

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

**DECLARATION OF JAMES F. BRENNAN III, PhD.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF CLAIMS
23-40 OF U.S. PATENT 11,307,369**

Mail Stop “PATENT BOARD”
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	Scope of Engagement	1
B.	Compensation	2
C.	Professional Qualifications, Education and Experience.....	2
D.	Publications, Speeches, and Patents	6
E.	Materials Considered	6
II.	LEGAL STANDARDS FOR INVALIDITY	6
A.	Anticipation	8
B.	Obviousness.....	10
C.	Miscellaneous	12
III.	LEVEL OF ORDINARY SKILL IN THE ART	13
IV.	BACKGROUND OF THE TECHNOLOGY	15
A.	Data Centers	15
B.	Optical Fiber Connector Technology	19
V.	U.S. PATENT NO. 11,307,369.....	23
A.	Overview and Background.....	23
B.	Discussion of Certain Embodiments	25
C.	Summary of Relevant Prosecution History	30
D.	Claims of the '369 Patent.....	34
VI.	CLAIM INTERPRETATION	45
VII.	PRIOR ART	46
A.	Overview of Nguyen.....	46
B.	Overview of Scherer	53
C.	Overview of Lin.....	56
D.	Overview of Gniadek.....	60
VIII.	SUMMARY OF GROUNDS.....	63
IX.	GROUND 1: NGUYEN ANTICIPATES CLAIMS 23-26 AND 40.....	64

A.	Claim 23	67
B.	Claim 24	84
C.	Claim 25	86
D.	Claim 26	88
E.	Claim 40	91
X.	GROUND 2: NGUYEN IN VIEW OF LIN RENDERS OBVIOUS	
	CLAIMS 27-39	95
A.	Motivation to Combine	95
B.	Claim 27	106
C.	Claim 28	116
D.	Claim 29	118
E.	Claim 30	123
F.	Claim 31	125
G.	Claim 32	132
H.	Claim 33	137
I.	Claim 34	145
J.	Claim 35	146
K.	Claim 36	147
L.	Claim 37	152
M.	Claim 38	156
N.	Claim 39	157
XI.	GROUND 3: SCHERER IN VIEW OF LIN RENDER OBVIOUS	
	CLAIMS 23-36, 39, AND 40	162
A.	Motivation to Combine	163
B.	Claim 23	170
C.	Claim 24	194
D.	Claim 25	196
E.	Claim 26	199
F.	Claim 27	200
G.	Claim 28	202

H.	Claim 29	205
I.	Claim 30	207
J.	Claim 31	209
K.	Claim 32	211
L.	Claim 33	213
M.	Claim 34	222
N.	Claim 35	222
O.	Claim 36	223
P.	Claim 39	226
Q.	Claim 40	231
XII.	GROUND 4: SCHERER IN VIEW OF LIN AND GNIADEK RENDER OBVIOUS CLAIMS 37 AND 38.	238
A.	Motivation to Combine	238
B.	Claim 37	241
C.	Claim 38	245
XIII.	CONCLUSION	250

TABLE OF MATERIALS CONSIDERED

Exhibit Number	Description
1001	U.S. Patent No. 11,307,369 to Takano et al. (“’369 patent”)
1002	Patent Prosecution History of U.S. Patent No. 11,307,369 to Takano et al.
1003	International Application No. WO 2015/027033 to Scherer et. al. (“Scherer”)
1004	International Publication No. WO 2017/127208 to Lee (“Lee”)
1005	U.S. Patent Application 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, <i>et al.</i> , “Multi-Fiber, MT Ferrule Endface Fiber Tip Displacement Model for Physical Contact Interconnects,” White Paper (2006)
1009	U.S. Patent Application 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)
1013	Wenke, I.G., “Report on Fiber Optic Cables,” accessed at https://www.researchgate.net/publication/308332946 (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,” <i>Fibermart</i> , 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, <i>Senko Advanced Components, Inc. v. US Conec Ltd.</i> , Case No. 1:23-cv-00083 (D. Del.)

I, James F. Brennan III, Ph.D., hereby declare:

I. INTRODUCTION

A. Scope of Engagement

1. I have been retained as an expert witness by counsel for Petitioner US Conec Ltd. (“Petitioner”) in connection with the above-captioned *Inter Partes* Review (“IPR”) proceeding.

2. I submit this Declaration in the above-captioned proceeding to provide my expert opinion in support of Petitioner’s Petition for *Inter Partes* Review of U.S. Patent No. 11,307,369 (the “’369 patent”, EX1001). This is my second of two Declarations against the ’369 patent where my first declaration covers the alleged invention of claims 1-22 and my second declaration covers the alleged invention of claims 23-40. I submit two declarations as I believe the Patent Owner or Office will consider the claims scope of claims 1-22 and 23-40 to be different, requiring different prior art either in anticipation or due to the obviousness of the claims.

3. The opinions to which I will testify, if asked, are set forth in this Declaration. My opinions in this Declaration are based upon the information that I have received to date. They may be supplemented or modified if additional information is received. They may also be supplemented to rely on additional

information or opinions provided by the parties (or witnesses retained by the parties) and issues that may arise.

B. Compensation

4. Exponent charges a rate of \$650 per hour for my time spent working on this IPR in 2023 and a rate of \$750 per hour for my time spent working on this IPR in 2024. My compensation is not in any way dependent on the statements I set forth herein or the outcome of this proceeding.

C. Professional Qualifications, Education and Experience

5. I am a Principal in Exponent's Electrical Engineering and Computer Science practice where I have consulted on numerous projects, many relating to opto-mechanical device development, implementation, and function. I have worked for Exponent since January 2012. Throughout my career, I have built and utilized hundreds of electrical, electromechanical, laser, optical, and LED systems for myriad applications.

6. I hold an S.B. in electrical engineering and an S.M. in electrical engineering and computer science from the Massachusetts Institute of Technology, granted in 1987 and 1989, respectively. I also hold an Electrical Engineer degree from the Massachusetts Institute of Technology, which was granted in 1991. Throughout my graduate studies, I taught courses concerning electromagnetic field and wave theory and applications, including optical systems.

7. In 1995, I was granted a Ph.D. in physics and electrical engineering from the Massachusetts Institute of Technology. During research for my PhD, I designed and built electro-optical instrumentation to diagnose and treat human pathologies, including various cancers and arterial diseases. During this work, I built several investigational medical devices that utilized optical catheters, the majority of which involved the use of optical fibers to deliver light to and collect light from locations within the body. I designed and manufactured custom optical fiber connectors, which often held several optical fibers, to interface these optical catheters with various diagnostic and therapeutic equipment. These systems were used at several locations such as the Cleveland Clinic Foundation, Leonard Morse Hospital, Massachusetts General Hospital, Leiden Hospital in Leiden, The Netherlands, and Erasmus University Medical Center in Rotterdam, The Netherlands.

8. I was a Senior Research Specialist at 3M Company's Telecommunications Systems Division where I developed passive optical components that addressed the telecommunications and sensor industries, which became the cornerstone of the 3M Optical Components business unit. I invented a direct-write laser machining technology for producing fiber gratings of arbitrary reflectivity profiles and lengths and utilized the method to make chromatic dispersion compensators for use in long-haul optical communications systems. I

led teams that developed and sold products throughout the world, such as specialty optical fibers, pump stabilizers, dispersion compensators, optical connectors, junction boxes, and Bragg gratings. Many of these components were tested extensively on our optical communications testbed, which I built and maintained. I was on the team that transferred the manufacturing of many of these devices to Singapore facilities.

9. I was Vice President of Research and Development at Raydiance, Inc., where I staffed and led the entire development team and designed and built high-power fiber laser systems capable of producing ultrashort pulses at ablation-level energies for use in laser machining and surgery. This work resulted in several recognitions and awards for the product and the corporation, including the Red Herring 100 North America Award and recognition as a finalist in the “Most Innovative Company” category in the 2008 American Business Awards. These laser systems utilized highly specialized optical fibers and optical fiber amplifiers that required innovative optical connections between the various optical fiber components.

10. I previously served as the Chief Science Officer at Prescient Medical, Inc., where I led the development of an optical catheter system for the diagnosis of coronary artery disease by utilizing Raman spectroscopy, which incorporated laser

light sources. Commercial multi-fiber connectors (MTP/MPO) were adapted to interface these optical catheters with custom spectroscopic equipment.

11. I have been an active researcher with more than 75 journal and conference papers and 5 book chapters published. I have been granted 34 United States patents, with others pending. At various times in my career, I have been a member of the Optical Society of America (“OSA”), the International Society for Optics and Photonics, and the Institute for Electrical and Electronics Engineers (“IEEE”). I was a committee member for OSA’s 2007 conference on optical fiber communications and also a committee member for OSA’s Bragg Gratings, Photosensitivity, and Poling topical conference for 1999, 2001, and 2003. I have been a regular reviewer for IEEE Photonics Technology Letters, as well as several other journals.

12. I am on the American National Standards Institute’s (“ANSI”) subcommittee for ANSI Z136.3 “Safe Use of Lasers in Health Care,” ANSI Z136.9, “Safe Use of Lasers in Manufacturing Environments,” and ANSI Technical Subcommittee 1 (TSC1), “Biological Effects and Medical Surveillance of the Accredited Standards Committee (ASC Z136) on Laser Safety.”

13. My *curriculum vitae* is filed herewith as EX1006.

D. Publications, Speeches, and Patents

14. A comprehensive list of publications and patents is included in my *curriculum vitae* filed herewith as EX1006.

E. Materials Considered

15. For purposes of this Declaration, I have reviewed and, where applicable, relied upon the information and/or teachings of the documents identified in the Table of Materials Considered following the Table of Contents above. I have used the same exhibit numbers for the same documents and the same list of exhibits for the Table of Materials Considered in both my first and second Declaration, regardless of whether the exhibit is required for both proceedings, for consistency and ease of use of my first and second Declarations by the Board.

16. I also base my opinions on my education and professional experience in the field of electrical engineering and electro-optics.

17. I confirm that, to the best of my knowledge, the accompanying exhibits are true and accurate copies of what they purport to be, and that an expert in the field would reasonably rely on them to formulate opinions such as those set forth in this Declaration.

II. LEGAL STANDARDS FOR INVALIDITY

18. I understand that in *inter partes* review proceedings, a patent claim is construed using the same standard that would be used in a civil action, and that a claim should be construed in accordance with the ordinary and customary meaning

of the claim as it would be understood by a person of ordinary skill in the art (“POSITA”).

19. While I am neither a patent lawyer nor an expert in patent law, I have been informed of the applicable legal standards for anticipation and obviousness. I have relied upon these legal principles, as explained to me by counsel, in forming my opinions set forth in this Declaration.

20. I understand that a patent may be deemed invalid based on anticipation or obviousness over the prior art. I understand that to anticipate a claim under 35 U.S.C. § 102, a prior-art reference must disclose each and every element of the claim.

21. It is my understanding that a patent can be found invalid for several reasons. It is my understanding that these reasons include, among others: (i) being anticipated by the prior art; or (ii) being obvious in view of the prior art. My understanding of each of these bases for invalidity is discussed in greater detail below.

22. In addition, I understand that objective evidence of non-obviousness such as (i) commercial success, (ii) long-felt but unresolved need, (iii) failure of others, (iv) skepticism by experts, and (v) unexpected results should also be considered in determining whether a claim would have been obvious, if relevant.

23. I understand that in undertaking an invalidity analysis, the claims are to be interpreted from the perspective of a POSITA.

A. Anticipation

24. I understand that one way to show that a patent claim is invalid is to show that the claim is anticipated by a prior-art reference. I understand this to mean that the patent claim is not new or novel in view of the prior art.

25. I further understand that to determine whether a prior-art reference anticipates a patent claim requires a comparison of the claim language to the prior art on a limitation-by-limitation basis. I have been informed that a prior-art reference “anticipates” under 35 U.S.C. § 102 and renders a patent claim invalid if all of the claim’s limitations are expressly or inherently disclosed in that single prior-art reference. The disclosure in the prior-art reference does not have to use the same words as the claim, but all of the requirements of the claim must be expressly or inherently present.

26. I have been informed of the scope of prior art that can be used in an anticipation analysis as set forth in 35 U.S.C. § 102. In particular, I understand that a patent or publication generally qualifies as prior art to an asserted patent claim if it was published prior to the invention of the asserted patent claim or more than one year before the filing date of the application of the asserted patent. I further have been informed that a patent issued on a patent application filed before the

invention of the asserted patent claim also is generally prior art to the asserted patent claim. I am aware some exceptions may apply based on, *e.g.*, the same inventors of the asserted patent being the inventors of a prior-art reference.

27. I understand that a prior-art reference anticipates a patent claim when the claim limitations not expressly found in that reference are nonetheless inherent in it. I understand that express disclosure means that the subject matter is clearly described in the prior-art reference.

28. I understand that when a limitation is inherent in the prior-art reference, that limitation is not clearly described in the prior-art reference, but is a natural result flowing from the explicit disclosure of the prior art. I understand that for a claimed element to be inherently present within a prior art document, it must be necessarily present. That is, the prior-art reference must necessarily function in accordance with, or include, the claimed element. I understand that inherency may not be established by probabilities or possibilities—the mere fact that a certain thing may result from a given set of circumstances is not sufficient.

29. I understand that in some cases, the inherent property corresponds to a claimed new benefit or characteristic of a purported invention otherwise in the prior art. I further understand that when a prior art method is at issue, the inherent anticipation examines the natural and inherent results in that method without

regard to the full recognition of those benefits or characteristics within the art field at the time of the prior art disclosure.

B. Obviousness

30. I have been informed that a patent claim is invalid as being obvious in view of the prior art if the differences between the patented subject matter and the prior art are such that the subject matter as a whole would have been obvious at the time of the invention to a person having ordinary skill in the art. *See* 35 U.S.C. § 103. In making a determination of obviousness, I understand that the following factors are analyzed: (i) the scope and content of the prior art; (ii) the differences, if any, between the prior art and the claims at issue; (iii) the level of ordinary skill in the pertinent art; and (iv) objective evidence of non-obviousness, if any exists.

31. I have been informed that any of the following rationales are some of the acceptable bases for the conclusion that a claim is obvious: (i) the claimed invention is simply a combination of prior art elements according to known methods to yield predictable results; (ii) the claimed invention is a simple substitution of one known element for another to obtain predictable results; (iii) the claimed invention uses known techniques to improve similar devices (methods, or products) in the same way; (iv) the claimed invention was “obvious to try” because it was a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; (v) there is known work in one field of endeavor

that may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces, if the variations would have been predictable to a POSITA; or (vi) there is some teaching, suggestion, or motivation in the prior art that would have led a POSITA to modify the prior-art references or to combine prior-art reference teachings to arrive at the claimed invention.

32. I have been informed that in order for a patent claim to be considered obvious, at the time the invention was made, each and every limitation of the claim must be present within the prior art, or within the prior art in combination with the general knowledge held by a POSITA, and that such a person would have a reasonable expectation of success in combining these teachings to achieve the claimed invention. I also understand that the reason to select and combine features, the predictability of the results of doing so, and a reasonable expectation of success of doing so may be found in the teachings of the prior art themselves, in the nature of any need or problem in the field that was addressed by the patent, in the knowledge of a POSITA in the field at the time, as well as in common sense or the level of creativity exhibited by a POSITA. There need not be an express or explicit suggestion to combine references.

33. I understand that substituting one known element for another known element would have been obvious when it leads to reasonably predictable results.

34. I understand that a combination of elements would have been obvious when a POSITA has a good reason to pursue the combination, which is among a finite number of known options within his or her technical grasp, and leads to reasonably expected results.

35. A prior-art reference can be said to teach away when a POSITA would be discouraged from following the path set out in the reference or would be led in a direction divergent from the path that was taken in the claimed invention. The mere disclosure of more than one alternative does not constitute a teaching away from alternatives that are not disclosed when the prior art does not criticize, discredit, or otherwise discourage the solution claimed in the alleged invention. Similarly, a prior-art reference that merely expresses a general preference for an alternative invention does not teach away.

36. I have relied upon this understanding of the applicable legal standards in reaching my opinion set forth in this Declaration.

C. Miscellaneous

37. I understand that Petitioner has the burden of proving unpatentability by a preponderance of evidence, which means that the claims are more likely than not to be unpatentable.

38. I also understand that the claims are to be construed according to the same claim construction standard that district courts use wherein claim terms are

given their ordinary and customary meaning from the perspective of a POSITA at the time of the invention.

39. The analysis in this Declaration is in accordance with the above-stated legal principles.

III. LEVEL OF ORDINARY SKILL IN THE ART

40. I understand that the level of ordinary skill may be reflected by the prior art of record and that a POSITA to which the claimed subject matter pertains would have the capability of understanding the scientific and engineering principles applicable to the pertinent art.

41. I understand that there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

42. I am very familiar with the knowledge and capabilities that a POSITA would have possessed in the subject area in fiber optics. Specifically, my education and experience in the industry and with engineers practicing in the industry during the relevant time period allowed me to become personally familiar with the knowledge and capabilities of a person of ordinary skill in the area of fiber optics. Unless otherwise stated, my testimony below refers to the knowledge of a POSITA

in the field of fiber optics at the time of the priority date of the '369 patent, which I understand is July 14, 2017.

43. In my opinion, a POSITA 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 five years) designing fiber optic connectors in lieu of a formal degree.

44. I believe such a POSITA would have been capable of understanding the '369 patent and the prior-art references discussed herein. This level of skill in the art would apply at the earliest priority date of the '369 patent, which I understand is July 14, 2017.

45. Based upon my education, training, and professional experience in the field of the claimed invention, I am familiar with the level and abilities of a POSITA at the time of the claimed invention. Additionally, although my qualifications exceed those of the hypothetical POSITA defined above, my analysis and opinions regarding the '369 patent have been rendered from the perspective of a POSITA at the time of the invention.

46. My analysis is intended to reflect how a POSITA would have understood the '369 patent claims as of the priority date, even if I use the present tense.

IV. BACKGROUND OF THE TECHNOLOGY

47. My discussion of the background of the technology is intended to provide some context for my later analysis of the '369 patent and prior art. This discussion provides a high-level overview of the components, but it is not intended to reflect the meaning of any particular claim term in a patent, which must be assessed in view of the specification and the context of the claim language. Rather, this is a general overview of fiber optic cables, connectors, adapters, and other components. The technology at issue generally relates to fiber optic connectors of the type commonly used in data centers. Optical fiber has been used for a variety of applications, including but not limited to, broadband voice, video, and data transmission.

A. Data Centers

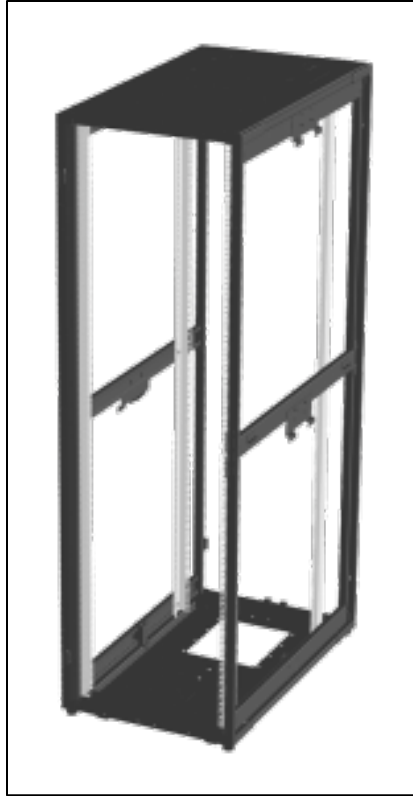
48. Public and private fiber optic networks used for, *e.g.*, voice, video, and data transmissions often include fiber optic equipment located in data distribution centers or central offices. The '369 patent generally relates to details of the optical fiber connectors, which are used to connect optical fibers to equipment or other optical fibers, thus creating an optical fiber interconnection.

49. A data center is a facility that houses data storage and/or communication equipment used to provide a variety of services, including, for example, digitally housing Internet sites. *See* EX1014, 2939.



Organization of an example data center. *See* EX1014, 2940.

50. Data centers use “racks” to mount electrical and optical fiber interconnection equipment, a row of which is shown above. *See* EX1014, 2940. A rack is an open structure for mounting electrical or electronic equipment, including servers, switches and storage “bricks”. Equipment is typically fastened to racks via mounting holes on the sides of the rack. The figure below shows a typical rack that may be found in a data center.



Example of a generic 19” rack that may be used in a data center. EX1016.

51. A rack unit or a “U” is a measurement of vertical space within a rack. See EX1014, 2940. For example, a base rack unit (*i.e.*, the height measurement) is 44.45 millimeters (1.75”), and a standard rack can take 42 1U modules.

52. Enclosures, chassis, or frames that are mounted to a rack in a data center can aid in further compartmentalization of racks and can be configured to house equipment for connecting fiber optic cables. An example of an enclosure used to house equipment for connecting fiber optic cables is shown below.

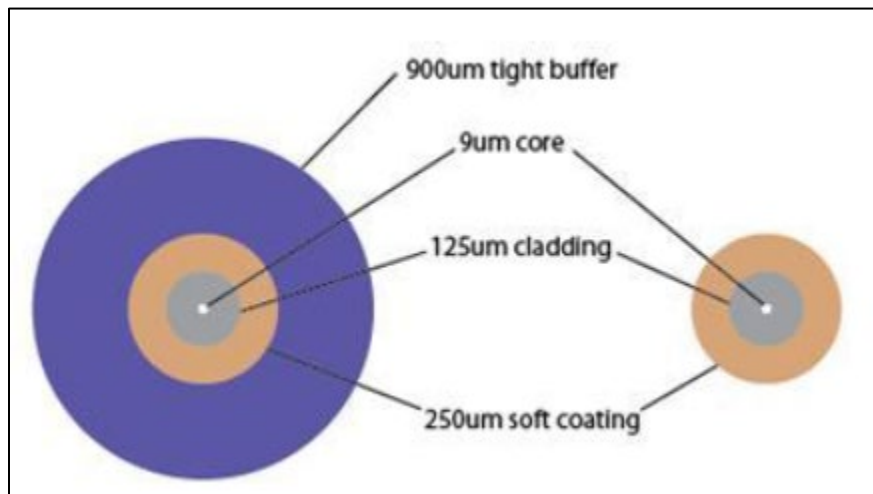


Example of an enclosure to house equipment for connecting fiber optic cables.
EX1017.

53. Maximizing use of physical space is important for optimizing costs of operating and maintaining data center infrastructure. The fiber optic equipment typically included in housings that are mounted in equipment racks generally seek to provide a greater density of interconnections to optimize use of space. When additional bandwidth is needed or desired, additional fiber optic equipment may be utilized in the data center to increase optical fiber port count, requiring more equipment rack space in a data center. Therefore, there is generally a desire to decrease the size (cross-sectional area) of the components that facilitate fiber optic connections. Certain types of optical connectors can aid in facilitating signal transmission while reducing physical space consumption.

B. Optical Fiber Connector Technology

54. In general terms, a fiber optic cable and assembly contain one or more optical fibers that are used to guide light signals through a silica glass fiber that is typically coupled to a transmitter on one end that converts electrical information into optical signals and a receiver on the other end that converts optical information into electrical information. The fiber itself is composed of a core, that transmits light, a cladding, the next adjacent layer that confines the light within the core, and additional non-optical layers. The figure below shows an example of a common fiber core and cladding ratio, with and without a protective buffer used in optical communications.



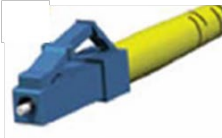
Examples of common fiber cores and cladding diameters coated or uncoated. See EX1013, 5.

