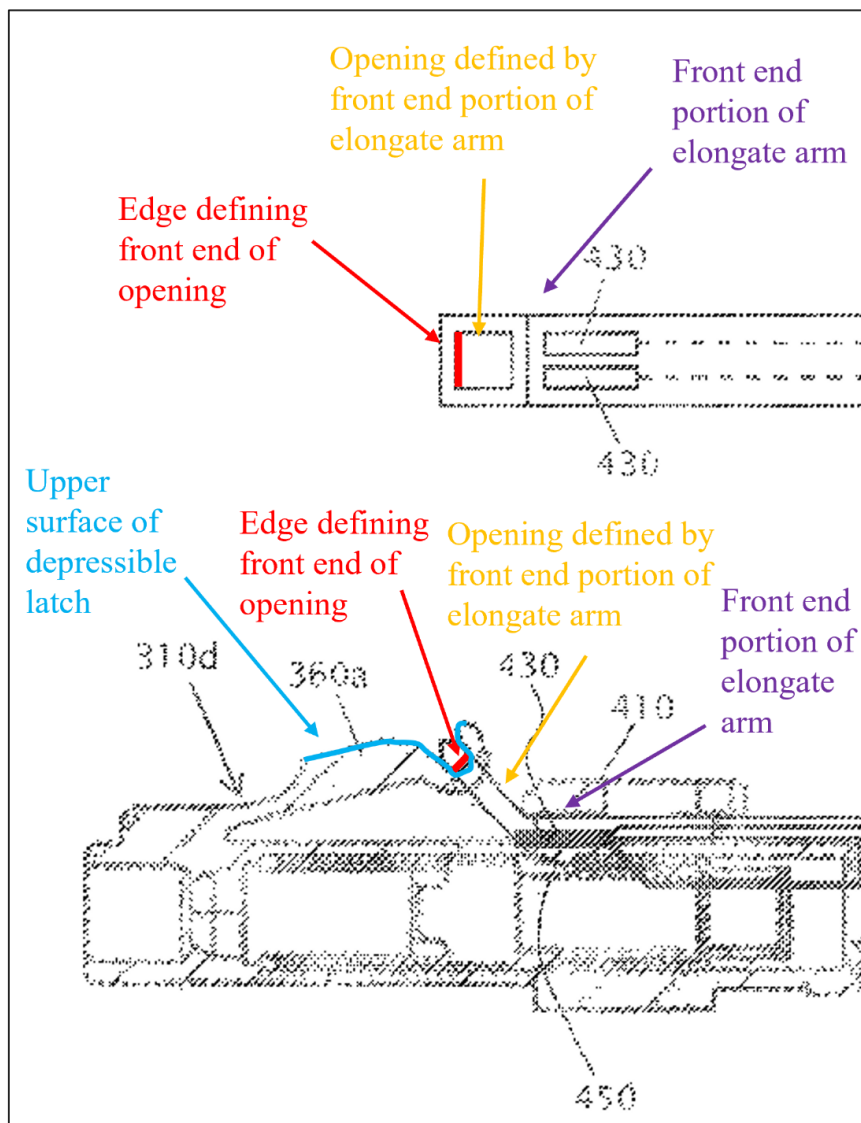


EX1003, FIG. 14 (annotated, cropped).

K. Claim 32

Scherer discloses claim 32. EX1012, ¶¶447-451.

A POSITA would have understood that Scherer discloses that the latch (lever 360a) has an upper surface, and the edge included by the front end portion of the elongate arm provided by extender 330d opposes the upper surface. EX1012, ¶¶447-451; EX1003, ¶54, FIG. 14.



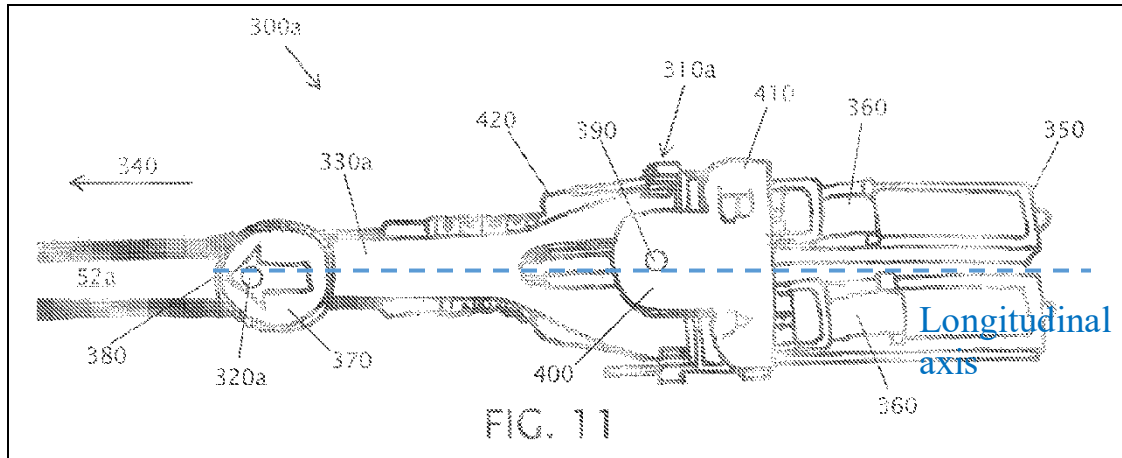
EX1003, FIG. 14 (annotated, cropped).

Scherer details how lever 360a is depressed by pulling extender 330d rearward. EX1003, ¶54. Extender 330d depressing lever 360a is consistent with the leading edge of the opening defined at the front end portion of extender 330d opposing the upper surface of lever 360a, as this arrangement would cause extender 330d to depress lever 360a when slid longitudinally rearward. EX1012, ¶¶447-451.

L. Claim 33

Lin discloses claim 33, and it would have been obvious to modify Scherer in view of Lin to include those features. EX1012, ¶¶452-462.

Scherer discloses that “cables 300a, 300b, 300c” have hoods that “each include[] an extender or remote release tab,” which “can simply be pulled by a user in a direction 340 away from a distal end 350 of the connector to laterally compress the lever(s) (360) of the connector toward the transmission line(s) 52a.” EX1003, ¶51; EX1012, ¶¶452-462. Scherer’s Figure 11 shows that the “direction 340” is proximal, i.e., rearward.



EX1003, FIG. 11 (annotated).

Scherer states “[c]able 300d is similar to cable 300c with the primary exception that cable 300d includes only a single fiber optic cable.” EX1003, ¶54. A POSITA would understand that extender 330d is also pulled proximally, i.e., rearward, to depress lever 360a. EX1012, ¶454; EX1003, ¶54.

PO may allege that Scherer does not expressly disclose that the edge travels along the upper surface as claimed. But Lin does. Sections VIII.H, IX.A; EX1012, ¶¶325-346.

In view of Lin, it would have been obvious to construct Scherer’s lever 360a and extender 330d such that the upper surface of the lever 360a has a smooth ramp along the entirety of the upper surface (thereby removing the hook feature) alike to Lin’s ramp 188 for the edge of Scherer’s extender 330d to slide along. Section IX.A; EX1012, ¶¶325-346.

The result of this modification would have had every feature of claim 33.

EX1012, ¶¶452-462.

M. Claim 34

The features of claim 34 are identical to those of claim 24. Scherer discloses claim 24, and therefore discloses claim 34 for the same reasons. Section IX.B;

EX1012, ¶¶463-464.

N. Claim 35

The features of claim 35 are identical to those of claim 25. Scherer discloses claim 25, and therefore discloses claim 35 for the same reasons. Section IX.C;

EX1012, ¶¶465-466.

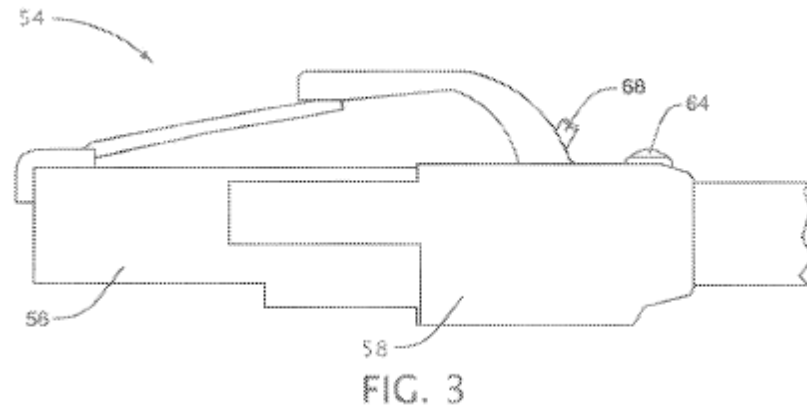
O. Claim 36

Scherer discloses claim 36. EX1012, ¶¶467-473.

A POSITA would have understood that the connector housing provided by Scherer's connector hood 310d includes a front body and a back body. EX1012, ¶¶467-473.