55. Optical fibers and connectors themselves are generally small and compact. Additionally, fiber optic cables can include a varying number of optical fibers. Fiber optic connectors and adapters can be used to facilitate the connection

of two optical fibers. While there are several methods of connecting fiber optic cables, physical contact connectors are most relevant to the '369 patent. Physical contact connectors employ a ferrule surrounding an embedded optical fiber. By physically pressing two ferrules together, an optical connection between two optical fibers can be created. A component, oftentimes a spring, is utilized to provide axial compliance when ferrules are pressed together and to ensure contact is maintained during use. *See* EX1015, 8. Fiber optic connectors and adapters can be a fast, efficient, and low-cost way to connect fiber optic cables, allowing for demountable connections. There are numerous options for fiber connectors, with variability in orientation, size, and mechanical components that engage the connection. *See* EX1015, 9.

56. In the context of this matter, fiber optic adapters (sockets) receive and mate those fiber optic connectors to support one or more fiber optic connections. Fiber optic adapters may come in different shapes, but they are all typically designed to achieve the same function—to join and align the connectors of two fiber optic cables. The two fiber optic cables may have one or more fiber ferrule(s) to house all the fibers in each cable, and thus connecting the two fiber optic cables is accomplished by mating the respective ferrules. A fiber optic adapter allows fiber optic cables to be attached to each other through different interfaces, allowing many devices to communicate at once.

57. Fiber optic connectors and adapters come in different standard forms and can be used to support connections of different numbers of optical fibers. For example, LC connectors terminate one or more optical fibers each in individual ferrules whereas MPO (Multi-Fiber Push-On/Pull-Off) connectors can terminate a greater number of fibers in a single ferrule. *See* EX1015, 9. Both LC and MPO connectors are described in various recognized industry standards (*e.g.*, IEC 61754-20 Fibre Optic Connector Interfaces – Part 20: Type LC Connector Family and IEC-61754-7, Fiber Optic Connector Interfaces – Part 7: Type MPO connector family). MTP® is a type of MPO connector developed by US Conec (Petitioner). Fiber optic adapters can also be designed to connect a plurality of discrete fiber optic adapters, or one or more multi-fiber connectors. The figure below shows some common connector types.

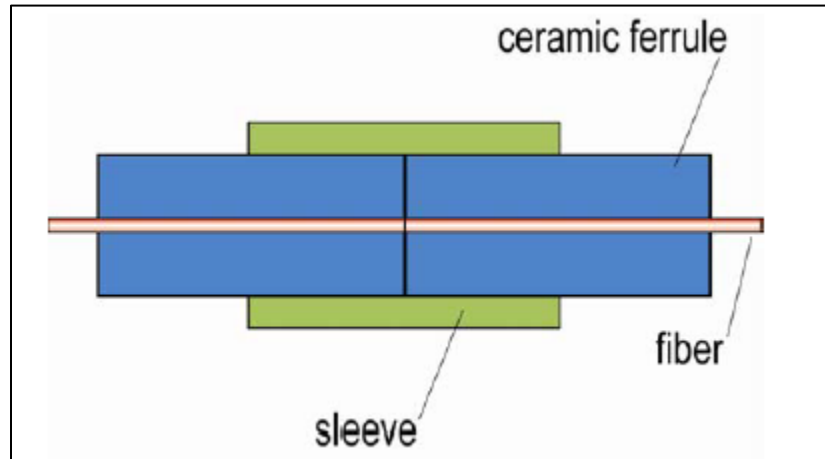
Common Connector Type	Diagram	Ferrule Size
FC - Ferrule Connector		2.5 mm
LC - Lucent Connector		1.25 mm
SC - Subscriber Connector		2.5 mm
ST – Straight Tip Connector		2.5 mm
MPO – Multi-Position Optical (also called MTP)		-

Common fiber optic connectors. *See* EX1015,9; EX1018.

58. The key aspect to a fiber connection is the precise alignment of each fiber core for proper light coupling. The fiber core itself is extremely small in diameter, often as small as or smaller than 10 μm . A fiber connector needs to provide precise alignment of the fiber cores to ensure proper signal coupling.

59. Alignment is often achieved using a “butt-joint alignment” mechanism in which the ferrule both secures and aligns the fiber. Inside each fiber optic adapter is typically an alignment sleeve that serves to bring together the mating single-fiber ferrules of the two connectors, as shown in the figure below.

Additionally, as mentioned previously, oftentimes springs are utilized to provide axial compliance when ferrules are pressed together and to apply a compressive force for ensuring contact is maintained during use.



Physical connection between two joined fibers. *See* EX1015, 8.

V. U.S. PATENT NO. 11,307,369

A. Overview and Background

60. U.S. Patent No. 11,307,369 (EX1001) (the “’369 patent”), entitled “Ultra-Small Form Factor Optical Connectors Used As Part Of A Reconfigurable Outer Housing,” issued on April 19, 2022, was filed as U.S. Patent Application Serial No. 17/370,057 (the “’057 Application”) on July 8, 2021. The ’369 patent is a continuation of U.S. Patent Application Serial No. 17/327,197 filed on May 21, 2021 (now U.S. Patent No. 11,340,413), which is a continuation of U.S. Patent Application Serial No. 17/090,855 filed on November 5, 2020 (now U.S. Patent No. 11,487,067), which is a continuation of U.S. Patent Application Serial No. 16/414,546 filed on May 16, 2019 (now U.S. Patent No. 10,859,778), which is a

continuation of U.S. Patent Application Serial No. 16/388,053 filed on April 18, 2019 (now U.S. Patent No. 11,169,338), which is a continuation of U.S. Patent Application Serial No. 16/035,691 filed on July 15, 2018 (now U.S. Patent No. 10,281,668), which claims priority to U.S. Provisional Application No. 62/588,276 filed on November 17, 2017, which claims priority to U.S. Provisional Application No. 62/549,655 filed on August 24, 2017, which claims priority to U.S. Provisional Application No. 62/532,710 filed on July 14, 2017. Based on the above, the earliest priority date for the '369 patent is July 14, 2017.

61. The '369 patent generally discloses a fiber optic connector for holding one or more optical ferrule assemblies. EX1001, Abstract. The '369 patent explains that “[t]he prevalence of the Internet has led to unprecedented growth in communication networks,” and so “network providers [seek] to continuously find ways to improve quality of service while reducing cost.” EX1001, 1:40-44. The patent describes that while some developments have increased the volume of interconnections there is “room for improvement in the area of data centers, specifically as it relates to fiber optic connections.” EX1001, 1:45-53.

62. The '369 patent admits “manufacturers of connectors and adapters are always looking to reduce the size of the devices, while increasing each of deployment, robustness, and modifiability after deployment.” EX1001, 1:53-56. It explains that “more optical connectors may need to be accommodated in the same

footprint previously used for a smaller number of connectors in order to provide backward compatibility with existing data center equipment.” EX1001, 1:56-60.

The background of the patent further describes “numerous interconnections between mating connectors may be compacted into high-density panels” and that “producers may optimize for such high densities by shrinking the connector size and/or the spacing between adjacent connectors.” EX1001, 2:7-11.

63. The patent explains that reducing the size of the connectors and/or spacing between adjacent connectors can create problems such as increasing the support cost, diminishing the connection quality, obstructing the release mechanisms of the connectors, and increasing the stress to the fiber optic cables. *See* EX1001, 2:11-39. The patent thus generally seeks connectors, adapters, and other assemblies that address these problems. *See, e.g.*, EX1001, 22:11-12.

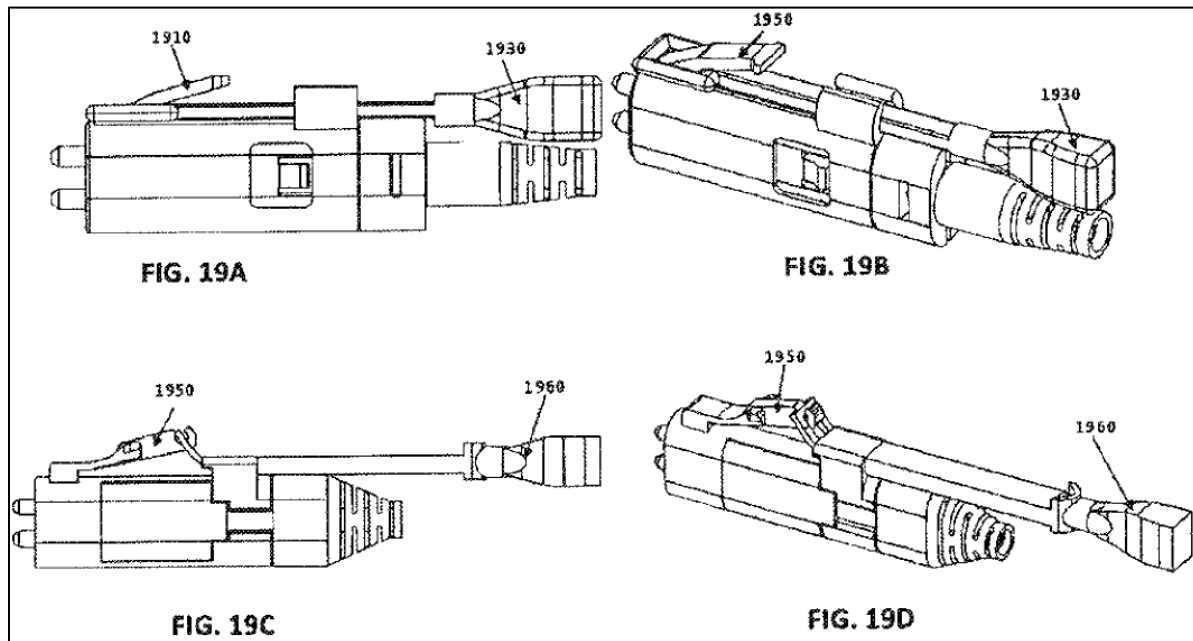
B. Discussion of Certain Embodiments

64. The '369 patent includes 69 figures, many of which are directed to entirely different embodiments of fiber optic connectors, adapters, aspects of the release assembly, and the fiber optic cable assemblies. *See generally* EX1001, 2:61-5:41, FIGS. 1-69.

65. I have reviewed and considered the full specification and each of the disclosed embodiments in the '369 patent, and it appears to me the embodiments in Figures 18A-18B and Figures 19A-19D are generally more pertinent for the claims

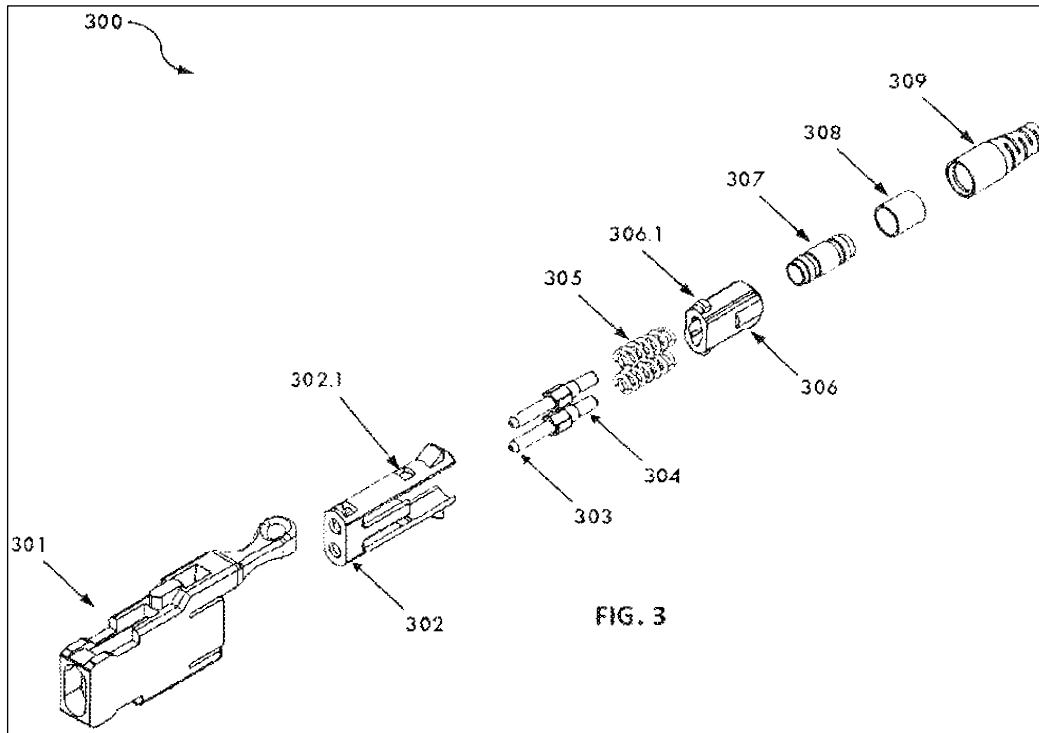
in the '369 patent, and so I will discuss the embodiments shown in these figures in more detail.

66. Figures 19A-19D are reproduced here for convenience.



EX1001, FIGS. 19A-19D.

67. Figures 19A-19B show one embodiment and Figures 19C-19D depict another embodiment. Both of these embodiments involve a dual-ferrule optical connector with a push-pull tab 1930, 1960. EX1001, 12:38-46. The patent explains that the embodiments of Figures 19A-19D are distinct from the embodiment of Figures 3, reproduced below, because the push-pull tab 1930, 1960 is “not integrated with the optical connector housing.” EX1001.



EX1001, FIG. 3.

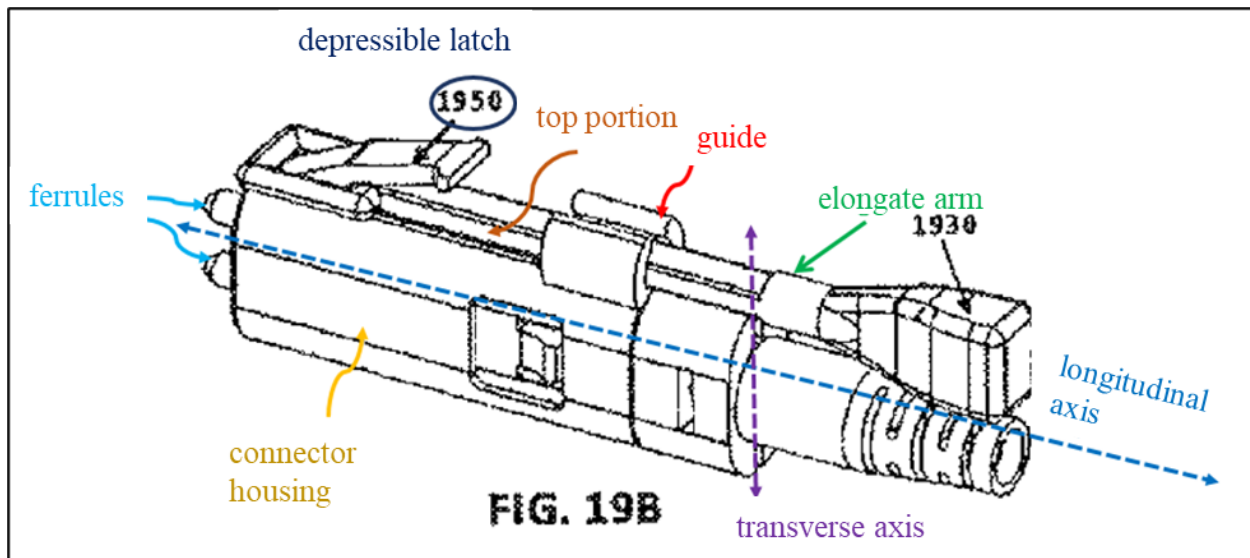
68. Regarding the embodiment of Figures 19A-19B, the patent explains the push-pull tab 1930 can actuate a latch 1910 “for inserting and extracting the connector from an adapter or transceiver.” EX1001, 12:42-44.

69. Regarding Figures 19C-D, the patent explains that it shows an alternative latching mechanism wherein “[l]atch 1950 includes a notch that is actuated by push-pull tab 1960.” EX1001 12:45-46.

70. I do not see any other description in the specification regarding these two embodiments.

71. I have reviewed the Complaint filed by Patent Owner (Senko Advanced Components) asserting Petitioner (US Conec) infringes the '369 patent. *See generally* EX1020. In particular, I have reviewed Exhibit I of the Complaint.

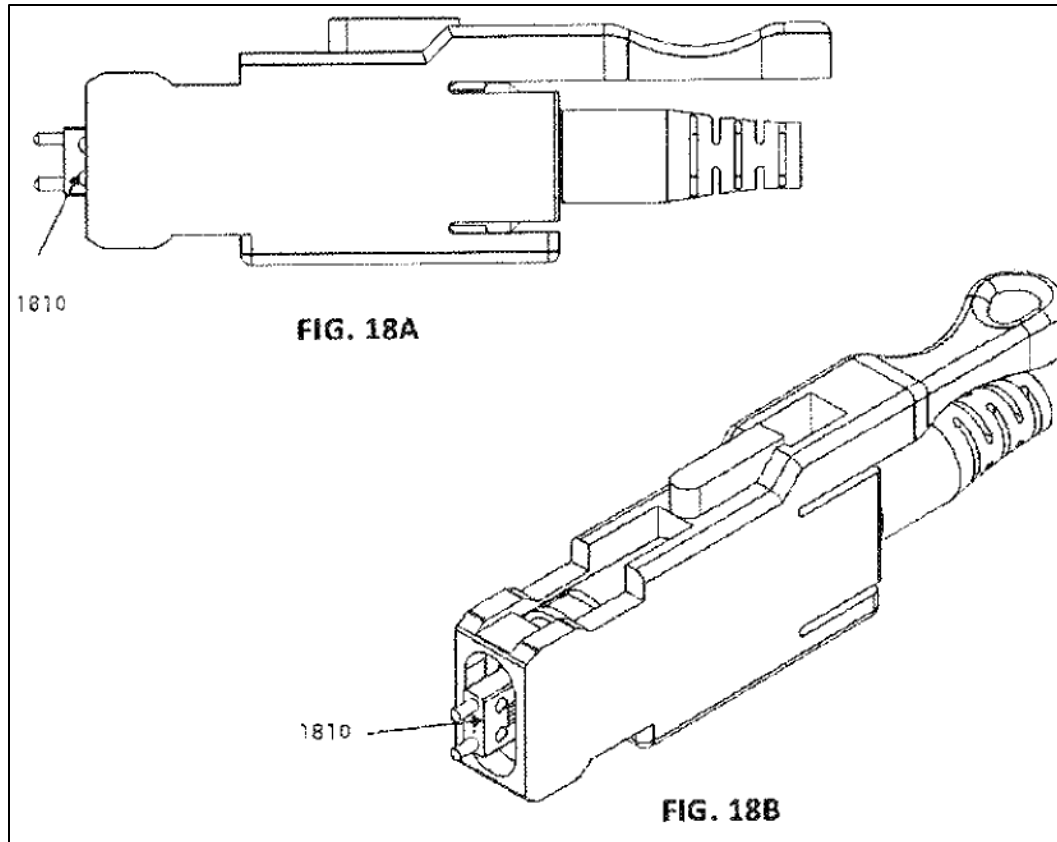
See EX1007. While I do not take a position here about whether the claims of the '369 patent are supported by the written description of the '369 patent, nor a position about whether the claims are enabled, based on how Patent Owner has asserted these claims against Petitioner, it appears to me that Figure 19B aligns with the components recited in claim 1 as follows.



EX1001, FIG. 19B (annotated¹).

72. There does not appear to be an express disclosure in the '369 patent of a fiber optic connector that includes a “multi-fiber ferrule” in addition to the other claimed elements of claims 23 and 39. However, Figures 18A-18B of the '369 patent involve an embodiment with an MT ferrule.

¹ All color annotations to figures in this declaration are added unless otherwise noted.



EX1001, FIGS. 18A, 18B (showing an MT ferrule 1810).

73. I know that the MT ferrule is a product made by Petitioner (US Conec). It certainly pre-dated the '369 patent, as I recall MT ferrules at least in the mid-1990s, as shown by Sayegh. EX1019, 4:55-58 (“An example of a suitable multi-fiber connector is an MT ferrule type connector that may be obtained from U.S. Conec Ltd. of Hickory, N.C.”). For another example, authors from US Conec and Tyco Electronics released a white paper about MT ferrules in 2006, illustrating they were well-known over a decade prior to the '369 patent. *See* EX1008. Further, there are other prior-art references in this declaration that also disclose using MT ferrules in fiber optic connectors. *See* EX1003, ¶50; EX1005, ¶28.

C. Summary of Relevant Prosecution History

74. I have reviewed the file history of the '369 patent. For purposes of this Declaration, I summarize below certain parts of the file history that I reviewed. I also received input of counsel in conjunction with this review, who explained the relevant patent law.

75. U.S. Application No. 17/370,057 (the "'057 Application") was filed on July 8, 2021. As filed, the '057 Application included thirty (30) claims, with claims 1 and 18 as the only independent claims. *See* EX1002, 0093-97. A Track One request was filed with the '057 Application. *See* EX1002, 0003.

76. The Applicant appears to have cited over 400 references in Information Disclosure Statements (IDSs) before any Office Actions were issued. *See* EX1002, 0178-81, 0203-886.

77. The first, and only, Office Action issued on November 11, 2021. *See* EX1002, 0231-39. The Office Action rejected the only pending independent claims and various dependent claims under 35 U.S.C. § 102(a)(1) as being anticipated by U.S. Patent Application Publication No. 2017/0343740 to Nguyen. *See* EX1002, 0233-35. The Office Action rejected two additional dependent claims as being obvious to a POSITA based on Nguyen alone. EX1002, 0235.

78. The November 5, 2021, Office Action then indicated that various originally filed dependent claims were allowable. EX1002, 0236. In particular, the

Office Action noted that the following limitations, in combination with the limitations in the independent claim and intervening dependent claims, were not present in the prior art:

- “the connector housing comprises a guide connecting the elongate arm to the optical fiber connector”;
- “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”;
- “a push/pull tab extending from the rear end portion of the elongate arm”; and
- “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”

See EX1002, 0236.

79. I observe the Office Action then provided the following statement:

The submission of voluminous documents in the instant information disclosure statements, including numerous documents that do not appear to relate to the claimed limitations, make it difficult, and likely impossible, for the Patent Office to fairly assess applicants' application against the prevailing statutory criteria.

The 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, or parts of the references, are material to applicants' claimed invention. It is noted that applicants, in their several IDS submissions, do not indicate any particular reference or parts of references which they deem "material" to the patentability of the pending claims under 37 CFR 1.56(b).

Applicants are reminded of the standard set forth in the leading inequitable conduct case of *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 223 USPQ 1089 (Nov. 9, 1984), cert. denied, 106 S.Ct. 73 (1985): Where none of the prior art cited during prosecution teaches a key element of the claim(s) and where a reference known to the applicants does, the applicants should know that reference is material. Thus, if applicants are aware of any cited reference from among the information disclosure(s) of **the 47 sheets** that are "material," applicants should make that reference known to the examiner.

It is also noted that a "misrepresentation is material if it makes it impossible for the Patent Office fairly to assess [the patent] application against the prevailing statutory criteria." In *re Multidistrict-Litig. Involving Forst Patent*, 540 F.2d 601, 604, 191 USPQ 241, 243 (3d Cir.

EX1002, 0237.

Application/Control Number: 17/370,057
Art Unit: 2874

Page 7

1976); see also *Monsanto Co. v. Rohm & Haas Co.*, 456 F.2d 592, 600, 172 USPQ 323, 329 (3d Cir.), cert. denied, 407 U.S. 934, 174 USPQ 129 (1972). And, 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 against the prevailing statutory criteria.