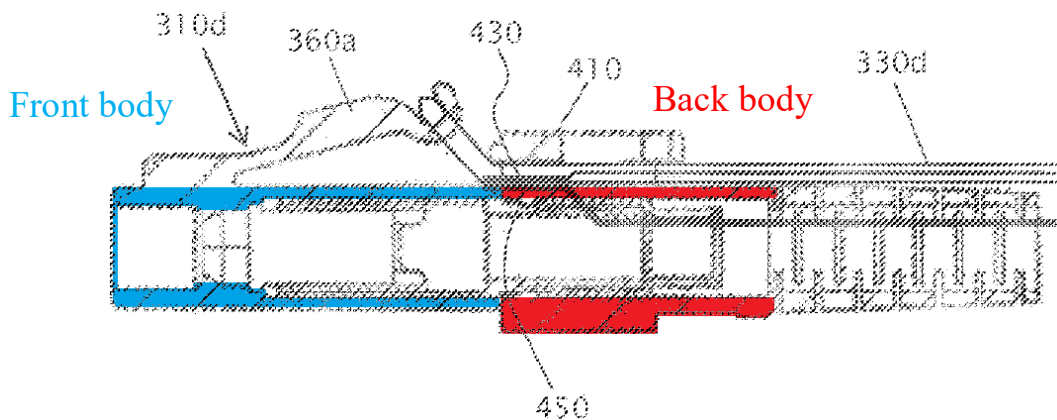
Scherer explains the meaning of "connector hood" for the purposes of the disclosure refers to a combination of a connector and a boot. EX1003, ¶35 ("The overall connector (connector plus boot) will be referred to as the connector hood in this description and in the appended claims."). A POSITA would have understood Scherer Figure 14's "connector hood 310d" to also be an assembly of a "connector" and a "boot." EX1012, ¶¶467-473. Scherer Figure 3 illustrates how a

connector 56 and boot 58 may be assembled. EX1003, ¶¶35, 37, FIG. 3.



EX1003, FIG. 3.

Connector 56 and boot 58 are arranged as a front body and a back body, respectively. EX1003, FIG. 3. Scherer states cable 300d comprises a “connector body 400” and “boot 420” but does not use either numeral in Figure 14. EX1003, ¶54, FIG. 14. A POSITA would understand in view of Figure 3 that the elements indicated in the portion of Figure 14 would be the connector and boot, respectively, of hood 310d and cable 300d. EX1012, ¶¶467-473; EX1003, ¶54, FIG. 14.



EX1003, FIG. 14 (annotated, cropped).

The connector and boot of Scherer's hood 310d provide a front body and back body, respectively of a connector housing as claimed. EX1012, ¶¶467-473.

P. Claim 39

The preamble of claim 39 is identical to the preamble of claim 23, and elements [39.1]-[39.5] are identical to elements [23.1]-[23.5]. EX1012, ¶474. The preamble of claim 39 and elements [39.1]-[39.5] therefore would have been obvious over Scherer in view of Lin for the reasons explained above with regard to the preamble of claim 23 and elements [23.1]-[23.5]. Sections IX.B.1-6; EX1012, ¶¶475-480.

Elements [39.6]-[39.13] are identical to the additional features recited in claims 26-33. Elements [39.6]-[39.13] therefore would have been obvious over Scherer in view of Lin for the reasons explained above with regard to claims 26-33. Sections IX.E-L; EX1012, ¶¶481-489.

Every element of claim 39, including the preamble, therefore either appears in Scherer or would have been obvious to modify Scherer to include in view of Lin. Accordingly, claim 39 as a whole would have been obvious over Scherer in view of Lin.

Q. Claim 40

1. Preamble – [40.6]

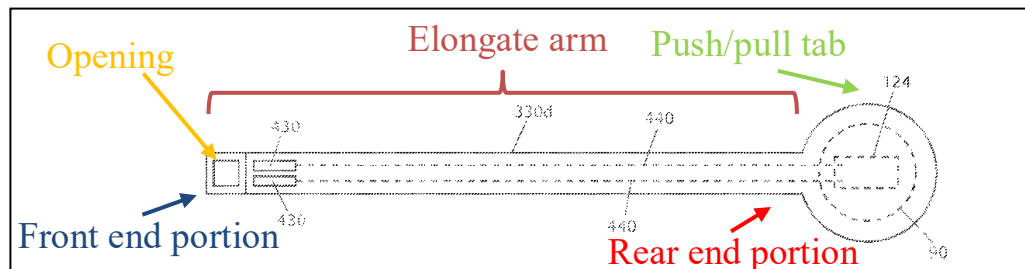
The preamble of claim 40 is identical to the preamble of claim 23, and [40.1]-[40.5] are identical to [23.1]-[23.5]. EX1012, ¶490. The preamble of claim 40 and [40.1]-[40.5] therefore would have been obvious over Scherer in view of Lin for the reasons explained above with regard to the preamble of claim 23 and [23.1]-[23.5]. Sections IX.B.1-6; EX1012, ¶¶491-496.

[40.6] is identical to the additional features of claim 26. Scherer therefore discloses element [40.6] for the reasons explained above with regard to claim 26. Section XI.E; EX1012, ¶497.

2. [40.7]

Scherer discloses [40.7].

A POSITA would have understood that Scherer further discloses a push/pull tab extending from the rear end portion of the elongate arm provided by the 330D. EX1012, ¶¶498-504; EX1003, FIG. 14.



EX1003, FIG. 14 (annotated, cropped).

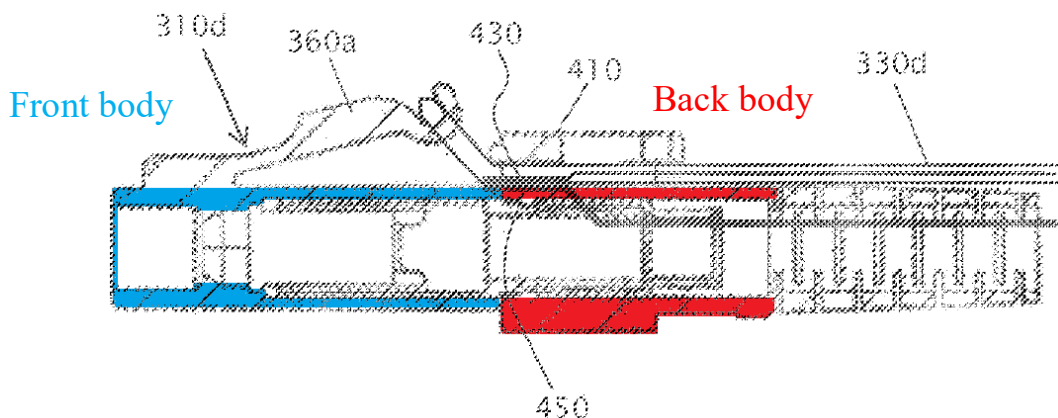
As explained for claim 27, Scherer's extender 330d defines an elongate arm having a front end portion and a rear end portion, with the front end portion defining an opening. Section IX.F; EX1003, FIG. 14. The end of the elongate arm defined by the extender 330d opposite from the opening therefore defines the rear end portion. Figure 14 shows a push/pull tab extending from the rear end portion of the elongate arm defined by the extender 330d. EX1003, FIG. 14; EX1012, ¶¶498-504.

X. GROUND 4: SCHERER-LIN IN VIEW OF GNIADEK RENDERS OBVIOUS CLAIMS 37 AND 38.

A. Motivation to Combine

1. Scherer-Lin

Scherer-Lin renders obvious claim 36, from which claims 37 and 38 depend. Sections IX.O, EX1012, XI.O.2. Scherer discloses a connector body 400 and a boot 420 providing a front body and a back body, respectively, of a connector housing. Section IX.O; EX1012, ¶¶467-473, 505; EX1003, ¶54, FIG. 14.



EX1003, FIG. 14 (annotated, cropped).

PO may allege that Scherer-Lin do not expressly disclose wherein a front body of a connector housing includes a recess and a back body of the connector housing comprises a protrusion received in the recess to connect the back body to the front body, but this was well known from Gniadek that was incorporated by reference into Scherer. EX1003, ¶¶51, 54; EX1010, 17:2-11; EX1012, ¶506.

2. Gniadek

Gniadek discloses an optical fiber connector assembly including a connector 816 and a boot 840. Section V.D; EX1010, 16:20-30, 17:2-11. Connector 816 includes a trap 828, and boot 840 includes a protruding member 851 configured to be received in trap 828 to connect boot 840 to connector 816. EX1010, 17:2-11; EX1012, ¶507.

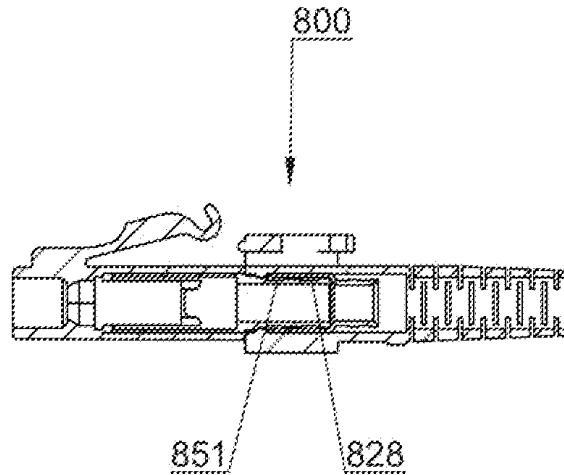


FIG. 23
SECTION VIEW OF 800

EX1010, FIG. 23.