It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents which have been specifically brought to applicant's attention and/or are known to be of most significance. See *Penn Van Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 175 USPQ 260 (S.D. Fla. 1972), aff'd, 479 F.2d 1338, 178 USPQ 577 (5th Cir. 1973), cert. denied, 414 U.S. 874 (1974). But cf. *Molins PLC v. Textron Inc.*, 48 F.3d 1172, 33 USPQ2d 1823 (Fed. Cir. 1995). (See MPEP 2004 13).

EX1002, 0238.

80. In response to the allowable subject matter noted in the Office Action, the Applicant rewrote seven allowed dependent claims into independent form. *See* EX1002, 0297-304. The Applicant also added twelve (12) new dependent claims in this Amendment. *See* EX1002, 0297-304.

81. A Notice of Allowance issued on December 9, 2021. EX1002, 0309-17. No further substantive analysis or explanation was included. EX1002, 0309-17. The Examiner noted U.S. Patent No. 11,181,170 to Wong “discusses an optical connector from the same Assignee, Senko Advanced Components,” but it is not

clear what impact, if any, this reference had on the Examiner's analysis. EX1002, 0316.

82. The Applicant submitted additional claim amendments on February 1 and February 8, 2022, in a submission under 37 C.F.R. § 1.312. EX1002, 0344-51. The Examiner subsequently allowed these amendments and the patent issued on April 19, 2022. EX1001, Cover.

D. Claims of the '369 Patent

83. The '369 patent issued with 40 claims, of which claims 1, 20-23, 39, and 40 are independent claims. I reproduce the independent claims below for reference.

1. Declaration 1: Claims 1-22

a. Independent Claim 1 of the '369 patent

84. **Claim 1** recites:

[1pre] An optical fiber connector comprising:

[1.1] first and second optical fiber ferrules;

[1.2] 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 holding the first and second optical fiber ferrules such that the first and second optical fiber ferrules are exposed through the front end portion for making an optical connection and the first and second optical fiber ferrules are spaced apart from one another along the transverse axis,

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

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

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

EX1001, 24:28-47.

b. Independent Claim 20 of the '369 patent

85. **Claim 20** recites:

[20pre] An optical fiber connector comprising:

[20.1] first and second optical fiber ferrules;

[20.2] 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,

[20.3] the connector housing holding the first and second optical fiber ferrules such that the first and second optical fiber ferrules are exposed through the front end portion for making an optical connection and the first and second optical fiber ferrules are spaced apart from one another along the transverse axis;

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

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

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

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

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

[20.9] 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;

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

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

[20.12] wherein the depressible latch has an upper surface, the edge opposing the upper surface;

[20.13] 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.

EX1001, 25:40-26:14.

c. Independent Claim 21 of the '369 patent

86. **Claim 21** recites:

[21pre] An optical fiber connector comprising:

[21.1] first and second optical fiber ferrules;

[21.2] 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,

[21.3] the connector housing holding the first and second optical fiber ferrules such that the first and second optical fiber ferrules are exposed through the front end portion for making an optical connection and the first and second optical fiber ferrules are spaced apart from one another along the transverse axis,

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

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

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

[21.7] the optical fiber connector further comprising a push/pull tab extending from the rear end portion of the elongate arm.

EX1001, 26:15-38.

d. Independent Claim 22 of the '369 patent

87. **Claim 22** recites:

[22pre] An optical fiber connector comprising:

[22.1] first and second optical fiber ferrules;

[22.2] 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,

[22.3] the connector housing holding the first and second optical fiber ferrules such that the first and second optical fiber ferrules are exposed through the front end portion for making an optical connection and the first and second optical fiber

ferrules are spaced apart from one another along the transverse axis,

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

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

[22.6] wherein the connector housing includes a front body and a back body;

[22.7] 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.

EX1001, 26:39-61.

2. Declaration 2: Claims 23-40

a. Independent Claim 23 of the '369 patent

88. **Claim 23** recites:

[23pre] 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,

[23.3] 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.

EX1001, 26:62-27:16.

b. Independent Claim 39 of the '369 patent

89. **Claim 39** recites:

[39pre] 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.

EX1001, 28:1-47.

c. Independent Claim 40 of the '369 patent

90. **Claim 40** recites:

[40pre] 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.

EX1001, 28:48-29:5.

VI. CLAIM INTERPRETATION

91. I understand that in interpreting claims, I should consider the literal language of the claim at issue, as well as the language of other claims, the specification, and the prosecution history of the underlying claims.

92. I also understand that the words of a claim should be given their plain and ordinary meaning as understood by those of skill in the art, unless it is clear from the specification or prosecution history (or both) that a different meaning was intended.

93. I understand that Petitioner does not propose any claim constructions.

I agree that no constructions are necessary to determine whether the prior art discussed below establishes the elements recited in the claims.

VII. PRIOR ART

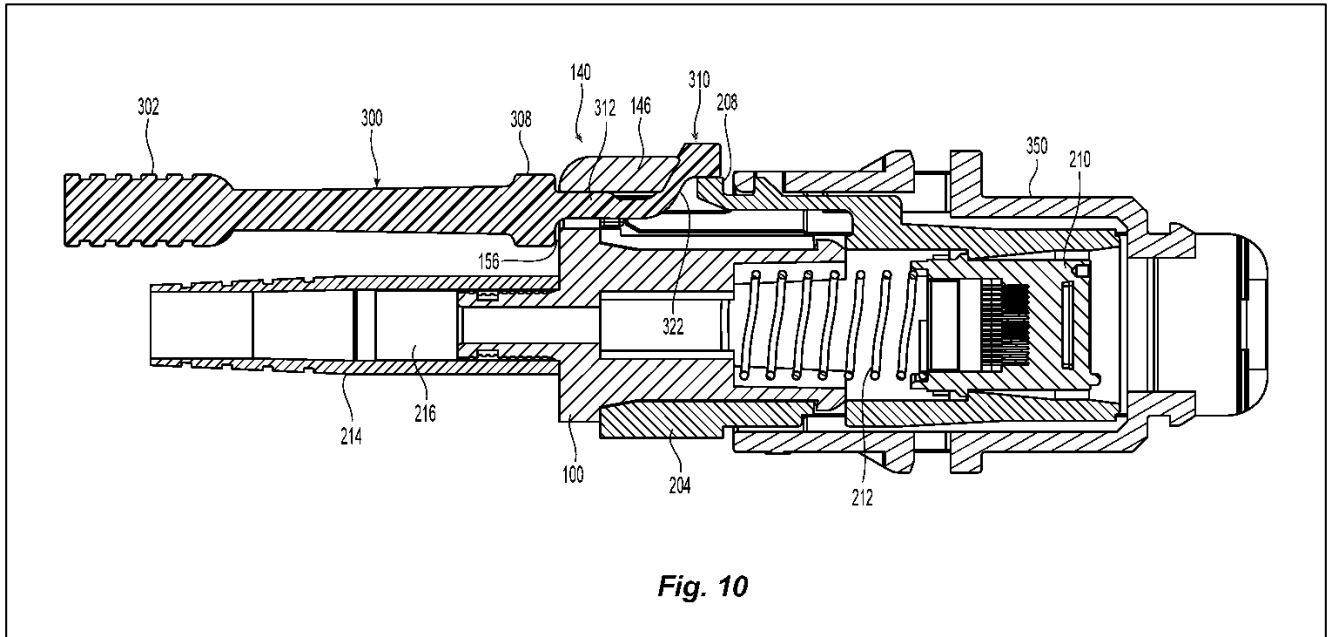
A. Overview of Nguyen

94. U.S. Patent Application Publication No. 2016/0238796 A1 is titled “Spring Push and Push-Pull Tab for Tightly Spaced Fiber Optic Connectors.” EX1009, Cover. The named inventors are Hiep V. Nguyen and Joseph P. Howard, and U.S. Patent Application Publication No. 2016/0238796 A1 (hereinafter “Nguyen”) was published on August 18, 2016. This patent publication is based on U.S. Application No. 15/047,501, which claims the benefit of U.S. Provisional Application No. 62/117,490, which was filed on February 18, 2015. EX1009, Cover.

95. I understand that Nguyen is prior art to the ’369 patent based on my knowledge, experience, discussion of the legal standards above, and discussions with counsel. In particular, I understand that Nguyen has a filing date prior to the earliest possible priority date of the ’369 patent (July 14, 2017), and so Nguyen qualifies as prior art at least for this reason.

96. Nguyen discloses a “spring push for a fiber optic connector” that “allows for fiber optic connectors to be installed and removed from adapters in

having a release handle 300. EX1009, ¶¶23, 24, 27, FIGS. 5-7, 10-12.



EX1009, FIG. 10.

¶26, FIG. 2.

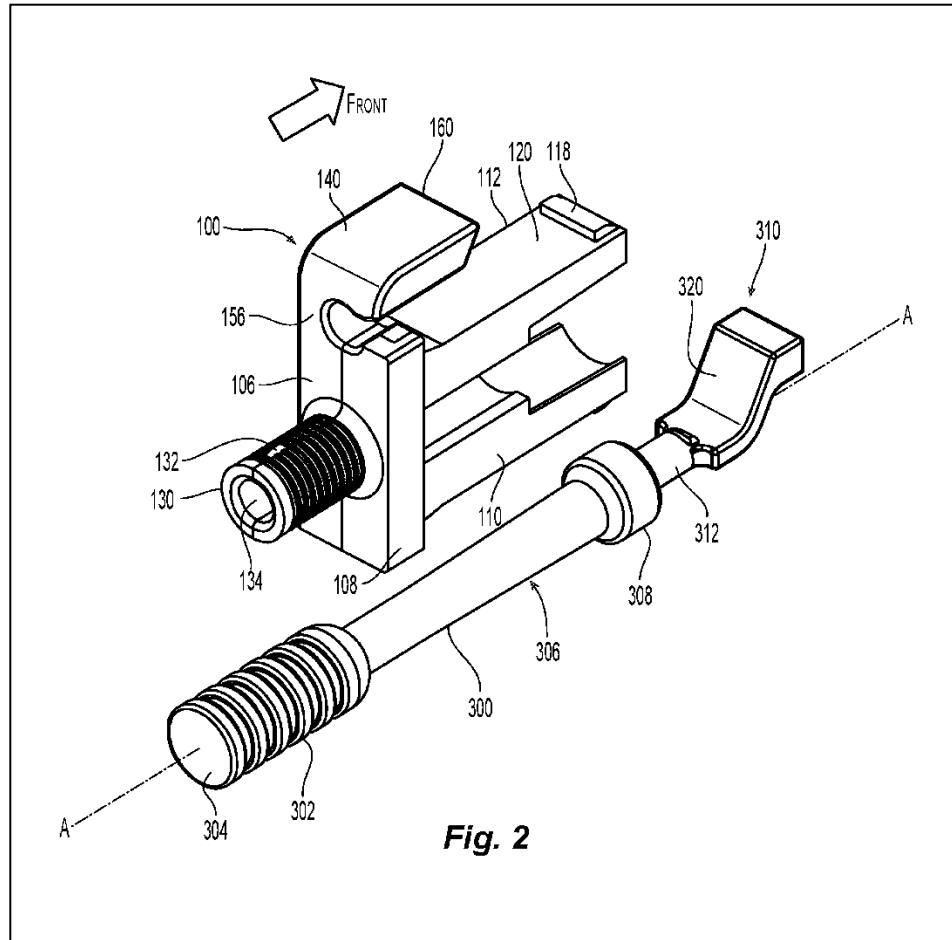
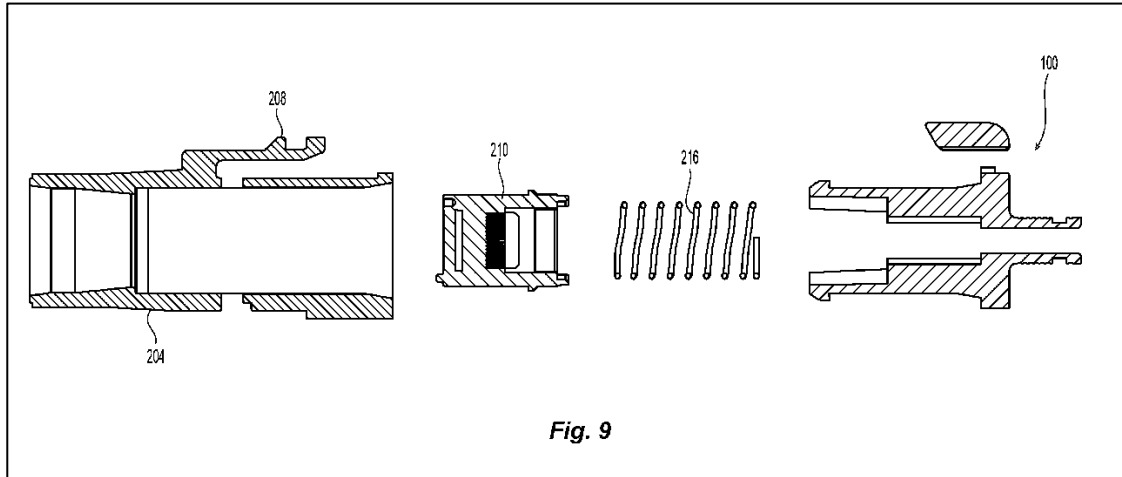


Fig. 2

EX1009, FIG. 2.

98. Nguyen further discloses that “the crimp portion [has] a central opening to allow optical fibers to pass therethrough.” EX1009, ¶3. Nguyen’s illustrated embodiment further comprises a single “fiber optic ferrule” 210. EX1009, ¶¶23, 33, FIGS. 9 and 10.



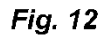
EX1009, FIG. 9.

99. From the shape of Nguyen’s single ferrule 210, and because Nguyen’s crimp portion 130 is configured to allow multiple optical fibers to pass there through as noted above, the 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 Figures 9 and 10.

100. Nguyen’s handle 300 comprises a “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 and 12.



EX1009, FIG. 8.



EX1009, FIG. 12.

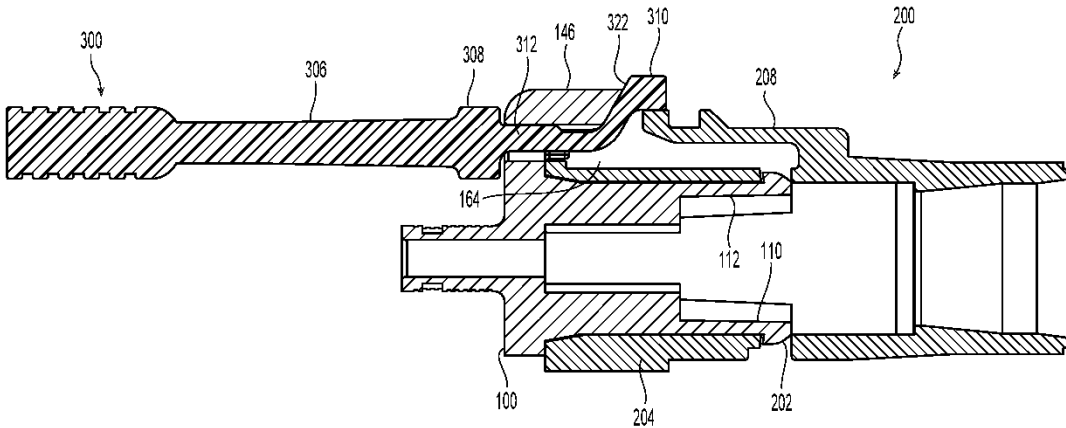
101. As shown above in Figure 12, “[t]he top surface 320 of the distal end 310 engages or touches the terminal surface 162 of the distal end 160 of second portion 146 while a bottom surface 322 engages or touches the latch 208.”

EX1009, ¶32. Nguyen goes on to describe how the handle 300 can be used to disengage the connector 200 from an adapter: “When an operator wants to remove a fiber optic connector with the spring push 100 and handle 300, the operator grasps the grasping portion 302 of the handle 300 at a first or proximal end 304 and pulls rearwardly (to the left in FIG. 9) [sic], and the handle 300 moves slightly rearwardly relative to the spring push 100 and engagement number 140. As a result, the top surface 320 engages the terminal surface 162 of the distal end 160 of second portion 146, which forces the distal end 320 [sic] of the handle 300 to move downward toward the spring push 100 and simultaneously on the latch 208.”

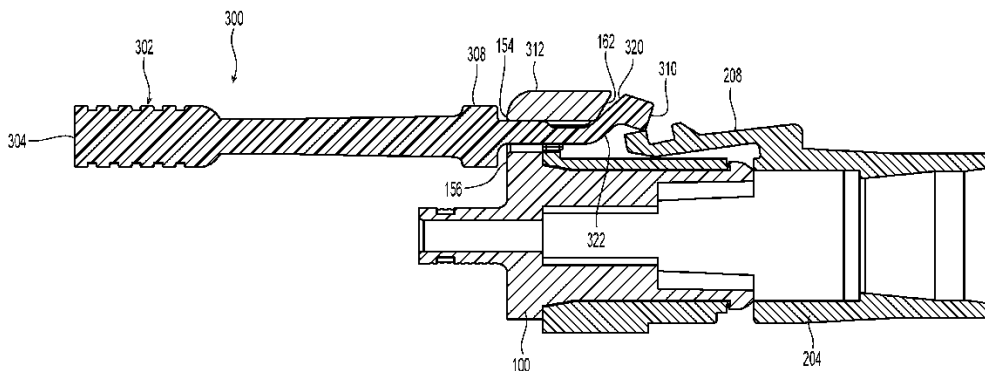
EX1009, ¶32.

102. The foregoing process can be observed in the drawings from the changes from Figure 11, 12, wherein the handle 300 moves to the left and, abutted by the second portion 146, the distal end 310 bends and depresses the latch 208.

EX1009, FIGS. 11, 12.



EX1009, FIG. 11.



EX1009, FIG. 12.

103. “The movement of the latch 208 from the distal end 320 is sufficient to allow the fiber optic connector 200 to be removed from the adapter with the handle 300.” EX1009, ¶32. Thus, pulling the handle 300 disengages the latch 208 from an adapter and allows the user to withdraw the connector 200.

B. Overview of Scherer

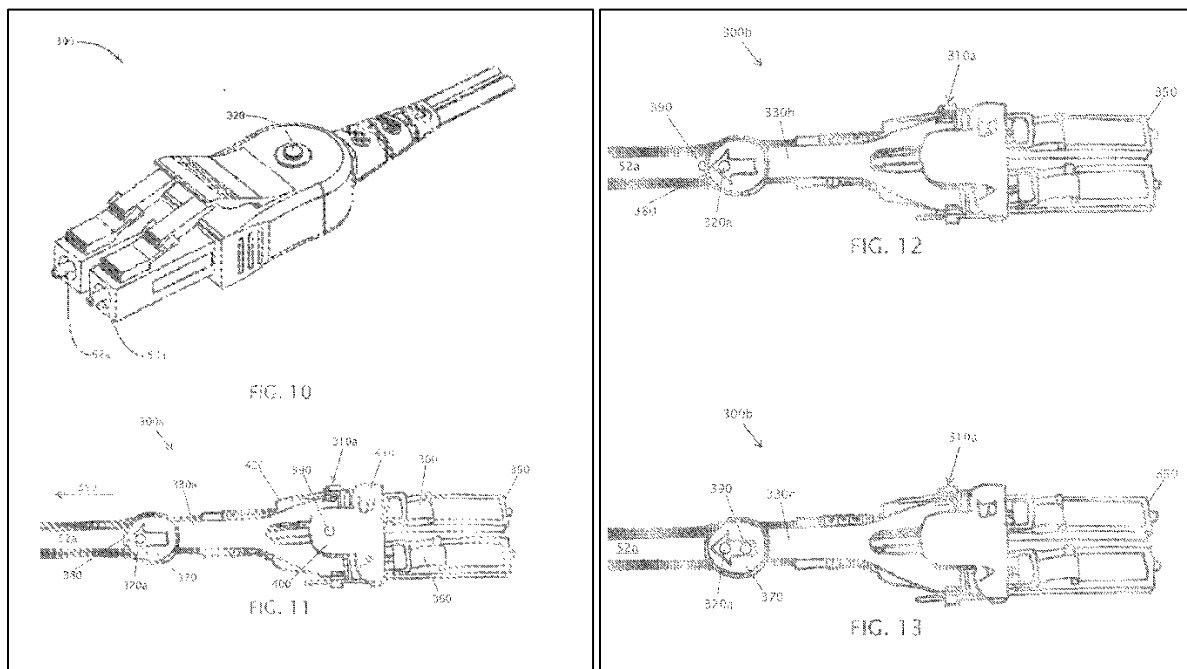
104. International Patent Application Publication No. 2015/027033 A1 is titled “Traceable Networking Cables with Remote-Release Connectors.” EX1003, Cover. The named inventors are Christopher B. Scherer and Jon Sholtis, and International Patent Application Publication No. 2015/027033 A1 (hereinafter “Scherer”) published on February 26, 2015. EX1003, Cover. This patent publication is based on International Application No. PCT/US2014/052040, which was filed on August 21, 2014. EX1003, Cover. This application claims benefit to U.S. Provisional Application No. 61/868,193 filed on August 21, 2013.

105. I understand that Scherer is prior art to the ’369 patent based on my knowledge, experience, discussion of the legal standards above, and discussions with counsel. In particular, I understand that Scherer has a filing date prior to the earliest possible priority date of the ’369 patent (July 14, 2017), and so Scherer qualifies as prior art at least for this reason.

106. Scherer relates to “traceable remote-release networking cables with telltales at their ends to facilitate tracing of the cables and their ends, such as, for example, in data rooms that can include hundreds of individual networking cables,” and within Scherer’s disclosure “[s]ome cables include conductive wire transmission line(s). Other cables include one or more fiber-optic transmission lines.” EX1003, Abstract. 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.

107. Scherer further explains that “FIGS. 11-14 depict various embodiments of cables 300a, 300b, 300c with fiber-optic cable connector hoods 310a, 310b, 310c” and “[e]ach of connector hoods 310a, 310b, and 310c can be configured in any of various ways.” 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.