3. How to Combine

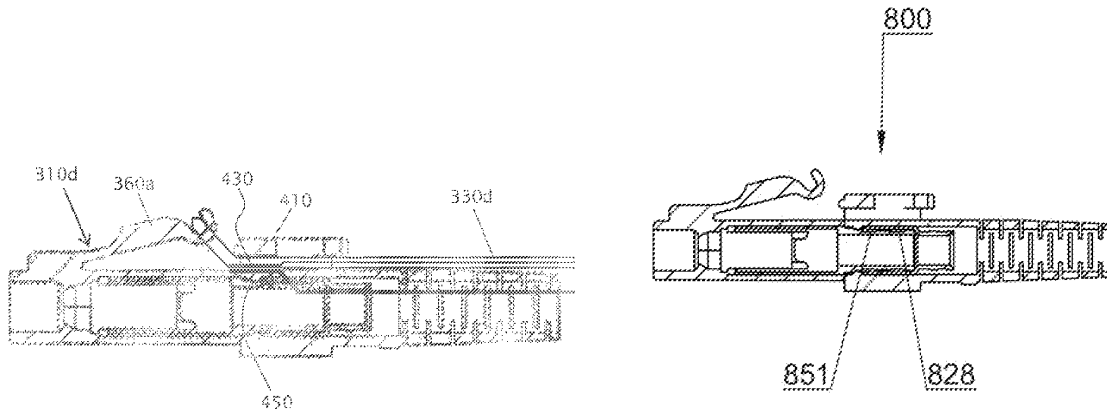
A POSITA would have found it obvious to modify the front body and back body of the connector housing disclosed in Scherer-Lin to include a trap and protruding member, respectively, alike to the Gniadek's trap 828 and protruding member 851, to couple the front body and back body together. EX1012, ¶¶508-510.

4. Why to Combine

A POSITA would have found this modification obvious because Scherer(-Lin) incorporates Gniadek by reference and then compares its optical fiber connector hoods 310a, 310b, 310c, 310d to those disclosed in Gniadek, “which is incorporated by reference to the extent it provides details of various versions of remote-release connectors.” EX1003, ¶¶51, 54; EX1012, ¶¶508-510. Specifically, Scherer explains “[e]ach of connector hoods 310a, 310b, 310c are similar in some respects to the remote-release connectors disclosed in U.S. Patent No. 8,465,317.” EX1003, ¶51. Scherer specifically compares Figure 14 to Gniadek. EX1003, ¶54.

5. Expectation of Success

A POSITA would have had a reasonable expectation of success in making this modification because Scherer-Lin explicitly states that its connectors are similar to Gniadek’s. EX1003, ¶¶51, 54. Additionally, the POSITA would understand that Scherer’s connector of Figure 14 and Gniadek’s connector of Figures 21-23 are connectors of very similar styles from the visible similarities between them, and that features could therefore be carried from Gniadek’s connector to Scherer-Lin’s connector and continue to serve the same purpose. EX1012, ¶¶508-510.

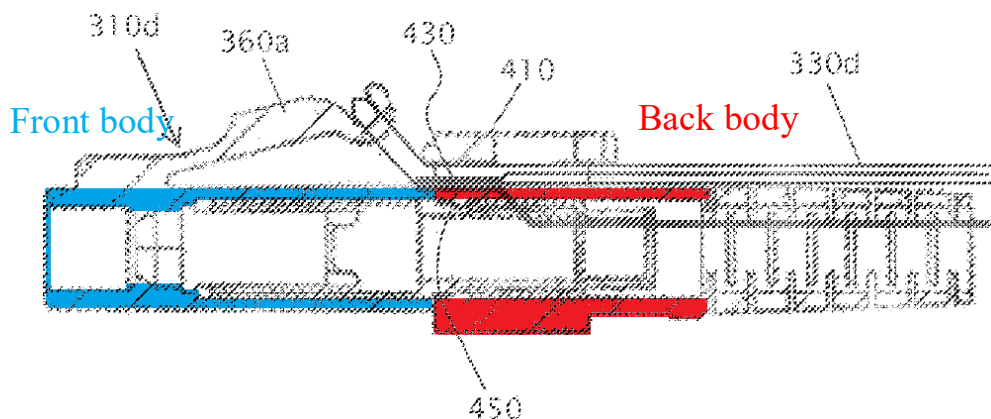


EX1003, FIG. 14 (left, cropped); EX1010, FIG. 23 (right, cropped).

B. Claim 37

It would have been obvious to modify Scherer-Lin to meet claim 36, from which claim 37 depends. Section IX.O. Gniadek discloses claim 37, and it would have been obvious to further modify Scherer-Lin with Gniadek to meet claim 37. EX1012, ¶¶511-518.

Scherer discloses a connector housing including a front body and a back body. Section IX.O; EX1003, FIG. 14, ¶¶51, 54; EX1012, ¶¶511-518.



EX1003, FIG. 14 (annotated, cropped).

PO may allege Scherer-Lin does not expressly disclose wherein the front body includes a recess and the back body includes a protrusion received in the recess to connect the back body to the front body, but Gniadek does. EX1012, ¶¶511-518.