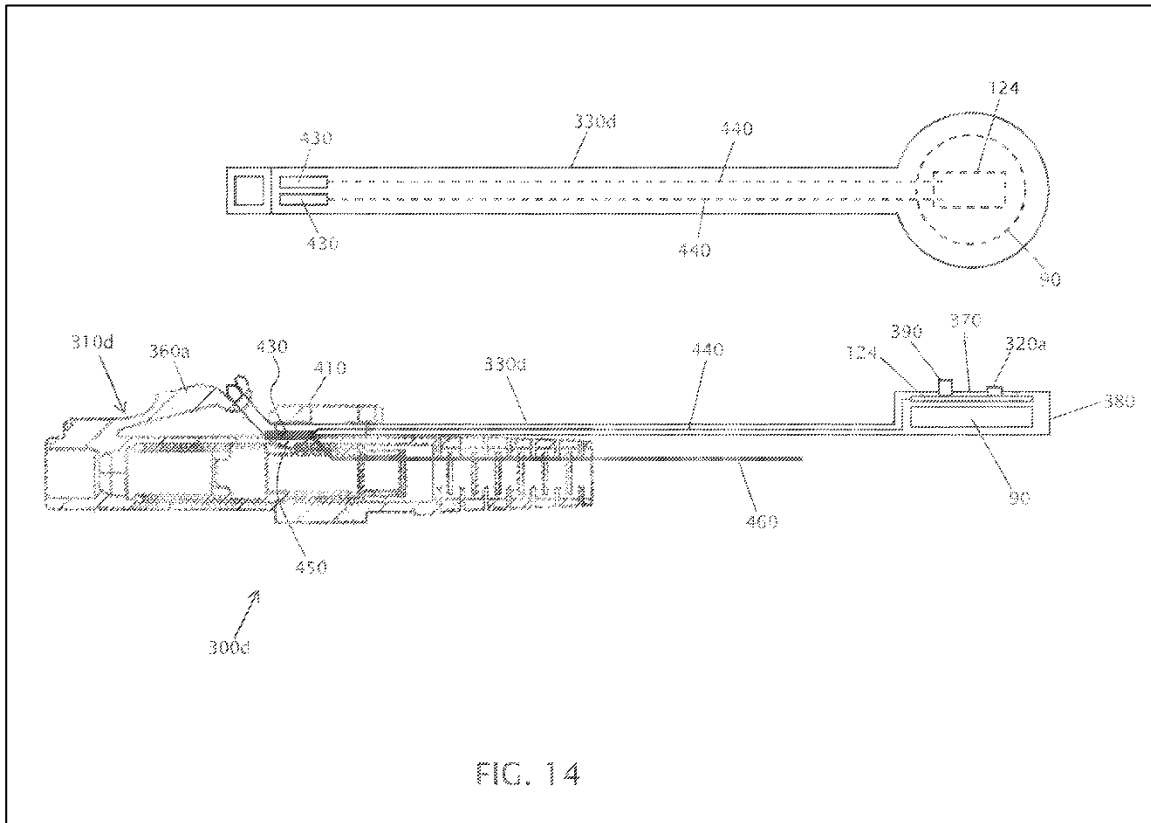


EX1003, FIGS. 10-13.

108. The 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.

109. Scherer discloses another embodiment wherein “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 [*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. (Because Scherer refers to a “cable 300d” three times and “extender 330d” in the same paragraph, a POSITA would understand that the foregoing reference to “extender 300 d” is a clerical error, and that the intended element is “330d”). EX1003, ¶54.

110. Scherer's connector hood 310d is depicted in Figure 14 below.



EX1003, FIG. 14.

C. Overview of Lin

111. U.S. Patent Application Publication No. 2017/0227720 A1 is titled “Fiber Optic Connector with Dual Multi-Fiber Ferrules, and Cable Assemblies and Systems Including the Same.” EX1005, Cover. The only named inventor is Yen Hsu Lin, and U.S. Patent Application Publication No. 2017/0227720 A1 (hereinafter “Lin”) was published on August 10, 2017. EX1005, Cover. This patent publication is based on U.S. Application No. 15/428,189, which was filed on February 9, 2017. EX1005, Cover. This application claims the benefit of U.S.

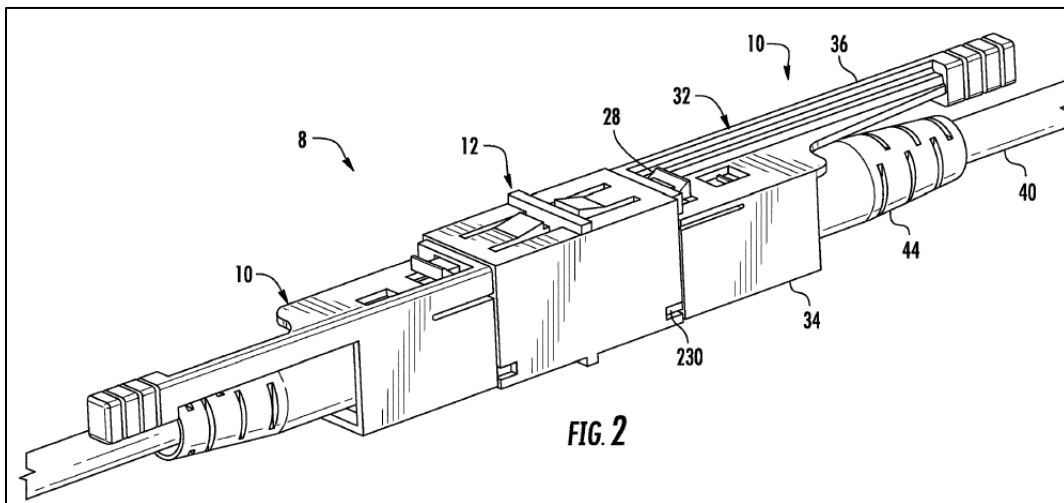
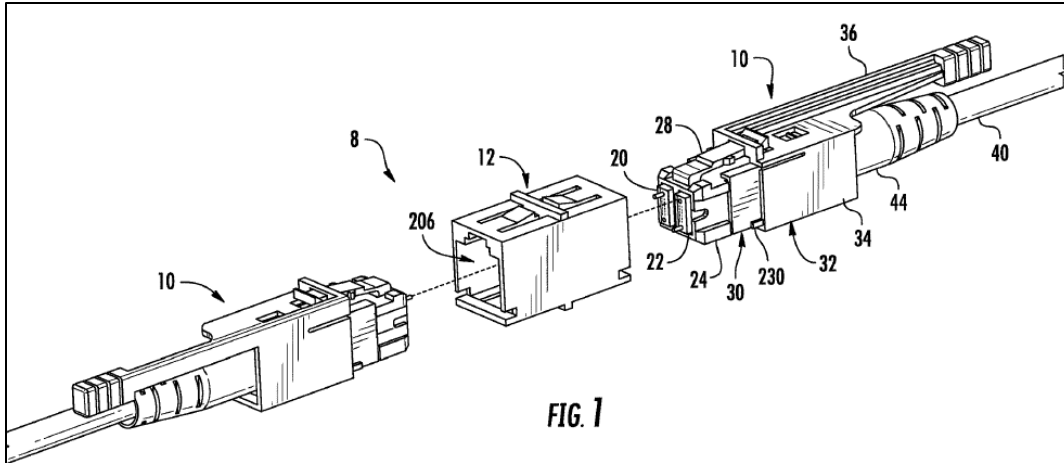
Provisional Application No. 62/389,436 filed on February 9, 2016. EX1005,
Cover.

112. I understand that Lin is prior art to the '369 patent based on my discussion of the legal standards above and discussions with counsel. In particular, I understand that Lin has a filing date prior to the earliest possible priority date of the '369 patent (July 14, 2017), and so Lin qualifies as prior art at least for this reason.

113. Lin explains the “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.

114. Lin provides background paragraphs that generally describe that a desire for high bandwidth tends to drive a need for a high-density of interconnects, and so smaller interconnects are desired that still maintain sufficient robustness and are not difficult to handle/install. *See* EX1005, ¶¶3-4.

115. Lin discloses a fiber optic connector system 8 that includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25. “The adapter 12 may be used to mate two of the connectors 10, as shown in FIG. 2.” EX1005, ¶25. Figures 1 and 2 of Lin show two fiber optic connectors 10 separated from the adapter 12 (Figure 1) and then connected to the adapter 12 (Figure 2).



EX1005, FIGS. 1-2.

116. Lin's fiber optic connector 10 includes a latch arm 28 that extends outwardly from an inner connector body 24. EX1005, ¶26. Lin discloses a handle 36 that is pulled rearward to depress the latch arm 28 toward the inner connector body 24. EX1005, ¶26. This operation allows the connector 10 to be removed from the adapter 12. EX1005, ¶26.

correspond to known connector designs. EX1005, ¶28. Lin discloses that “[f]or 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.” EX1005, ¶28.

D. Overview of Gniadek

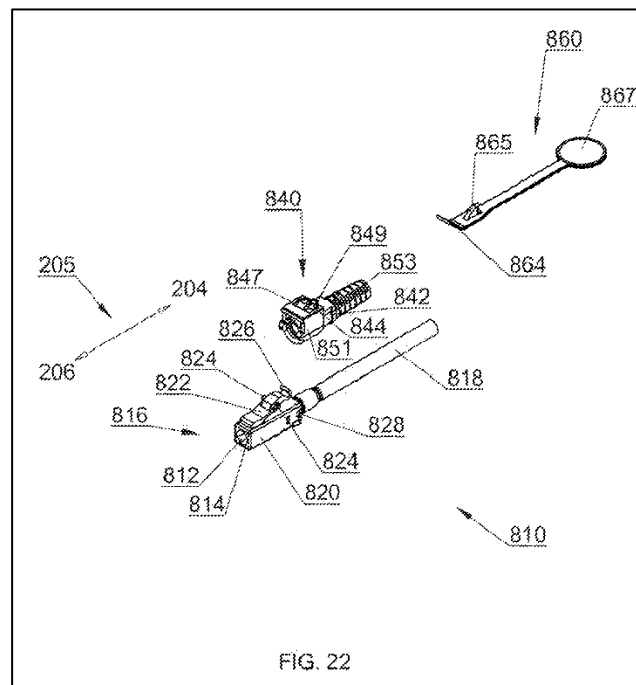
119. U.S. Patent No. 8,465,317 is titled “Latching connector with remote release.” EX1010, Cover. The named inventors are Jeffrey Gniadek and Jimmy Jun-Fu Chang, and U.S. Patent No. 8,465,317 (hereinafter “Gniadek”) was granted on June 18, 2013. EX1010, Cover. This patent issued from U.S. Application No. 13/286,773, which was filed on November 1, 2011. EX1010, Cover. This patent claims benefit to U.S. Provisional Application No. 61/543,419, filed on October 5, 2011.

120. I understand that Gniadek is prior art to the ’369 patent based on my knowledge, experience, discussion of the legal standards above, and discussions with counsel. In particular, I understand that Gniadek has both a filing date and a publication date prior to the earliest possible priority date of the ’369 patent (July 14, 2017), and so Gniadek qualifies as prior art at least for those reasons.

121. Gniadek relates to optical interconnect technology. EX1010, 1:13-15. Gniadek observes that growth in communication networks has driven deployment of high density interconnect panels. EX1010, 1:16-1:22. Gniadek goes on to

explain that higher densities can be achieved by “shrinking the connector size and/or the spacing between adjacent connectors on the panel,” but either solution “increases the support cost and diminishes the quality of service.” EX1010, 1:34-40. Gniadek also describes how high density panel configurations make preexisting connector release mechanism difficult to access. EX1010, 1:61-2:5.

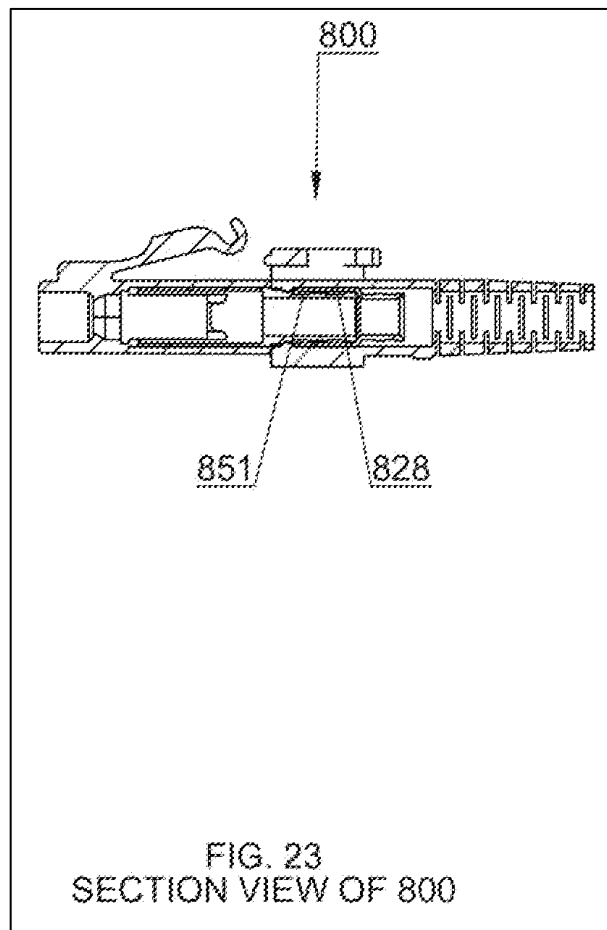
122. Gniadek responds to the above described difficulties associated with high density environments with connectors having connector housings that in turn include levers. EX1010, 2:45-49. The levers can be actuated to selectively disengage the connectors. EX1010, 2:49-51. One such connector is a latching connector 816 for an optical fiber transmission medium 812. EX1010, 16:18-25.



EX1010, FIG. 22.

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

124. The connector 816 is part of a cable assembly 800 that also includes a boot 840. EX1010, 16:15-17. The boot 840 provides strain relief for the transmission medium 812. EX1010 16:34-39. The connector 816 further includes a trap 828, and the boot 840 includes a protruding member 851 configured to be received in the trap 828 to couple the boot 840 to the connector 816. EX1010, 17:2-11.



EX1010, FIG. 23.

VIII. SUMMARY OF GROUNDS

125. In my opinion, the Challenged Claims are invalid as either anticipated or obvious in view of the prior art.

126. This table summarizes the grounds that I believe show invalidity of claims 1-22 found in my first Declaration and the first Petition (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

127. This table summarize the grounds that I believe show invalidity of claims 23-40 found in my second Declaration and the second Petition (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	37 and 38

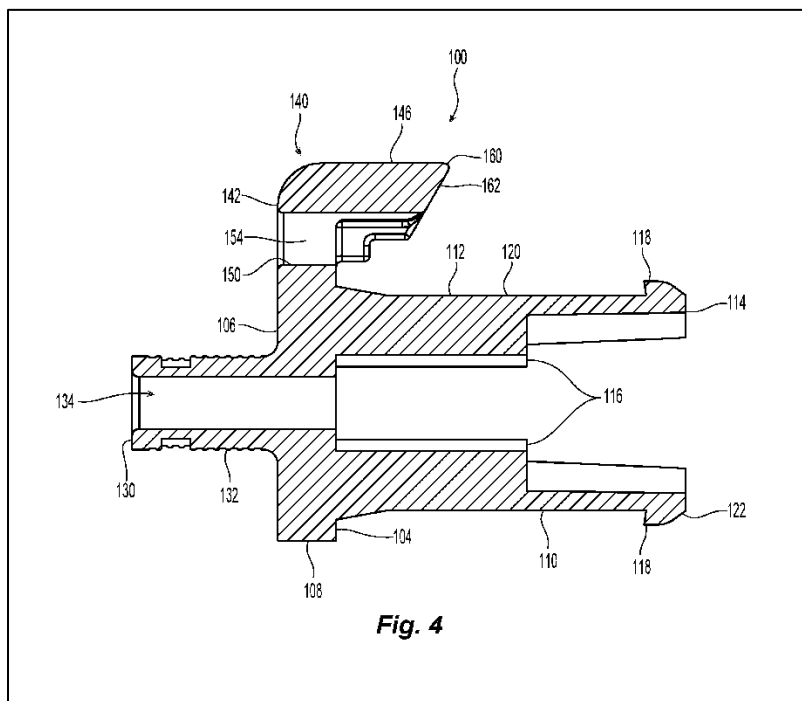
128. The following grounds present my analysis for invalidity of claims 23-40 of the '369 patent.

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

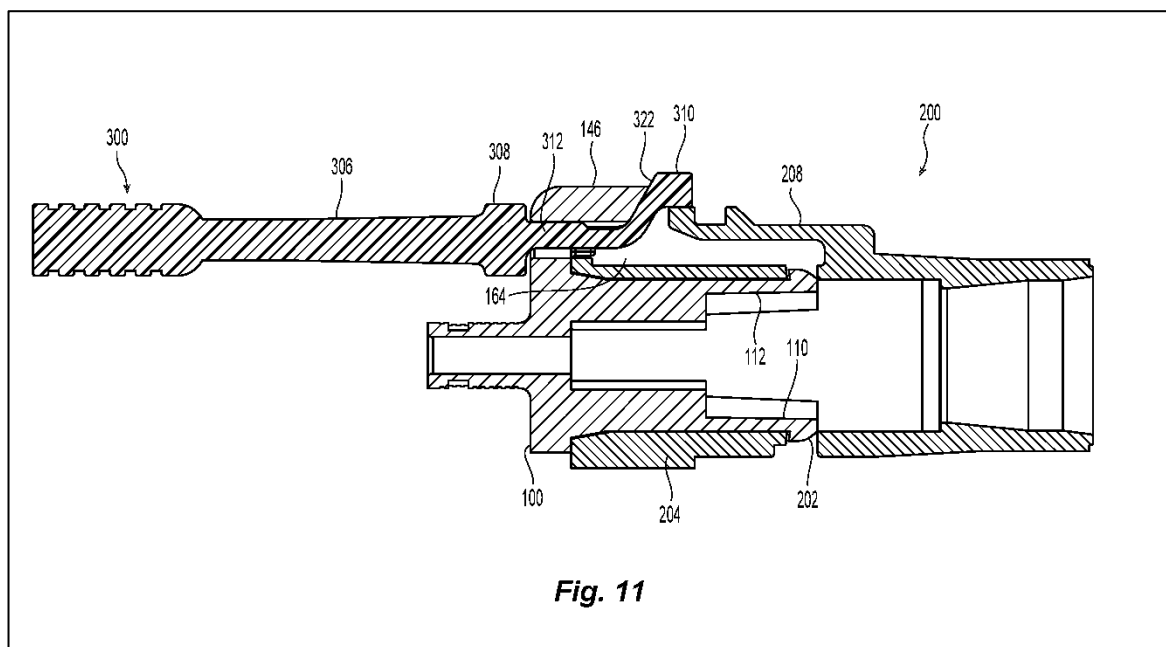
129. For at least the reasons below, it is my opinion that Nguyen expressly discloses all of the features in independent claim 23, independent claim 40, and dependent claims 24-26 of the '369 patent. Additionally, to the extent any feature in claims 23-26 and 40 '369 patent is not expressly disclosed, I believe a POSITA would have understood that any alleged missing feature is inherently disclosed (*i.e.*, necessarily present based on the disclosure) in Nguyen. Therefore, I believe these claims are invalid because they were anticipated by Nguyen.

130. I will explain numerous other reasons why I believe a POSITA would have found Nguyen anticipates claims 23-36 and 40, but at a high level Nguyen discloses a fiber optic connector 200 having an elongate release handle 300.

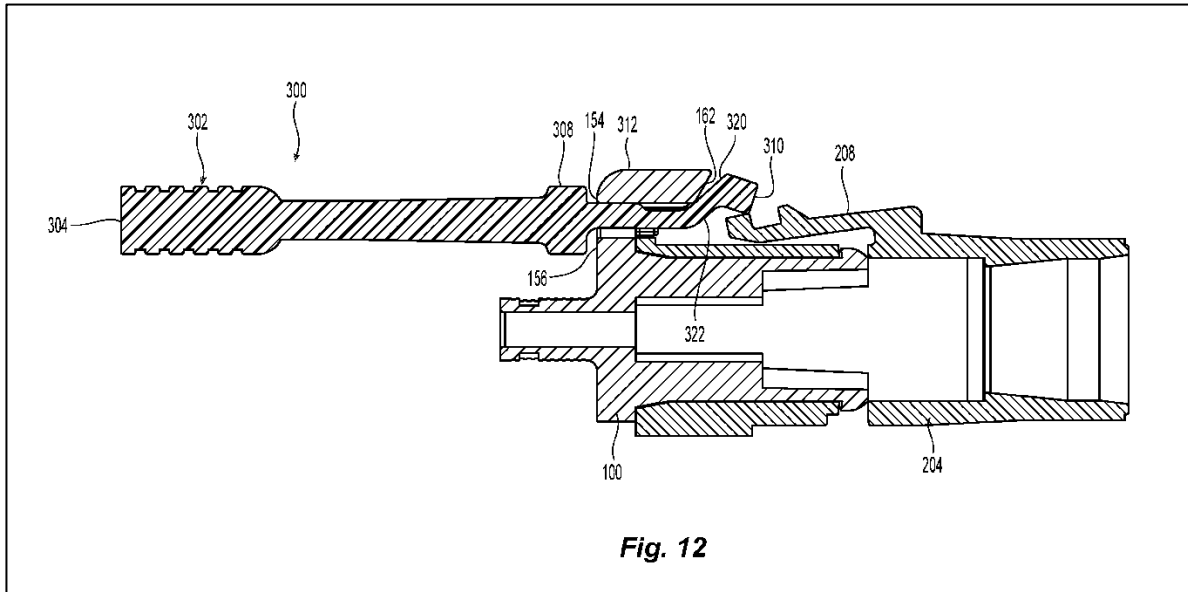
EX1009, ¶¶23, 24, 27, FIGS. 5-7, 10-12.



EX1009, FIG. 4.



EX1009, FIG. 11.



EX1009, FIG. 12.

133. As shown above in Figures 11 and 12, pulling the handle 300 backward causes the distal end 310 of the handle 300 to depress a latch 208. EX1009, ¶32, FIGS. 11, 12. Thus, pulling the handle 300 disengages the latch 208 from an adapter and allows the user to withdraw the connector 200.

A. Claim 23

1. Preamble – “An optical fiber connector comprising:”

134. I understand from counsel that a preamble is assumed to be non-limiting unless certain conditions are met, such as the preamble defining structure that is used in and necessary for the claimed invention. I do not take a position on whether the preamble of any claim of the '369 patent is limiting.

135. However, regardless of whether the preamble is limiting, for at least the reasons below it is my opinion that Nguyen discloses an optical fiber connector as required by the preamble of claim 23.

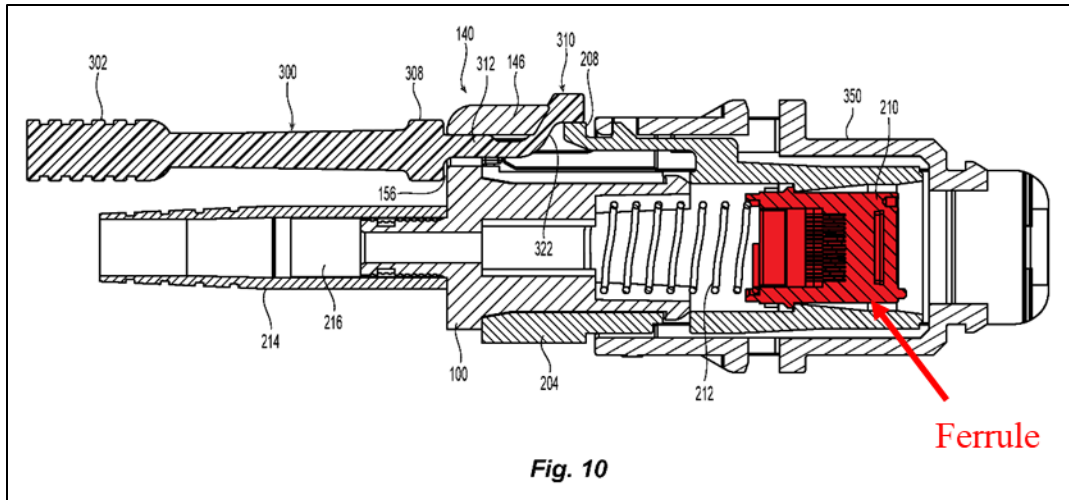
136. As previously explained in Section VII.A, Nguyen discloses “[a]s referenced to above and illustrated in FIGS. 5-6 & 8-9, one embodiment of a fiber optic connector 200 that can be used with the inventive spring push 100 includes the connector housing 204, a ferrule 210, a spring 212, the spring push 100, and a boot 214.” EX1009, ¶33. The “fiber optic connector 200” is an “optical fiber connector” within the meaning of that term as used in the claims of the ’369 patent.

137. Accordingly, it is my opinion that a POSITA would have understood that Nguyen discloses the preamble of claim 23.

2. Element [23.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers”

138. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.1].

139. Nguyen’s “fiber optic connector 200” comprises a “ferrule 210.” EX1009, ¶33, FIG. 10. Further, Nguyen discloses “the fiber optic connector, a crimp portion extending from the rearward facing surface of the main body...the crimp portion having a central opening to allow optical fibers to pass through.” EX1009, ¶3.



EX1009, FIG. 10 (annotated).

140. Further, a POSITA would have recognized the ferrule 210 as multi-fiber ferrule configured to terminate a plurality of optical fibers from its features as shown at least in Figure 10. Because Nguyen's connector 200 is configured for multiple optical fibers and comprises only ferrule 210, ferrule 210 either explicitly is a multi-fiber ferrule configured to terminate a plurality of optical fibers or is at least it necessarily flows that ferrule 210 can inherently be a multi-fiber ferrule.

141. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.1].

3. Element [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,”

142. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.2].

143. In particular, I believe a POSITA would have understood that Nguyen's connector 200 defines a "connector housing" as that term is used in this claim. EX1009, ¶¶23, 24, 27, FIGS. 5-8 and 10-12. For at least the reasons below, Nguyen discloses the limitations of claim element [23.2].

144. Two components being coupled together to form the claimed "connector housing" is consistent with how the '369 patent describes and claims a connector housing. *See, e.g.*, EX1001, 7:1-10 (disclosing the front body 302 is "securely fastened" to the back body 306), 8:23-40 (discussing different embodiments of front bodies connected to back bodies), 8:58-61 (same), 9:7-10 (same), 10:60-63 (same), 14:10-16 (discussing secure fastening of the front and back bodies); EX1001 Claims 11, 17 ("wherein the connector housing includes a front body and a back body"), Cl. 18 (further defining the connection between the front and back bodies via a protrusion and recess).

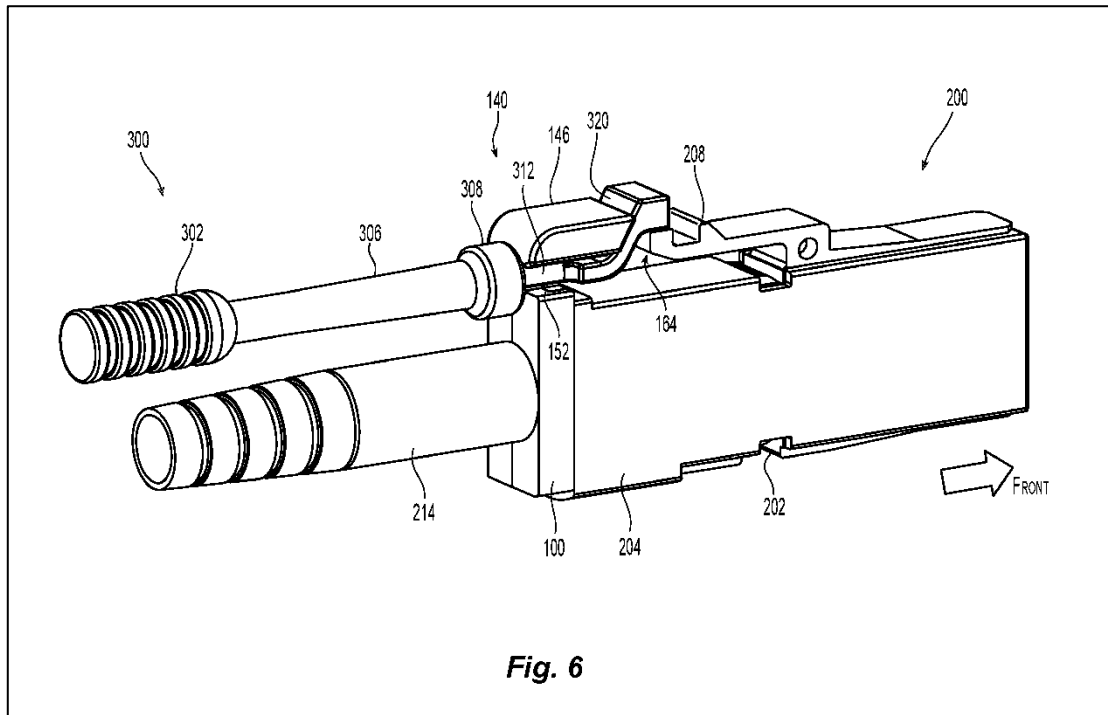
145. Moreover, many of the '369 patent's front and back bodies overlap longitudinally to some degree. *See, e.g.*, EX1001, FIGS. 12B, 20, 21A, 21B, 40A-40C, 53, 54. Thus, "spaced apart along a longitudinal axis" as used in this claim does not exclude longitudinally overlapping bodies.

146. Nguyen similarly discloses a "connector housing 204" and "spring push 100" that are coupled together. EX1009, ¶24, FIG. 6, 8-10. The optical fibers

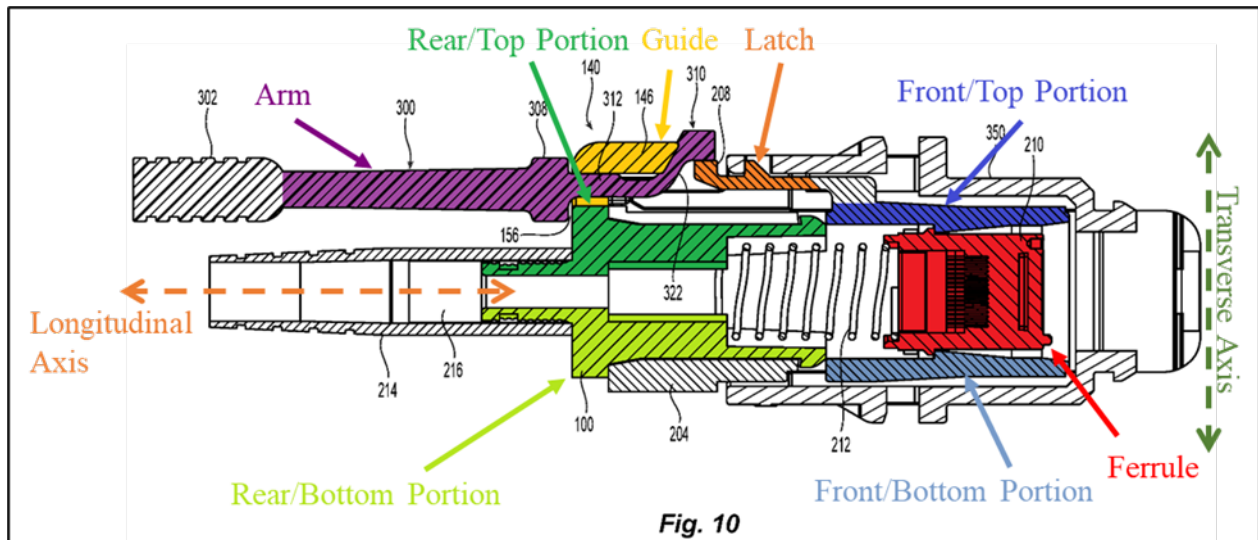
pass through the spring push's opening 134 to reach the ferrule 210, which is disposed near the forward end of the housing 204. EX1009, ¶¶3, 24-25 FIG. 10.

147. Thus, Nguyen's "connector housing 204" and "spring push 100" form a "connector housing" within the plain and ordinary meaning of that term. That is, while Nguyen uses the term "connector housing" to refer to the element numbered 204 within Nguyen's disclosure, the connector housing 204 and spring push 100 coupled together form a larger structure that a POSITA would also consider to be within the plain and ordinary meaning of the term "connector housing."

148. The connector housing defined collectively by Nguyen's "connector housing 204" and "spring push 100" further 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, FIG. 6.



EX1009, FIG. 10 (annotated).

149. In particular, as shown above in annotated Figure 10, of the connector housing formed collectively by Nguyen's spring push 100 and housing 204, a part of the housing 204 is a front end portion, while a part of the 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. Moreover, a top part of the housing 204 and a top part of the spring push 100 collectively form a top portion of the connector housing, while a bottom part of the housing 204 and a bottom part of the 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.

150. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.2].

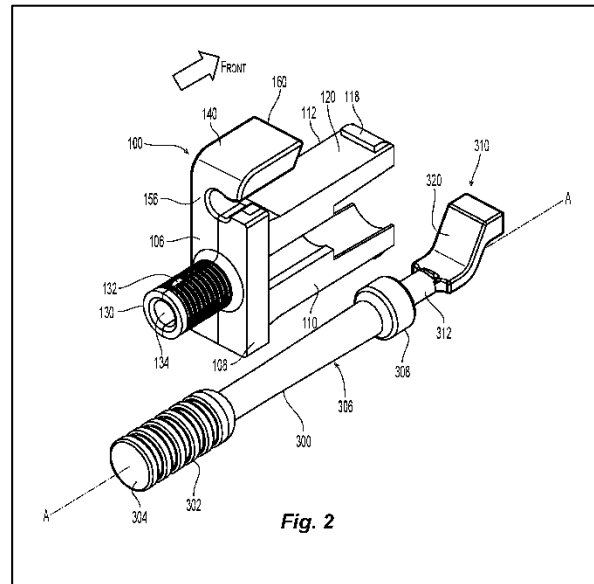
4. **Element [23.3] – “the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,”**

151. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.3].

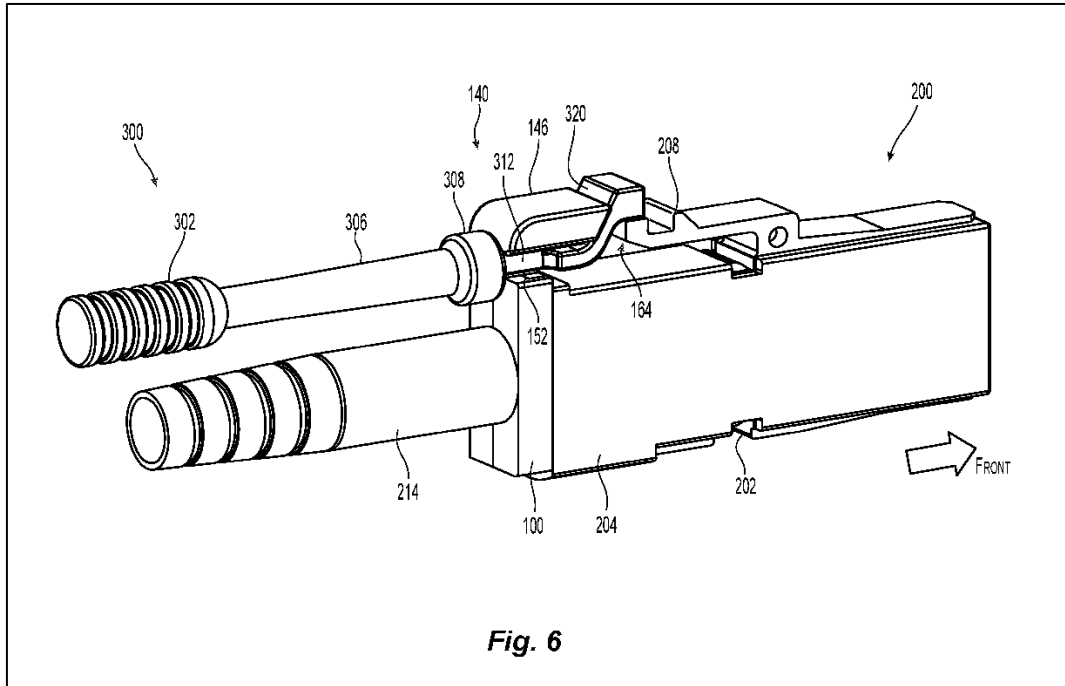
152. As an initial matter, a POSITA would have understood that the purpose of a ferrule in an optical fiber connector is to facilitate the establishment of an optical fiber connection. With that in mind, Nguyen discloses “an elastic member, preferably a coil spring, to bias a fiber optic ferrule (see, e.g., FIG. 8) toward the front (away from the spring push 100) of the fiber optic connector 200.” EX1009, ¶23.

153. Nguyen goes on to explain that “‘front’ and/or ‘forward’ as used herein means that direction where the fiber optic connector would mate with another fiber optic connector or device... So turning to FIGS. 2 & 4, front is the direction shown by the arrow.” EX1009, ¶23.

154. Thus, Nguyen’s elastic member biasing the ferrule 210 toward the front of the connector 200 also biases the ferrule 210 in the direction where the connector 200 would mate with another connector or device.



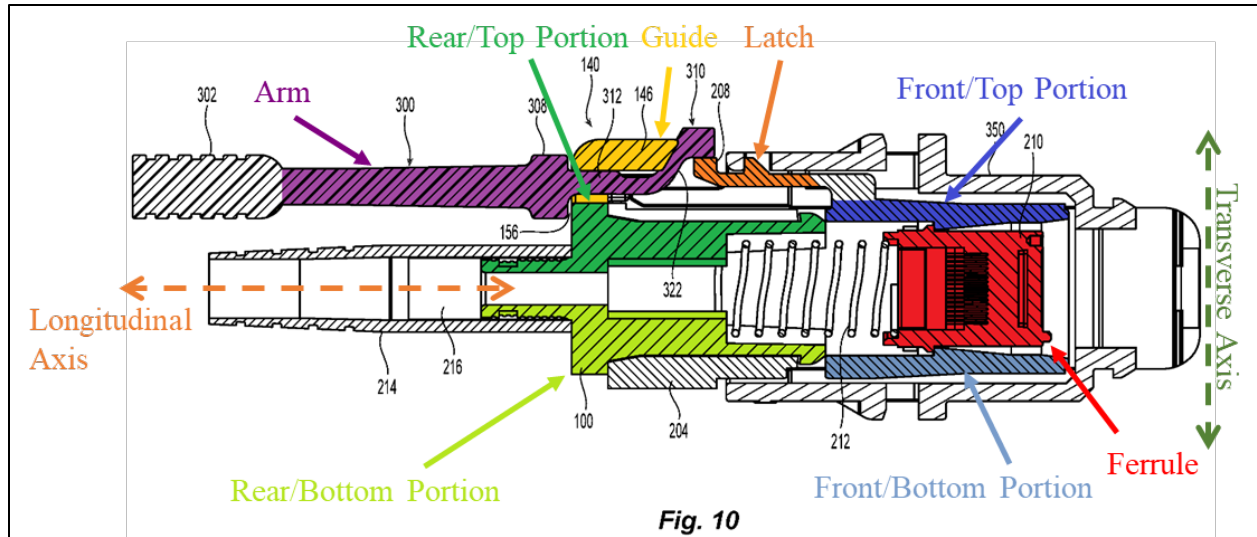
EX1009, FIG. 2.



EX1009, FIG. 6.

155. As shown above in Nguyen's Figures 2 and 6, the "FRONT" arrow points toward an end of the connector 200 opposite the handle 300 and boot 214.

156. Turning to the cross section of the connector shown in Figure 10, it can be seen that the end of the connector 200 opposite from the handle 300 and boot 214 is open. EX1009, FIG. 10. The ferrule 210 is positioned adjacent the open front end of the connector 200, and there is nothing between the ferrule 210 and the opening. EX1009, FIG. 10.



EX1009, FIG. 10 (annotated).

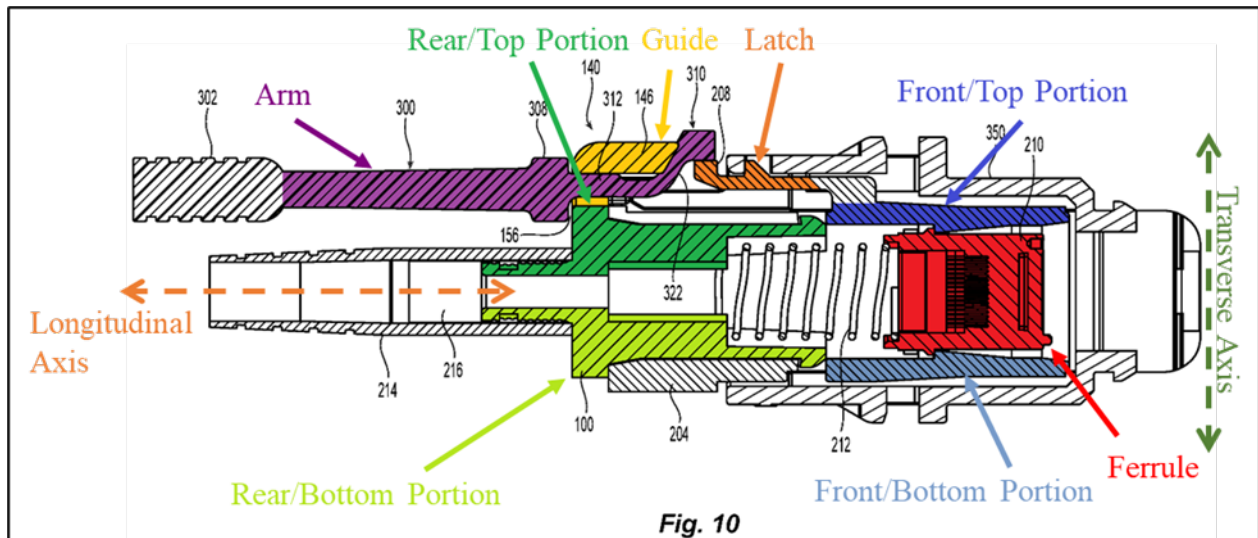
157. Accordingly, a POSITA would have understood Nguyen as disclosing that the housing defined by the connector housing 204 and the spring push 100 holds the ferrule 210 such that the ferrule 210 is exposed through the front end portion of the housing for making an optical fiber connection. Further, as noted above with regard to element [23.1] (*see* Section IX.A.2), Nguyen both inherently discloses that the ferrule 210 is a multi-fiber ferrule and depicts the ferrule 210 in the figures with features that would have led a POSITA to recognize the ferrule 210 as a multi-fiber ferrule. Moreover, a POSITA would have identified the unlabeled features of ferrule 210 as multiple optical fibers spaced apart in a row that extends on the plane of Figure 10, parallel to the transverse axis.

158. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.3].

5. Element [23.4] – “a depressible latch above the top portion of the connector housing; and”

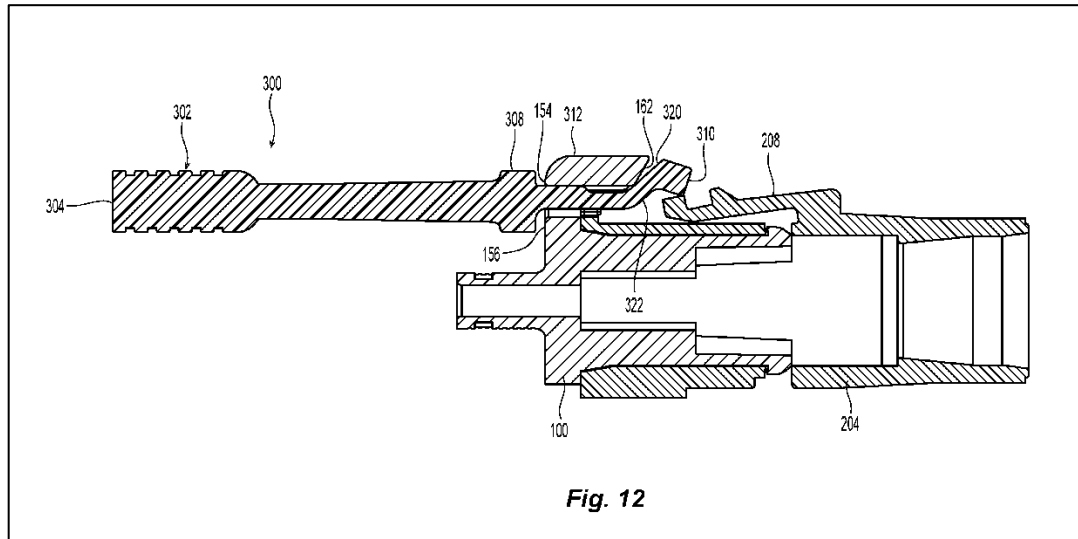
159. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.4].

160. Nguyen discloses a latch 208 and explains that “[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 FIG. 10, to keep the fiber optic connector 200 from being inadvertently removed from the adapter 350.” EX1009, ¶30.



EX1009, FIG. 10 (annotated).

161. As shown above in Nguyen’s Figure 10, the latch 208 is located above the top portion of the connector housing formed collectively by the spring push 100 and connector housing 204. Moreover, the latch 208 is depressible, as can be seen by comparing the position of the latch 208, as shown in Nguyen’s Figure 10 to the position of the latch 208 as shown in Figure 12. EX1009, FIGS. 10 and 12.



EX1009, FIG. 12.

162. Thus, Nguyen’s connector 200 comprises a depressible latch above the top portion of the connector housing.

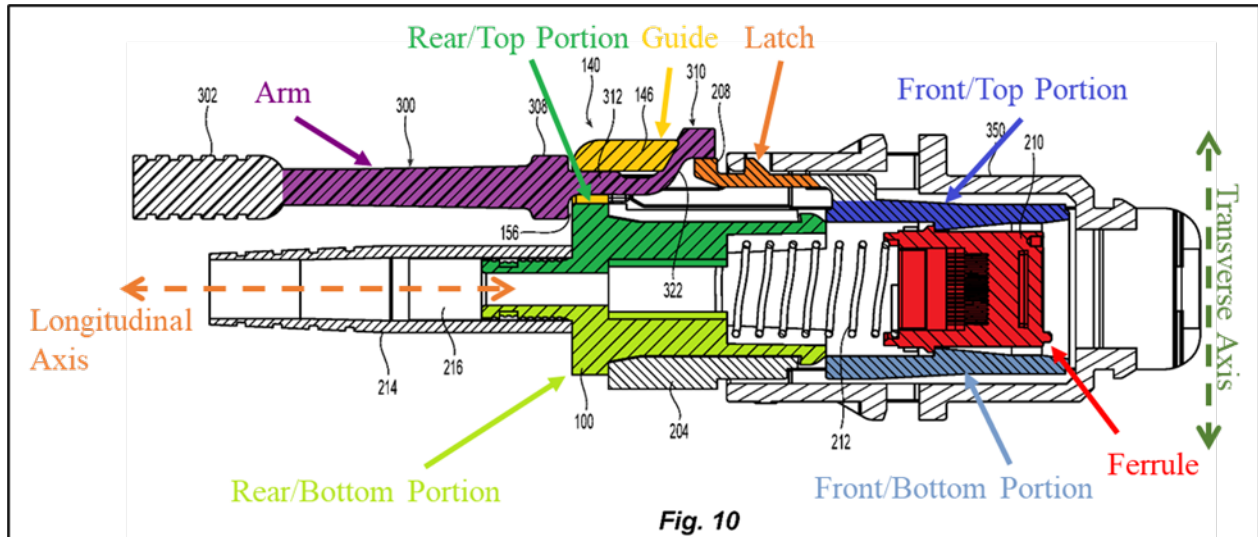
163. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.4].

6. Element [23.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”

164. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.5].