Gniadek discloses an optical fiber connector assembly including a connector 816 and a boot 840. Section V.D; EX1010, 16:20-30, 17:2-11. Connector 816 includes a trap 828, and boot 840 includes a protruding member 851 configured to be received in trap 828 to connect boot 840 to connector 816. EX1010, 17:2-11; EX1012, ¶¶511-518.

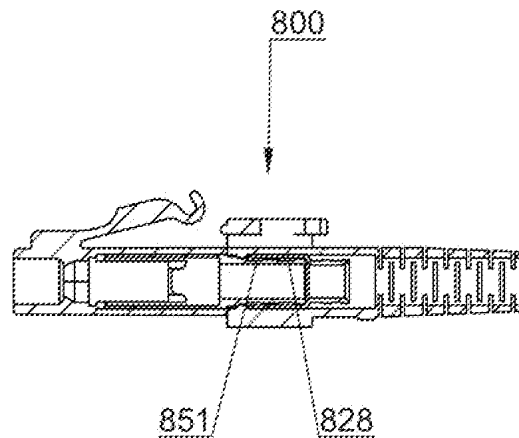


FIG. 23
SECTION VIEW OF 800

EX1010, FIG. 23.

Gniadek's connector 816, boot 840, trap 828, and protruding member 851 are a front body, back body, recess, and protrusion as claimed. EX1012, ¶¶511-518.

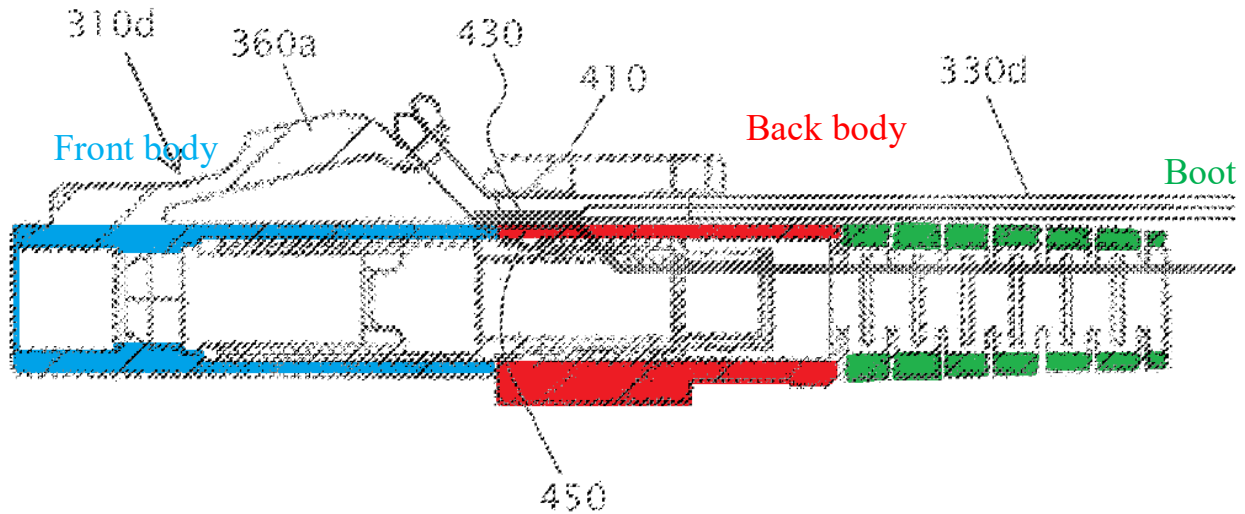
A POSITA would have found it obvious to modify the front body and back body of the connector housing disclosed in Scherer-Lin to include a trap and protruding member, respectively, alike to Gniadek's trap 828 and protruding member 851, to couple the front body and back body together. Section X.A.

The result of this modification would have had every feature of claim 36. EX1012, ¶¶511-518.

C. Claim 38

Scherer discloses claim 38. EX1012, ¶¶519-528.

Scherer illustrates a feature that a POSITA would recognize as the claimed "boot" extending from the above identified back body of the connector housing in Figure 14 because it also provides strain relief. EX1003, FIG. 14; EX1012, ¶¶519-528.



EX1003, FIG. 14 (annotated, cropped).

XI. THE BOARD SHOULD NOT EXERCISE ITS DISCRETION TO DENY THE PETITION.

A. The Board should not deny the Petition under *Fintiv*.

The '369 patent is in litigation that was filed on January 24, 2023 and stayed until at least December 20, 2023. EX1020. However, the Board should not deny this Petition under *Fintiv* because 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) (precedential).

B. The Board should not deny the petition under § 325(d).

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 7-8 (P.T.A.B. Feb. 13, 2020) (precedential) strongly favors institution because the IPR grounds here rely on art that was not presented to, or substantively considered by, the Office during prosecution of the '369 patent.