165. Nguyen’s connector 200 comprises an elongate arm provided by part of an elongate handle 300 received in a slot of the spring push 100. EX1009, ¶27. As noted above, the spring push 100 cooperates with the housing 204 to form a connector housing as used in this claim. Section IX.A.3. Thus, because the handle 300 is coupled to the spring push 100, it provides an elongate arm connected to the

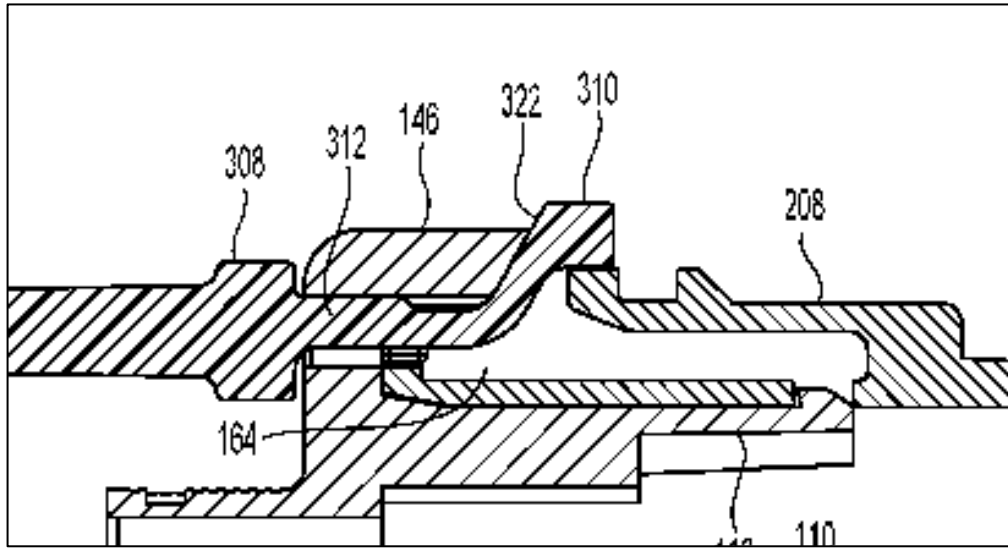
connector housing. Further, the handle 300 is connected to the connector housing provided collectively by the spring push 100 and housing 204 above the top portion of that connector housing. EX1009, ¶27, FIG. 10.



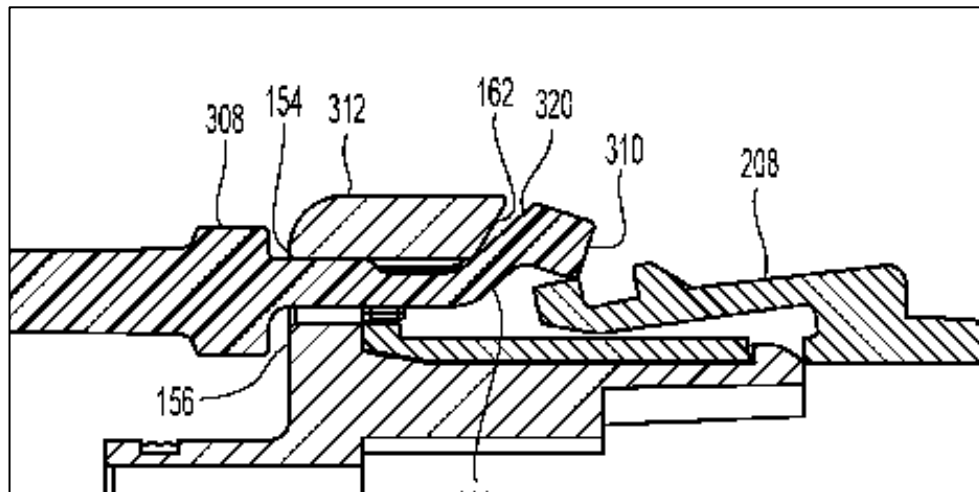
EX1009, FIG. 10 (annotated).

166. Thus, the handle 300 provides an arm connected to the connector housing above the top portion of the connector housing.

167. The handle 300 is also configured to be pulled to actuate the latch 208. EX1009, ¶32, FIGS. 11, 12. “When an operator wants to remove a fiber optic connector with the spring push 100 and handle 300, the operator grasps the grasping portion 302 of the handle 300 at a first or proximal end 304 and pulls rearwardly (to the left in FIG. 9), and the handle 300 moves slightly rearwardly relative to the spring push 100 and engagement number 140.” EX1009, ¶32. The slight rearward motion Nguyen describes in ¶32 can be seen in the transition from Figure 11 to Figure 12.



EX1009, FIG. 11 (excerpt).



EX1009, FIG. 12 (excerpt).

168. Also visible in the transition from Figure 11 to Figure 12 is the depression of the latch 208 under the force of a distal end 310 of the handle 300 applied when the handle 300 is pulled rearward. Nguyen explains that when the handle 300 is pulled rearward “the top surface 320 engages the terminal surface 162 of the distal end 160 of second portion 146, which forces the distal end 320 [sic] of the handle 300 to move downward toward the spring push 100 and

simultaneously on the latch 208. *See* EX1009, FIG. 12. The movement of the latch 208 from the distal end 320 [sic] is sufficient to allow the fiber optic connector 200 to be removed from the adapter with the handle 300.” EX1009, ¶32.

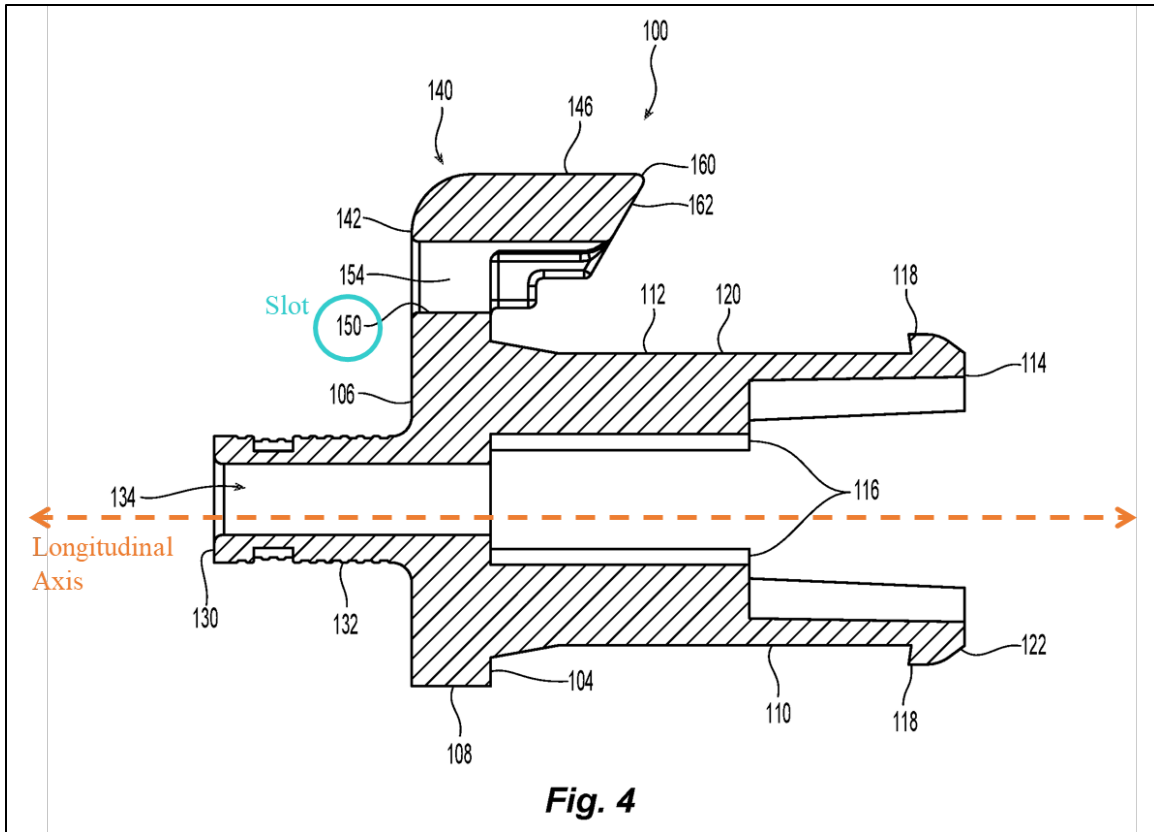
169. As shown above in Figures 11 and 12, when the handle 300 is pulled backward, the terminal surface 162 of the second portion 146 of the spring push 100 forces the distal end 310 of the handle 300 to actuate the latch 208 by depressing the latch 208 toward the top of the housing 204 and spring push 100. Thus, the handle 300 provides an arm configured to be pulled to actuate the depressible latch provided by latch 208.

170. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.5].

7. Element [23.6] – “wherein the connector housing comprises a guide connecting the elongate arm to the optical fiber connector.”

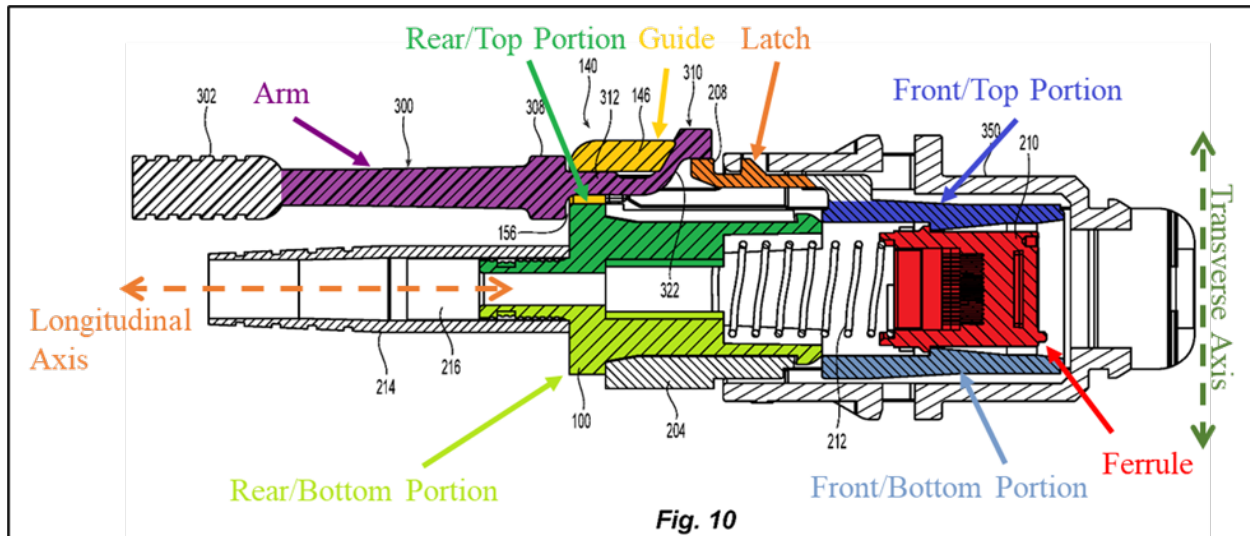
171. For at least the reasons discussed below, it is my opinion that Nguyen discloses claim element [23.6].

172. Nguyen’s handle 300 is connected to the spring push 100 by a slot 150. EX1009, ¶27 (“The first portion 142 of engagement member 140 has a slot 150 that extends into the engagement member 140. The slot 150 receives a handle 300.”). The slot 150 can be seen, for example, in Figure 4.



EX1009, FIG. 4 (annotated).

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



EX1009, FIG. 10 (annotated).

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

175. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses the features of claim element [23.6].

176. In summary, it is my opinion that a POSITA would have understood Nguyen discloses each of the features of claim 23 of the '369 patent. As such, it is my opinion that Nguyen anticipates the entirety of claim 23.

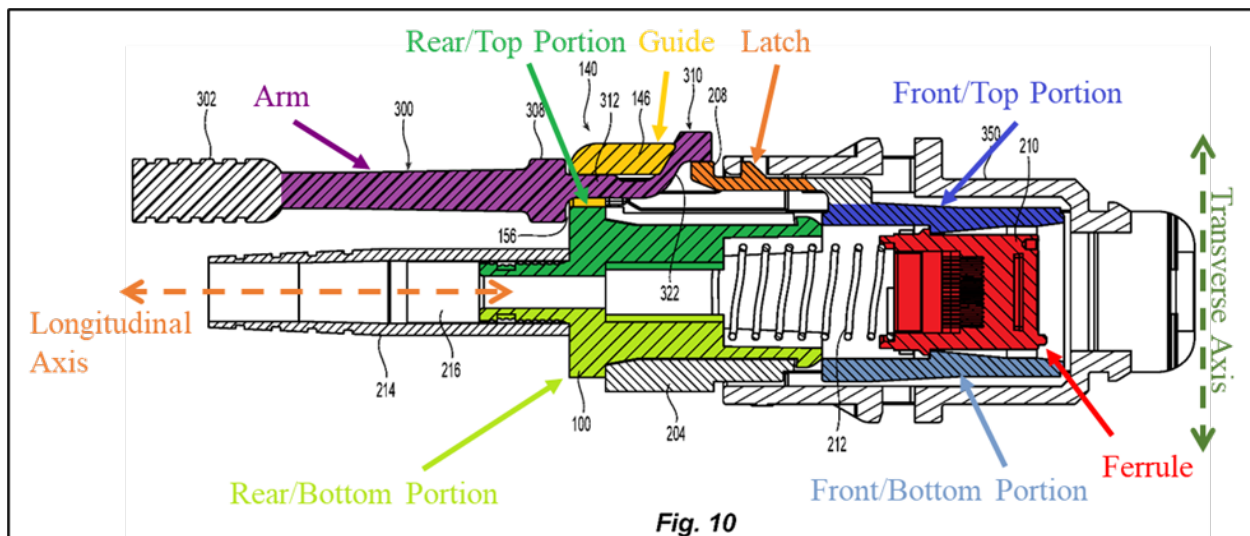
B. Claim 24

1. Preamble – “The optical fiber connector as set forth in claim 23, wherein”

177. Claim 24 depends upon claim 23, and for at least the reasons discussed above in reference to claim 23, Nguyen anticipates claim 23. *See* Section IX.A. Additionally, for at least the reasons below, it is my opinion that Nguyen anticipates claim 24 of the '369 patent.

2. Element [24.1] – “the guide defines a groove extending along the longitudinal axis.”

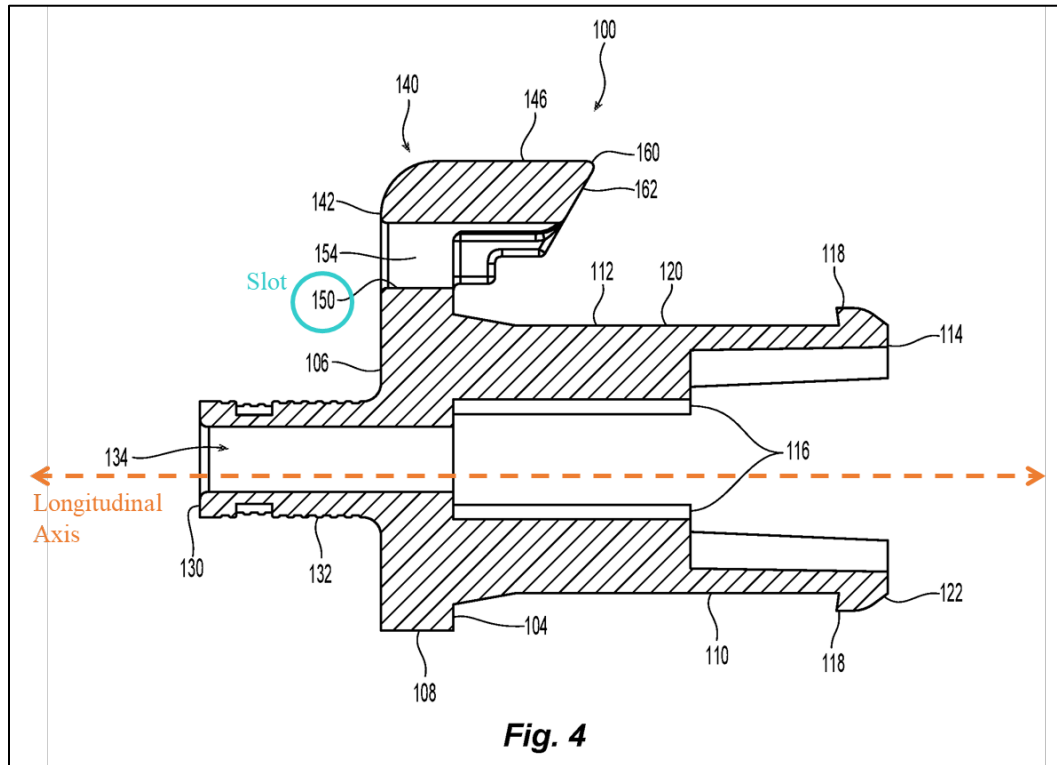
178. In my opinion, a POSITA would have understood Nguyen discloses claim element [24.1]. As noted above, Nguyen’s spring push defines a guide. Section IX.A.7; EX1009, ¶27, FIGS. 2, 4, and 10.



EX1009, FIG. 10 (annotated).

179. The portion of the spring push 100 that defines the guide comprises a slot 150 configured to receive an elongate arm in the form of handle 300. EX1009,

¶27. For example, the slot 150 can be seen extending along the longitudinal axis in Figure 4, reproduced below.

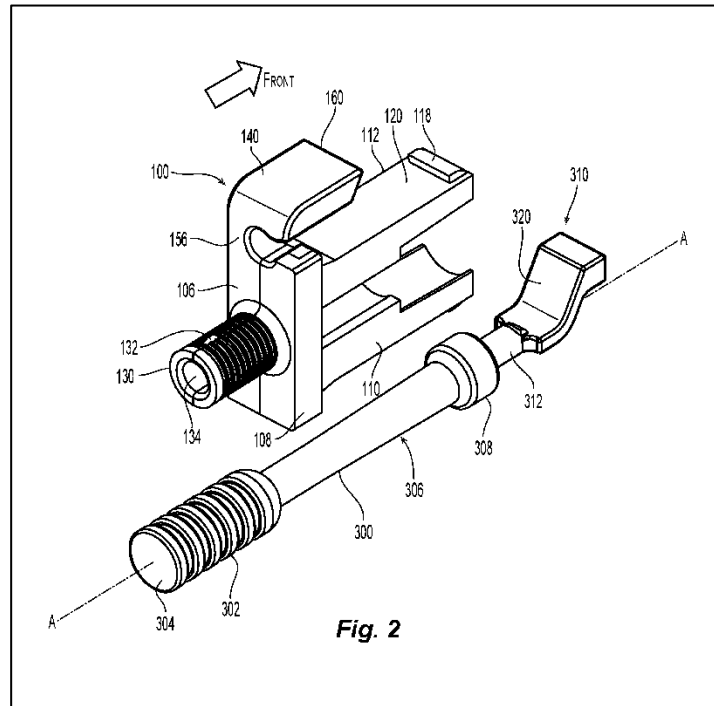


EX1009, FIG. 4 (annotated).

180. Nguyen discloses that “[t]he slot 150 has a portion 152 with a generally rectangular configuration that begins at the edge of the first portion 142 and then transitions into a circular portion 154, which corresponds to the configuration of the handle 300. See FIG. 2. If the handle 300 had a different configuration, the portion 154 would have a corresponding configuration.”

EX1009 ¶27. The ‘369 patent does not explicitly define a groove, but generally, a “slot” is within the plain and ordinary meaning of the word “groove.” Moreover,

for the plain and ordinary meaning of groove, the portion 154 of slot 150 can be seen to have the shape of a groove in Figure 2. EX1009, FIG. 2.



EX1009, FIG. 2.

181. Thus, Nguyen's spring push 100 includes a guide that defines a groove that extends along the longitudinal axis.

182. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses and anticipates claim 24.

C. Claim 25

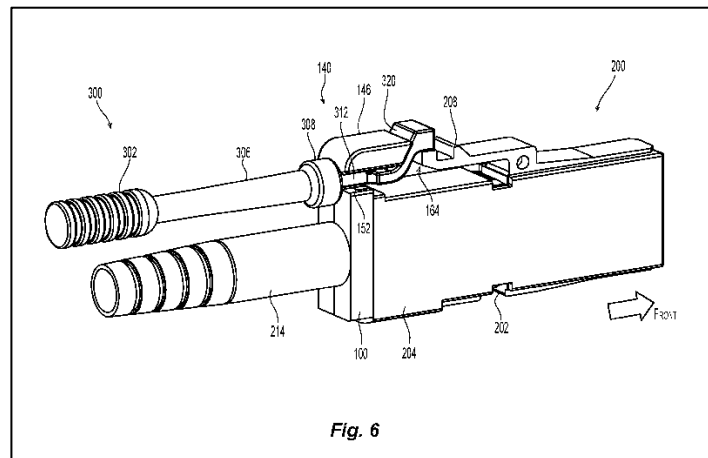
1. Preamble – “The optical fiber connector as set forth in claim 24, wherein”

183. Claim 25 depends upon claim 23 and claim 24, and for at least the reasons discussed above in reference to claims 23 and 24, Nguyen anticipates

claims 23 and 24. *See* Sections IX.A, IX.B. Additionally, for at least the reasons below, it is my opinion that Nguyen anticipates claim 25 of the '369 patent.

2. Element [25.1] – “the elongate arm is slidably received in the groove.”

184. In my opinion, a POSITA would have understood Nguyen discloses claim element [25.1]. As noted above, Nguyen discloses a spring push 100 that includes a guide defining a groove in the form of slot 150. *See* Section IX.B; EX1009, ¶27, FIGS. 2, 4, 10. An elongate arm provided by part of an elongate handle 300 is slidably received in the slot 150 that has a portion 154 of configuration corresponding to that of handle 300. 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).



EX1009, FIG. 6.

185. Thus, Nguyen discloses an elongate arm in the form of handle 300 slidably received in a groove in the form of slot 150.

186. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses and anticipates claim 25.

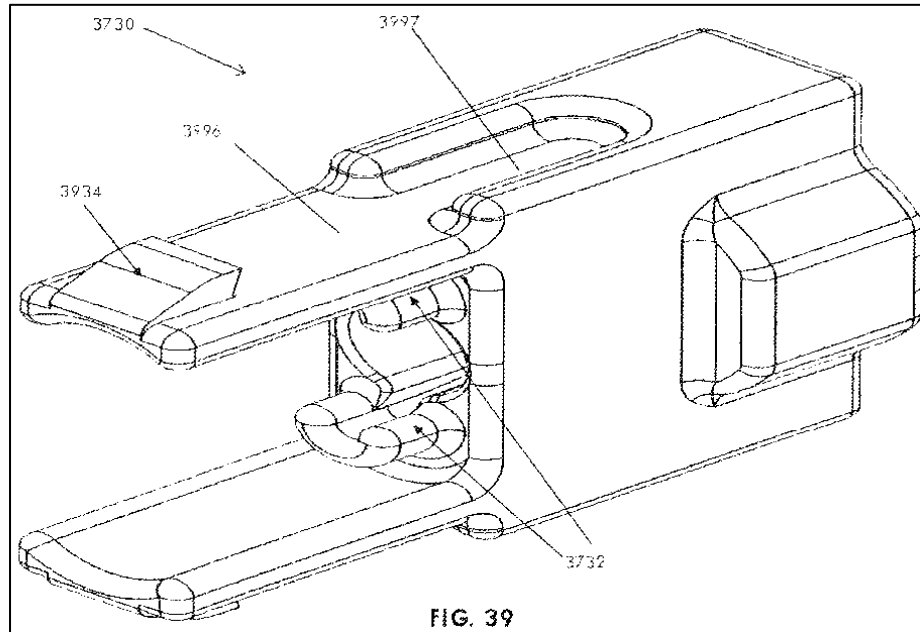
D. Claim 26

1. Preamble – “The optical fiber connector as set forth in claim 23, wherein”

187. Claim 26 depends upon claim 23, and for at least the reasons discussed above in reference to claim 23, Nguyen anticipates claim 23. *See* Section IX.A. Additionally, for at least the reasons below, it is my opinion that Nguyen anticipates claim 26 of the '369 patent.