Concerning Ground 1, while an equivalent to Nguyen (U.S. Patent No. 9,829,644: “the '644 patent”) was cited in an IDS during prosecution of the '369 patent, the Examiner found the art too voluminous to be meaningfully considered. EX1002, 309-10. Thus, for the purpose of the first prong of the *Advanced Bionics* framework, the '644 patent was only technically “presented to the Office,” but likely given only cursory review.

Turning to the second prong of the *Advanced Bionics* framework, the Examiner admitted that the volume of the submitted art made it “likely impossible, for the Patent Office to fairly assess applicants’ application against the prevailing statutory criteria” (EX1002, 310), making it all but inevitable that the Office erred in its interpretation of the submitted art. There is no evidence that the '644 patent received any meaningful consideration because the Examiner did not cite the '644 patent in a rejection or otherwise discuss it. *Id.*, 305-11. Even without an admission by the Examiner that the art is too voluminous to consider, the absence of a rejection based on the reference in question weighs strongly against denial in the

second prong of the *Advanced Bionics* framework. *SolarEdge Techs. Ltd. v. SMA Solar Tech. AG*, IPR2020-00021, Paper 8 at 12 (P.T.A.B. Apr. 10, 2020).

Some of the Office’s specific errors with respect to the ’644 patent are evidenced in the portion of the Non-Final Office Action that explains why pending claims 19 and 30, corresponding to allowed claims 23 and 40, were found allowable. Regarding claim 19, the OA emphasizes “the connector housing comprises a guide connecting the elongate arm to the optical fiber connector” as the feature that distinguishes the art. EX1002, 308 (emphasis in original). However, Nguyen clearly discloses this feature as explained in Section VII.A.7. Regarding claim 30, the OA emphasizes “a push/pull tab extending from the rear end portion of the elongate arm” as the feature distinguishing the art (EX1002, 308), but Nguyen clearly discloses this feature as explained in Section VII.E.2.

Turning to Grounds 2, 3, and 4, neither Scherer nor Lin were of record during prosecution, nor in any other proceeding before the Office concerning the ’369 patent. Thus, Grounds 2, 3, and 4 rest on art and arguments that have not previously been presented to the Office, meaning only the first prong of the *Advanced Bionics* framework need be considered to find that institution would be proper.

Further, the references asserted herein have not been asserted in any other challenge to the ’369 patent before the Office or any other tribunal.

XII. 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 Petitioner US Conec Ltd. Petitioner US Conec Ltd. states that the following entities each own 10% or more of its stock: Corning Optical Communications, LLC; Fujikura Ltd.; and NTT Advanced Technology Corporation. This statement should not be interpreted as an admission or concession that the above-listed parties are real parties-in-interest or in privity with US Conec Ltd.

Related Matters (37 C.F.R. § 42.8(b)(2)): The '369 patent is asserted against US Conec Ltd. in *Senko Advanced Components, Inc. v. US Conec Ltd.*, 1:23-cv-00083 (D. Del.), filed 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 **Joseph K. Venier** (Reg. No. 76,838) as its back-up counsel, all at the address: STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1101 K Street NW, 10th Floor, Washington, DC 20005; phone number: (202) 371-2600; and facsimile: (202) 371-2540.

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, jvenier-PTAB@sternekessler.com, and
PTAB@sternekessler.com. US Conec Ltd. consents to service by email at the
addresses above.

**XIII. CERTIFICATION THAT THE PATENT MAY BE CONTESTED VIA
INTER PARTES REVIEW BY THE PETITIONER AND STANDING
(37 C.F.R. § 42.104(A))**

US Conec Ltd. certifies that the '369 patent is available for IPR and US
Conec Ltd. is not barred or estopped from requesting IPR of any '369 patent claim.

XIV. CONCLUSION

Claims 23-40 are unpatentable and *inter partes* review is warranted.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Jason D. Eisenberg/

Jason D. Eisenberg, Reg. No. 43,447

Joseph K. Venier, Reg. No. 76,838

Counsel for Petitioner US Conec Ltd.

Date: January 6, 2024

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XV. APPENDIX: CHALLENGED CLAIMS

23. **[Preamble]** An optical fiber connector comprising:

[23.1] a multi-fiber ferrule configured to terminate a plurality of optical fibers;

[23.2] a connector housing having a front end portion and a rear end portion spaced apart along a longitudinal axis, the connector housing comprising a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis, **[1.3]** the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,

[23.4] a depressible latch above the top portion of the connector housing; and

[23.5] an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;

[23.6] wherein the connector housing comprises a guide connecting the elongate arm to the optical fiber connector.

24. The optical fiber connector as set forth in claim 23, wherein the guide defines a groove extending along the longitudinal axis.

25. The optical fiber connector as set forth in claim 24, wherein the elongate

arm is slidably received in the groove.

26. The optical fiber connector as set forth in claim 23, wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis.

27. The optical fiber connector as set forth in claim 26, wherein the front end portion of the elongate arm defines an opening.

28. The optical fiber connector as set forth in claim 27, wherein the depressible latch is received in the opening.

29. The optical fiber connector as set forth in claim 28, wherein the depressible latch has a front end portion and rear end portion spaced apart along the longitudinal axis and wherein the depressible latch extends upward along the transverse axis as the depressible latch extends along the longitudinal axis from the front end portion to the rear end portion of the depressible latch.

30. The optical fiber connector as set forth in claim 29, wherein the rear end portion of the depressible latch is spaced apart above the top portion of the connector housing along the transverse axis.

31. The optical fiber connector as set forth in claim 30, wherein the front end portion of the elongate arm includes an edge defining a front end of the opening.

32. The optical fiber connector as set forth in claim 31, wherein the depressible latch has an upper surface, the edge opposing the upper surface.

33. The optical fiber connector as set forth in claim 32, wherein the elongate arm is configured to be pulled rearward along the longitudinal axis with respect to the connector housing whereby the edge slides longitudinally along the upper surface to depress the depressible latch.

34. The optical fiber connector as set forth in claim 33, wherein the guide defines a groove extending along the longitudinal axis.

35. The optical fiber connector as set forth in claim 34, wherein the elongate arm is slidably received in the groove.

36. The optical fiber connector as set forth in claim 34, wherein the connector housing includes a front body and a back body.

37. The optical fiber connector as set forth in claim 36, wherein the front body includes a recess and the back body includes a protrusion received in the recess to connect the back body to the front body.

38. The optical fiber connector as set forth in claim 37, further comprising a single cable boot extending rearward from the connector housing.

39. **[Preamble]** An optical fiber connector comprising:

[39.1] a multi-fiber ferrule configured to terminate a plurality of optical fibers;

[39.2] a connector housing having a front end portion and a rear end portion spaced apart along a longitudinal axis, the connector housing comprising a top

portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis, [39.3] the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,

[39.4] a depressible latch above the top portion of the connector housing;
and

[39.5] an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;

[39.6] wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;

[39.7] wherein the front end portion of the elongate arm defines an opening;

[39.8] wherein the depressible latch is received in the opening;

[39.9] wherein the depressible latch has a front end portion and rear end portion spaced apart along the longitudinal axis and wherein the depressible latch extends upward along the transverse axis as the depressible latch extends along the longitudinal axis from the front end portion to the rear end portion of the depressible latch;

[39.10] wherein the rear end portion of the depressible latch is spaced apart above the top portion of the connector housing along the transverse axis;

[39.11] wherein the front end portion of the elongate arm includes an edge defining a front end of the opening;

[39.12] wherein the depressible latch has an upper surface, the edge opposing the upper surface:

[39.13] wherein the elongate arm is configured to be pulled rearward along the longitudinal axis with respect to the connector housing whereby the edge slides longitudinally along the upper surface to depress the depressible latch.

40. **[Preamble]** An optical fiber connector comprising:

[40.1] a multi-fiber ferrule configured to terminate a plurality of optical fibers;

[40.2] a connector housing having a front end portion and a rear end portion spaced apart along a longitudinal axis, the connector housing comprising a top portion and a bottom portion spaced apart along a transverse axis perpendicular to the longitudinal axis, [40.3] the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,

[40.4] a depressible latch above the top portion of the connector housing;
and

[40.5] an elongate arm connected to the connector housing above the top

portion and configured to be pulled to actuate the depressible latch;

[40.6] wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;

[40.7] further comprising a push/pull tab extending from the rear end portion of the elongate arm.

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 12,434 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,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Jason D. Eisenberg/

Jason D. Eisenberg, Reg. No. 43,447
Lead Counsel for Petitioner US Conec Ltd.

Date: January 6, 2024

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(202) 371-2600

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

I certify that the above-captioned **PETITION [2 OF 2] FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 11,307,369 [CLAIMS 23-40]** and associated Exhibits 1001-1020 were served in their entireties upon the Patent Owner on January 6, 2024, via FedEx® Express at the following addresses:

SENKO ADVANCED COMPONENTS, INC.
2 Cabot Road, Suite 103
Hudson, MA 01749
Patent Owner's Correspondence Address of Record for U.S. Patent No. 11,307,369

STINSON LLP
50 South Sixth Street, Suite 2600
Minneapolis, MN 55402
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STINSON LLP
7700 Forsyth Blvd., Suite 1100
St. Louis, MO 63105
Additional Address Known to Petitioner as Likely to Effect Service

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Jason D. Eisenberg/

Jason D. Eisenberg, Reg. No. 43,447
Lead Counsel for Petitioner US Conec Ltd.

Date: January 6, 2024

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