2. Element [26.1] – “the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis.”

188. In my opinion, a POSITA would have understood Nguyen discloses claim element [26.1]. The phrase “end portion” does not appear anywhere in the '369 patent outside of the claims. *See* EX1001. The phrase “elongate arm” does not appear outside of the claims either, with the only element referred to as an “arm” in the description being an “extended hook arm 3996” of a back body 3730 of a connector of one embodiment. EX1001, 17:13-21, FIG. 39.



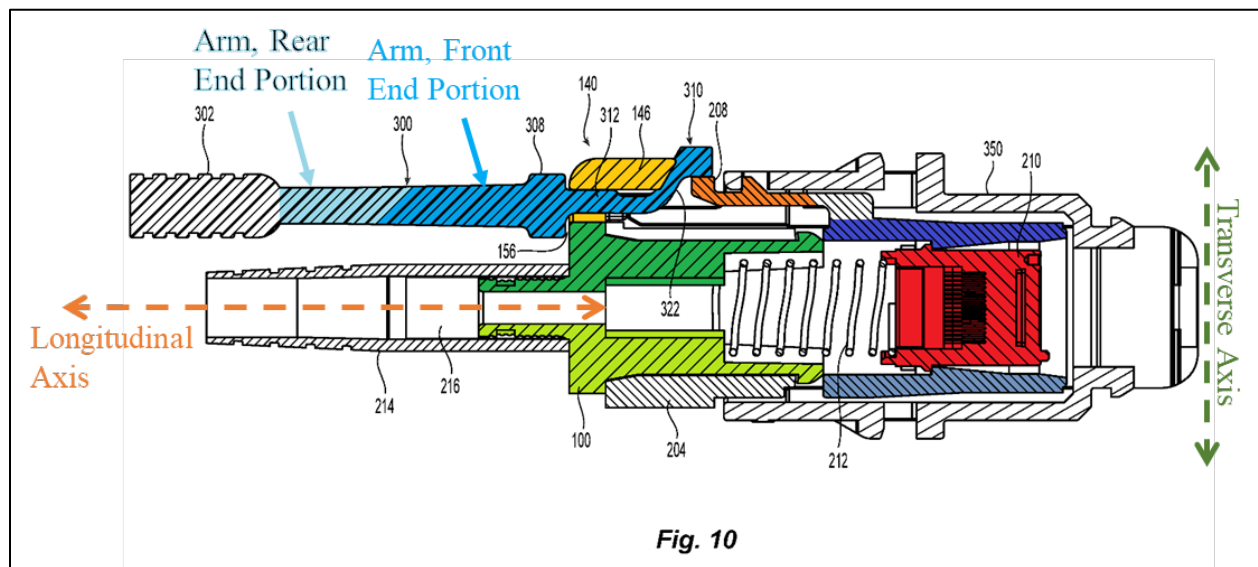
EX1001, FIG. 39.

189. The hook arm 3996 is of limited relevance to the terms used in this claim because it has no labeled “front end portion” or “rear end portion” and because it is generally inconsistent with the claimed features of the “elongate arm” recited in claims 23 and 26. EX1001, Cl. 23, 26, 16:54-17:21. FIGS. 37-40C. The specification of the ’369 patent therefore provides no specific definition of what constitutes a “front end portion” or a “rear end portion” of an elongate arm, nor are any features of any of the illustrated examples labeled as such.

190. Further, reference to the figures shows no demarcation between front or rear end portions of any elongate element in any illustrated embodiment configured to be pulled rearwardly to depress a latch. *See, e.g.*, EX1001, FIGS. 19A-19D, 21B 29A, 37, 40A-40C, 44A-44C, 53-69. Instead, the illustrated elongate elements configured to be pulled rearwardly disclosed in the ’369 patent

are generally monolithic elements having two ends with no break or clear boundary therebetween. EX1001, FIGS. 19A-19D, 21B 29A, 37, 40A-40C, 44A-44C, 53-69. For those reasons, as well as the plain and ordinary meaning of the language of the claim, the “front end portion” and “rear end portion” recited in this claim can be two parts of a monolithic whole.

191. As noted above, Nguyen discloses an elongate arm provided by part of an elongate handle 300. *See* Section IX.A.6; EX1009, ¶27. The handle comprises a front end portion and a rear end portion spaced apart along the longitudinal axis. EX1009, FIG. 10.



EX1009, FIG. 10 (annotated).

192. Thus, Nguyen discloses an arm in the form of handle 300 that comprises a front end portion and a rear end portion spaced apart along a longitudinal axis.

193. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses and anticipates claim 26 of the '369 patent.

E. Claim 40

194. I note that the subject matter of claim 40 overlaps with that of claims 23 and 26. Specifically, the preamble of claim 40 through claim element [40.5] are identical to the preamble of claim 23 through claim element [23.5], respectively. Further, claim element [40.6] includes the same additional features of claim 26. Therefore, it is my opinion that the preamble of claim 40 through claim element [40.6] is disclosed by Nguyen at least for the reasons explained above. *See* Sections IX.A.1-6, IX.D. Additionally, for at least the reasons explained below, it is my opinion that the remainder of claim 40, represented by claim element [40.7], is also disclosed in Nguyen.

1. Preamble – “An optical fiber connector comprising:”

195. The preamble of claim 40 is identical to the preamble of claim 23. Accordingly, for at least the reasons set forth above with respect to the preamble of claim 23, it is my opinion that Nguyen discloses the preamble of claim 40. *See* Section IX.A.1.

2. Element [40.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers;”

196. Claim element [40.1] is identical to claim element [23.1]. Accordingly, for at least the reasons set forth above with respect to claim element

[23.1], it is my opinion that Nguyen discloses the features of claim element [40.1].

See Section IX.A.2.

3. **Element [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,”**

197. Claim element [40.2] is identical to claim element [23.2].

Accordingly, for at least the reasons set forth above with respect to claim element [23.2], it is my opinion that Nguyen discloses the features of claim element [40.2].

See Section IX.A.3.

4. **Element [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;”**

198. Claim element [40.3] is identical to claim element [23.3].

Accordingly, for at least the reasons set forth above with respect to claim element [23.3], it is my opinion that Nguyen discloses the features of element [40.3]. *See* Section IX.A.4.

5. **Element [40.4] – “a depressible latch above the top portion of the connector housing; and”**

199. Claim element [40.4] is identical to claim element [23.4].

Accordingly, for at least the reasons set forth above with respect to claim element

[23.4], it is my opinion that Nguyen discloses the features of claim element [40.4].

See Section IX.A.5.

6. Element [40.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”

200. Claim element [40.5] is the same as claim element [23.5].

Accordingly, for at least the reasons set forth above with respect to claim element [23.5], it is my opinion that Nguyen discloses the features of claim element [40.5].

See Section IX.A.6.

7. Element [40.6] – “wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;”

201. Claim element [40.6] is identical to claim element [26.1].

Accordingly, for at least the reasons set forth above with respect to claim element [26.1], it is my opinion that Nguyen discloses the features of claim element [40.6].

See Section IX.D.

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

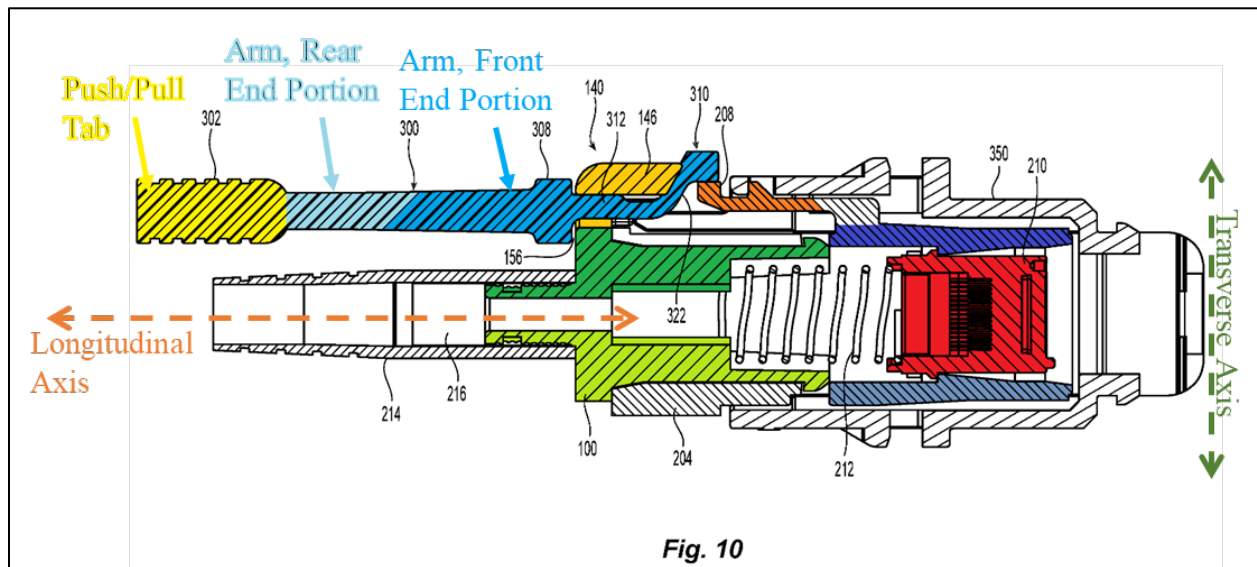
202. For at least the reasons below, it is my opinion a POSITA would have understood that Nguyen discloses claim element [40.7].

203. As detailed above, Nguyen discloses an elongate arm provided by part of the elongate handle 300, which comprises a front end portion and a rear end portion spaced apart along a longitudinal axis. *See* Sections IX.A.6, IX.D, IX.E.7;

EX1009, ¶27, FIG. 10. The handle 300 further comprises a tab in the form of grasping portion 302 enabling the user to both push and pull on the handle.

EX1009, ¶¶31, 32.

204. Nguyen's connector further comprises a push/pull tab extending from the rear end portion of the elongate arm.



EX1009, FIG. 10 (annotated).

205. Accordingly, it is my opinion that a POSITA would have understood Nguyen discloses claim element [40.7].

206. In summary, it is my opinion that a POSITA would have understood Nguyen discloses each of the features of claim 40 of the '369 patent. As such, it is my opinion that Nguyen anticipates the entirety of claim 40.

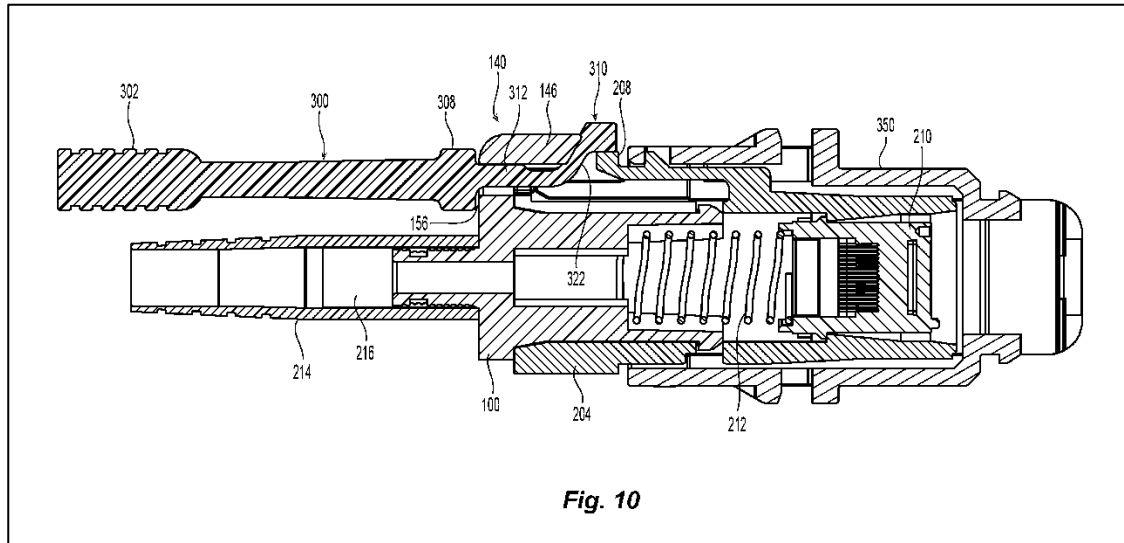
X. GROUND 2: NGUYEN IN VIEW OF LIN RENDERS OBVIOUS CLAIMS 27-39

207. For at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claims 27-39 of the '369 patent. Claim 39 is an independent claim. Claims 27-38 depend from claim 26, which ultimately depends from independent claim 23. Claims 23 and 26 are both anticipated by Nguyen for the reasons set forth above. *See* Section IX. Additionally, it is my opinion that the recited features of Claims 23-26 that are disclosed by Nguyen would be preserved in the specific combination of Nguyen and Lin discussed below. Thus, the optical connector of Nguyen in view of Lin, described below, would render obvious all of the features of claims 23-26.

A. Motivation to Combine

1. Nguyen

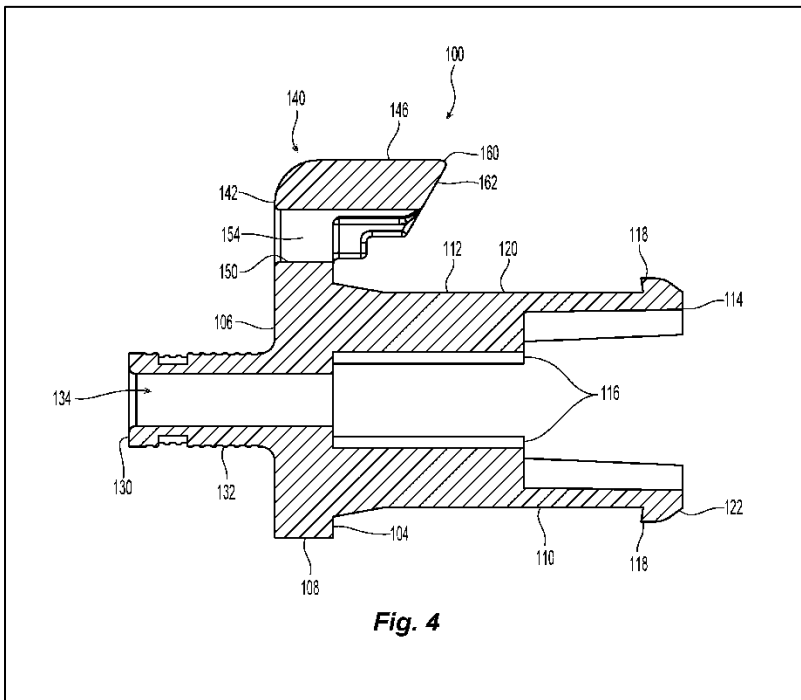
208. Nguyen discloses a fiber optic connector 200 having an elongate release handle 300. EX1009, ¶¶23, 24, 27, FIGS. 5-7 and 10-12.



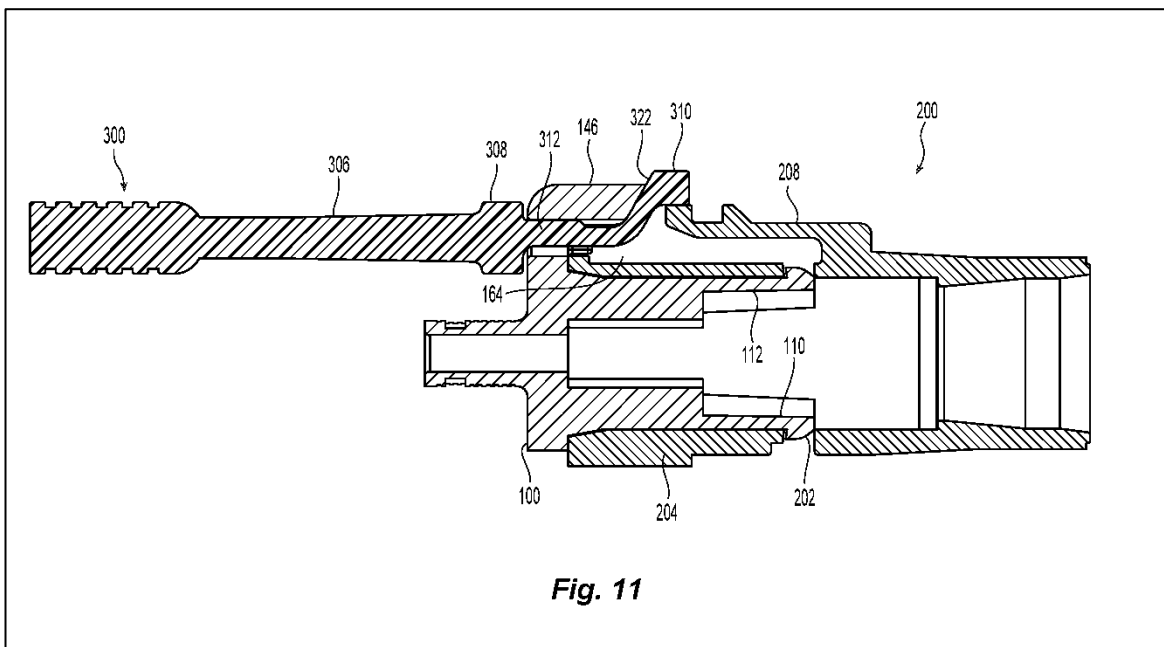
EX1009, FIG. 10.

209. Nguyen further discloses that its connector 200 is configured to connect multiple optical fibers. EX1009, ¶¶3, 26. Nguyen’s illustrated embodiment further comprises a single fiber optic “ferrule 210”, meaning the ferrule 210 is a multi-fiber ferrule. EX1009, ¶¶33, FIGS. 9 and 10. The illustrated features of the ferrule 210 in, for example, Figure 10 as reproduced above, show that the ferrule 210 holds the fibers in a row extending parallel to the plane of Figure 10. EX1009, FIG. 10. If the row is considered to be in a vertical direction, then the latch 208 is positioned above a top portion of the housing 204 that contains the ferrule 210.

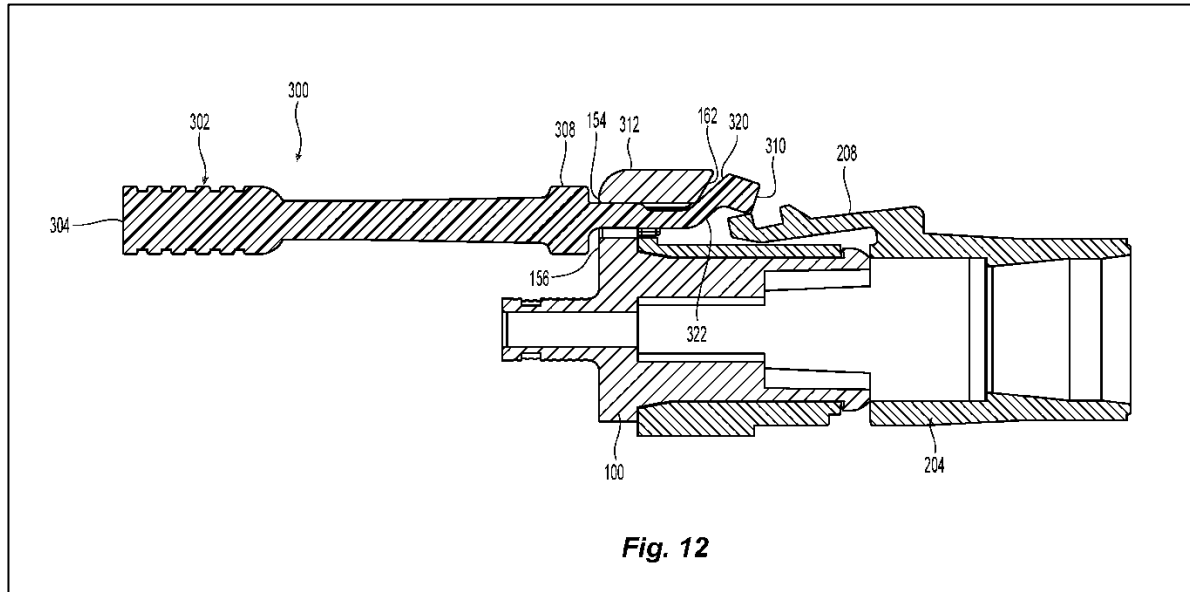
210. Nguyen’s handle 300 comprises a “distal end 310” that “extends upward (in the figures, but away from the two generally parallel extensions 110,112 and out of the axis A-A) so that it extends beyond the terminal surface 162 of the distal end 160 of second portion 146 and rests on the latch 208 when the handle 300 is disposed within the slot 150.” EX1009, ¶32, FIGS. 4, 11, 12.



EX1009, FIG. 4.



EX1009, FIG. 11.



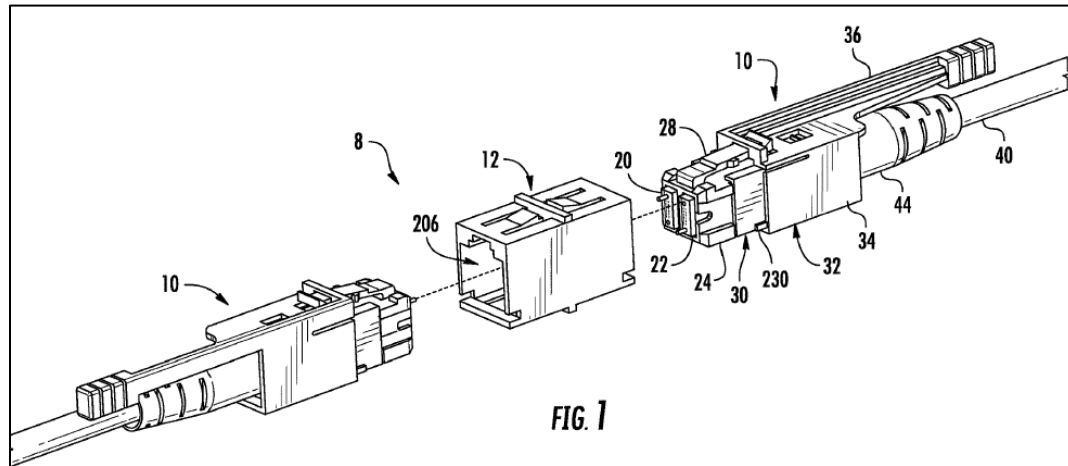
EX1009, FIG. 12.

211. As shown above in Figures 11 and 12, pulling the handle 300 backward causes the distal end 310 of the handle 300 to depress a latch 208. EX1009, ¶32 FIGS. 11, 12. Thus, pulling the handle 300 disengages the latch 208 from an adapter and allows the user to withdraw the connector 200 from the adapter 350. EX1009, ¶¶30, 32.

2. Lin

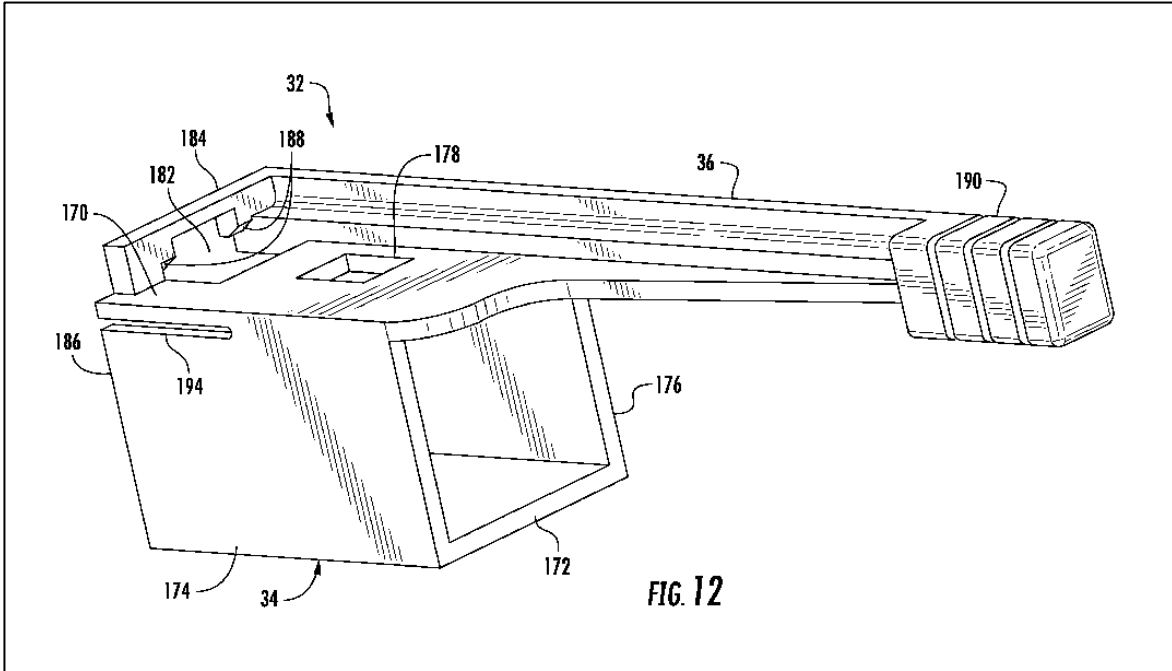
212. Lin also discloses fiber optic connectors for data transmission. *See* EX1005, ¶¶2-4. Lin explains its “disclosure relates generally to fiber optic connectors, and more particularly to fiber optic connectors that include multiple, multi-fiber ferrules, such as MT ferrules.” EX1005, ¶2. A POSITA would know that multi-fiber ferrules are utilized to increase the density of optical fiber connections (*i.e.*, decrease the space used for each of the optical fiber connections).

213. Lin discloses a “fiber optic connector system 8” that includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25. Lin shows a fiber optic connector 10 in Figure 1, reproduced below.



EX1005, FIG. 1.

214. Lin's fiber optic connector 10 includes a latch arm 28 that extends outwardly from an inner connector body 24. EX1005, ¶26. Lin discloses a handle 36 that is pulled rearward to depress the latch arm 28 to flex the latch arm 28 in order to remove the connector 10 from the adapter 12. EX1005, ¶26. Lin's handle 36 includes "an outer body 32 that cooperates with the... latch arm 28." EX1005, ¶26. "[T]he outer body 32 includes a housing portion 34... and a handle 36 extending rearwardly from the housing portion 34" and that "the housing portion 34 can cause the latch arm 28 to flex toward the inner connector body 24." EX1005, ¶26. The outer body 32 is illustrated alone in Figure 12.



EX1005, FIG. 12.

215. As shown above, the housing portion 34 is a front end portion of the handle 36 and defines a latch opening 182. A crossbar member 184 defines a front edge of the opening 182 and includes a surface 188 that engages a ramp 118 defining an upper surface of the latch arm 28. EX1005, ¶45, FIGS. 15-18.

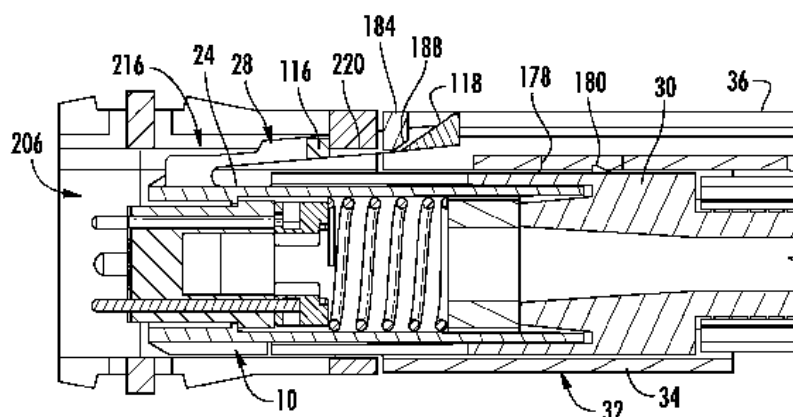


FIG. 15

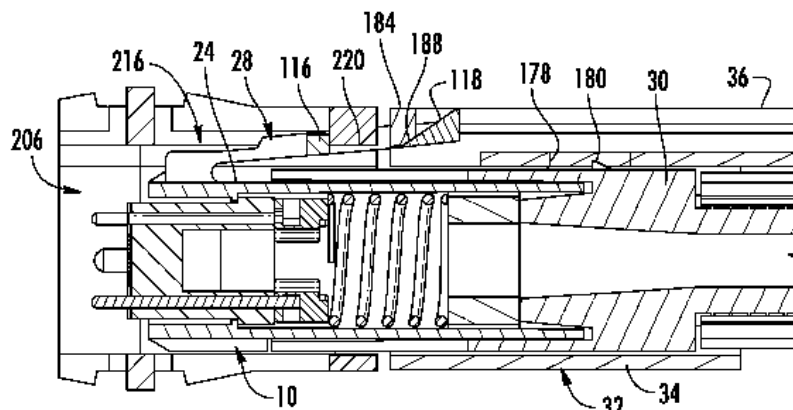
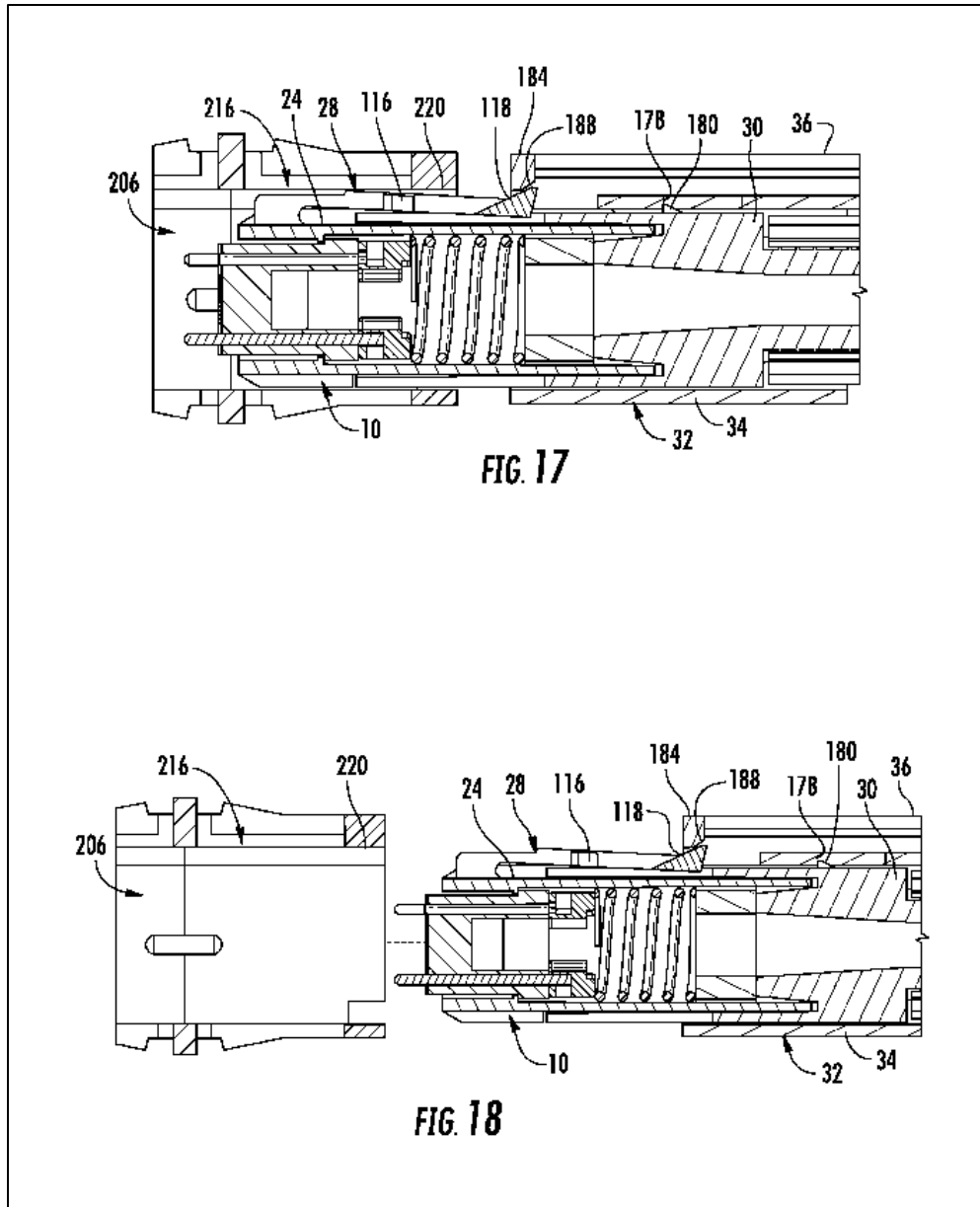


FIG. 16

EX1005, FIGS. 15-16.



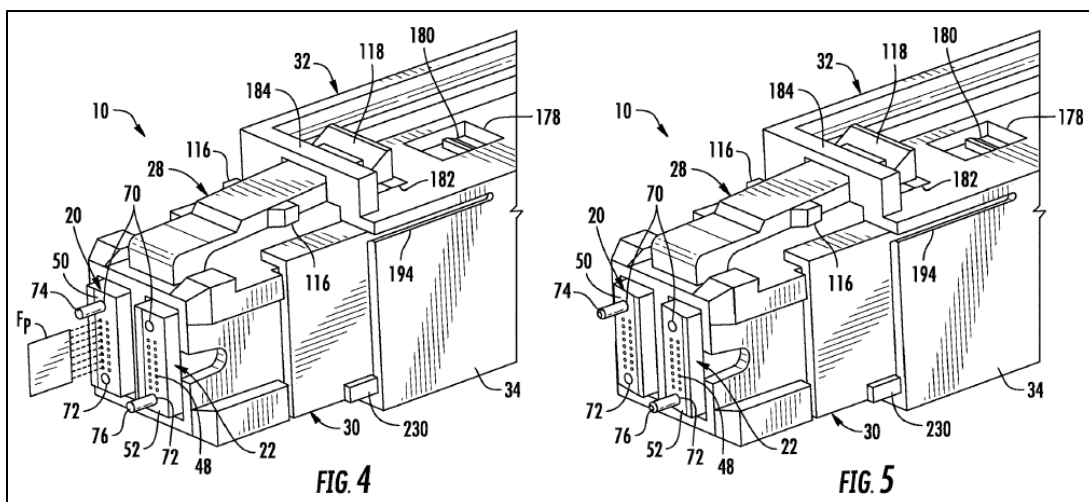
EX1005, FIGS. 17-18.

216. Lin explains that after “the outer body 30 [sic] has been moved in a rearward direction (e.g., by pulling the handle 36) so that the sloped surfaces 188 of the crossbar member 184 contact the ramp 118 of the latch arm 28. Further movement of the outer body 30 [sic] in the rearward direction results in the crossbar member 184 moving along the ramp 118 and causing the latch arm 28 to

flex toward the inner connector body 24.” EX1005, ¶58. I note that “outer body 30,” as referred to above, is a typographical error and 30 refers to “rear connector body” as previously defined. *See, e.g.*, EX1005, ¶¶26, 45, 50, 56. The outer body is previously defined as “outer body 32.” *See, e.g.*, EX1005, ¶¶26, 45, 50, 57. My opinion does not change because of the typographical error.

217. Thus, the elongate arm provided by outer body 32 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by bodies 24, 30 whereby the surfaces 188 of the edge provided by the crossbar member 184 slide longitudinally along the upper surface of the latch arm 28 provided by the ramp 188 to depress the latch arm 28. EX1005, ¶58. (“Thus, the outer body 32 may be used to depress the latch arm 28.”).

218. Lin further provides that the fiber optic connector 10 includes two multi-fiber ferrules 20, 22. EX1005, ¶58. Some embodiments showing enlarged multi-fiber ferrules 20, 22 can be seen, *e.g.*, in Figures 4 and 5.



EX1005, FIGS. 4-5.

219. Lin describes that the multi-fiber ferrules 20, 22 shown in Figure 4 “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. If each of the four rows of bores 48 are considered to extend in a vertical row, the latch arm 28 is located above the housing of Lin’s connector.

3. Reasons to Combine

220. First, a POSITA would recognize that Nguyen and Lin provide interrelated teachings and are in the same field of endeavor. I believe that 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. Thus, a POSITA would have expected to achieve at least equivalent results by extending Nguyen’s latch 208 to include a ramp, similar to the ramp 118 of Lin’s latch 28, and to provide an opening with a crossbar at the front end of Nguyen’s handle 300 to receive and engage the ramp added to the latch 208 similarly to how Lin’s opening 182 and crossbar 184 receive and engage Lin’s ramp 118.

221. Furthermore, a POSITA would have recognized that such a modification would only require a small structural change to modify Nguyen's distal end 310 to construct an opening that fits latch 208 and modify latch 208 to angle upwards toward the distal end 310 in the transverse axis. A POSITA would understand that such a modification would be obvious to try in order to prevent separation of the actuating components. For example, it can be seen in Figure 12 of Nguyen that the distal end 310 of handle 300 is not flush with latch 208 when actuated. EX1009, FIG. 12. Furthermore, the top surface 320 of the distal end 310 is similarly not flush with the terminal surface 162 of the distal end 160 which is ultimately part of the guide. EX1009, ¶32, FIG. 12. A POSITA would understand that in Figure 12, should a user pull handle 300 too far in the proximal direction, latch 208 and/or distal end 310 could undergo potential damage or separation as there is no opening and/or edge to prevent latch 208 and distal end 310 from separating should too much force be applied to handle 300. Therefore, a POSITA would have been motivated to incorporate the simpler features of the latching mechanism as disclosed by Lin, in order to yield a smoother latching mechanism in Nguyen.

222. A POSITA would have recognized that this would be a simple structural change to the latch mechanism that improves construction of the actuating mechanism. The extension of Nguyen's latch 208 and replacement of

Nguyen's bending distal end 310 with an opening and crossbar mechanism like Lin's would therefore have been a simple substitution of one known element for another to obtain predictable results and for which a POSITA would have had a reasonable expectation of success.

223. Accordingly, it is my opinion that the modification of Nguyen's connector to release the latch with a ramp, opening, and crossbar configuration as disclosed in Lin would have been obvious to a POSITA. Throughout my analysis herein, when I refer to the combination of Nguyen and Lin, it is the above-described particular combination to which I refer. Additionally, this modification does not conflict with any of the features of Nguyen cited with regard to any claim or claim element in Ground 1 or Ground 2. Thus, the result of this obvious modification of Nguyen in view of Lin would satisfy the limitations of the claims challenged in this ground as discussed below.

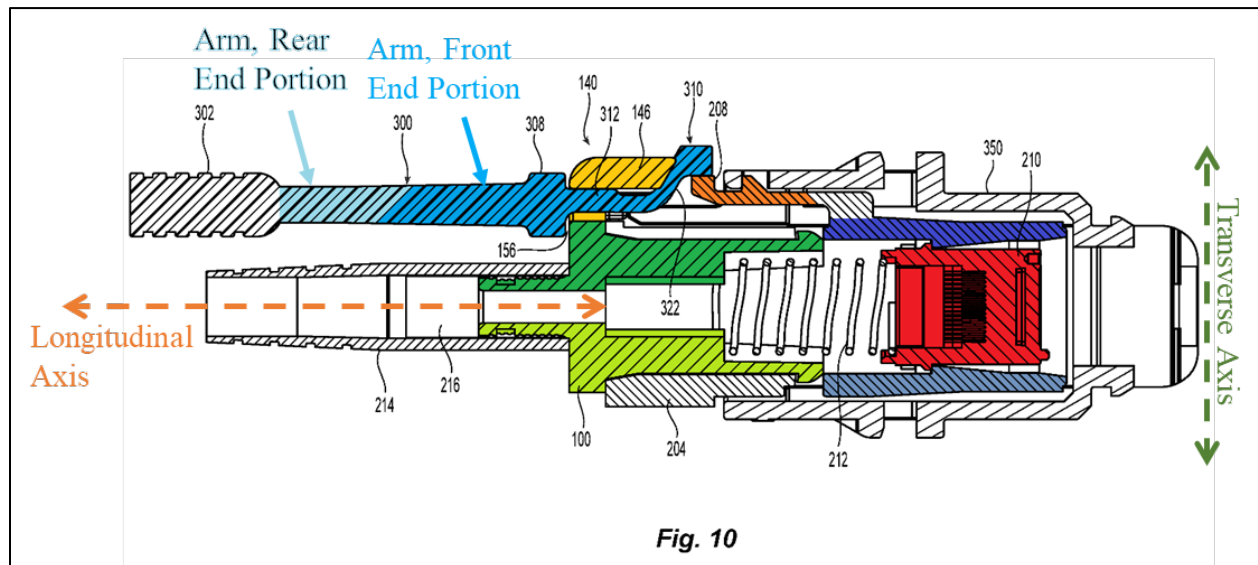
B. Claim 27

1. Preamble – “The optical fiber connector as set forth in claim 26, wherein”

224. Claim 27 depends upon claims 26 and 23, and for at least the reasons discussed above in reference to claim 23 and claim 26, Nguyen anticipates claim 23 and claim 26. *See* Sections IX.A, IX.D, and X.A. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 27 of the '369 patent.

2. Element [27.1] – “the front end portion of the elongate arm defines an opening.”

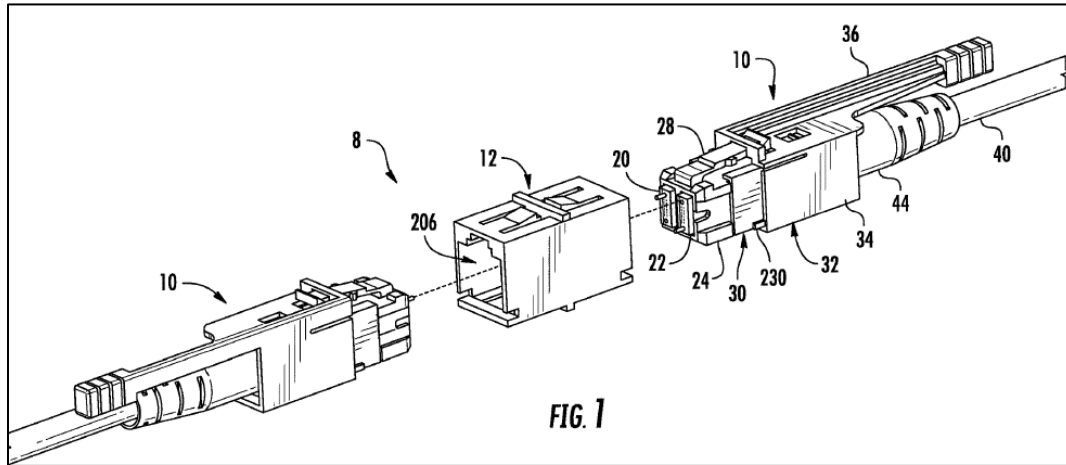
225. It is my opinion a POSITA would have understood Nguyen in view of Lin renders obvious the features of claim element [27.1]. As noted above with respect to claim 26, Nguyen discloses an elongate arm provided by part of an elongate handle 300 that comprises a front end portion and a rear end portion. *See* Section IX.D; EX1009, ¶27, FIG. 10.



EX1009, FIG. 10 (annotated).

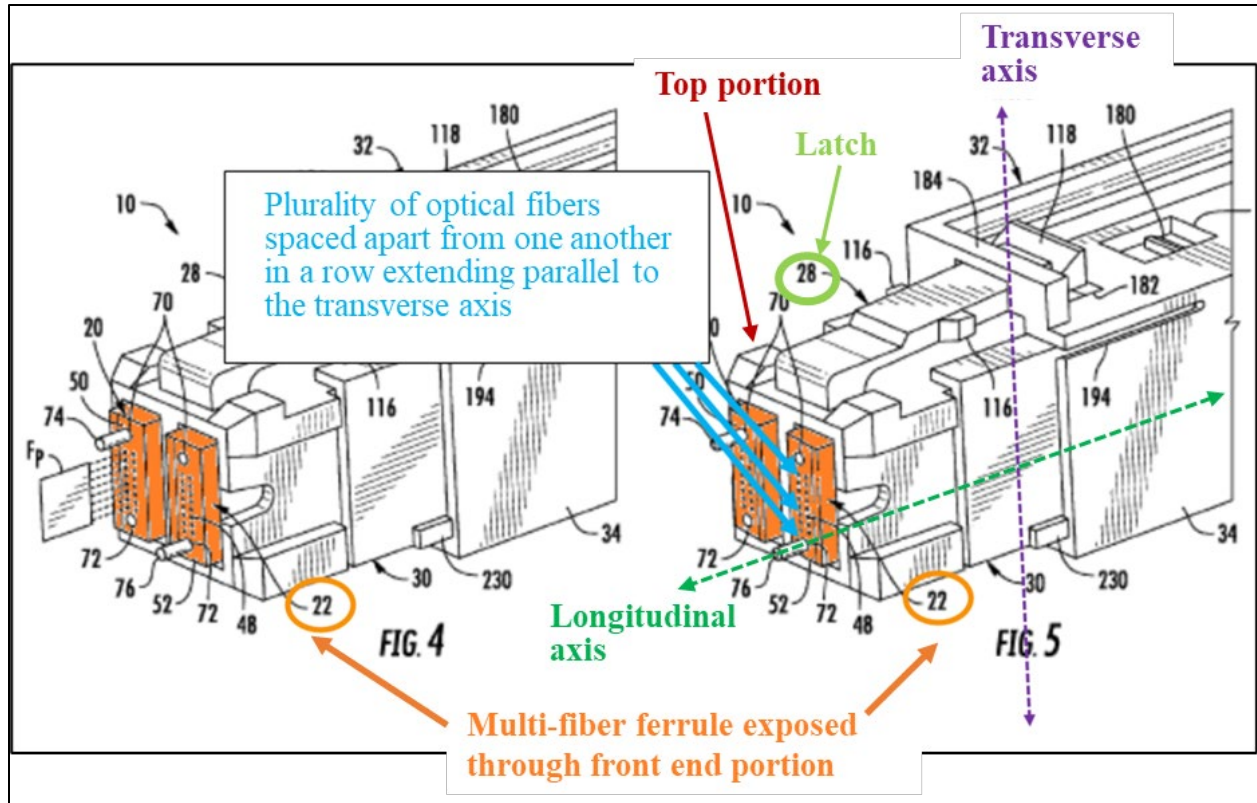
226. Patent Owner may allege that Nguyen does not expressly disclose wherein the front end portion of the handle 300 defines an opening. However, Lin discloses an optical fiber connector comprising an elongate arm having a front end portion that defines an opening, and it would have been obvious to modify Nguyen in view of Lin to include those features.

227. Lin discloses similar fiber optic connectors as Nguyen for “multiple, multi-fiber ferrules, such as MT ferrules.” EX1005, ¶2. Lin’s fiber optic connector system 8 includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25. Lin shows a fiber optic connector 10 in Figure 1.



EX1005, FIG. 1.

228. Lin’s fiber optic connector 10 includes a latch arm 28 that extends outwardly from an inner connector body 24. EX1005, ¶26, FIG. 1. The latch arm 28 is a depressible latch (latch arm 28) above a top portion of a connector housing formed by the connector body 24 and rear connector body 30. EX1005, ¶¶26, 52, FIGS. 3-5.



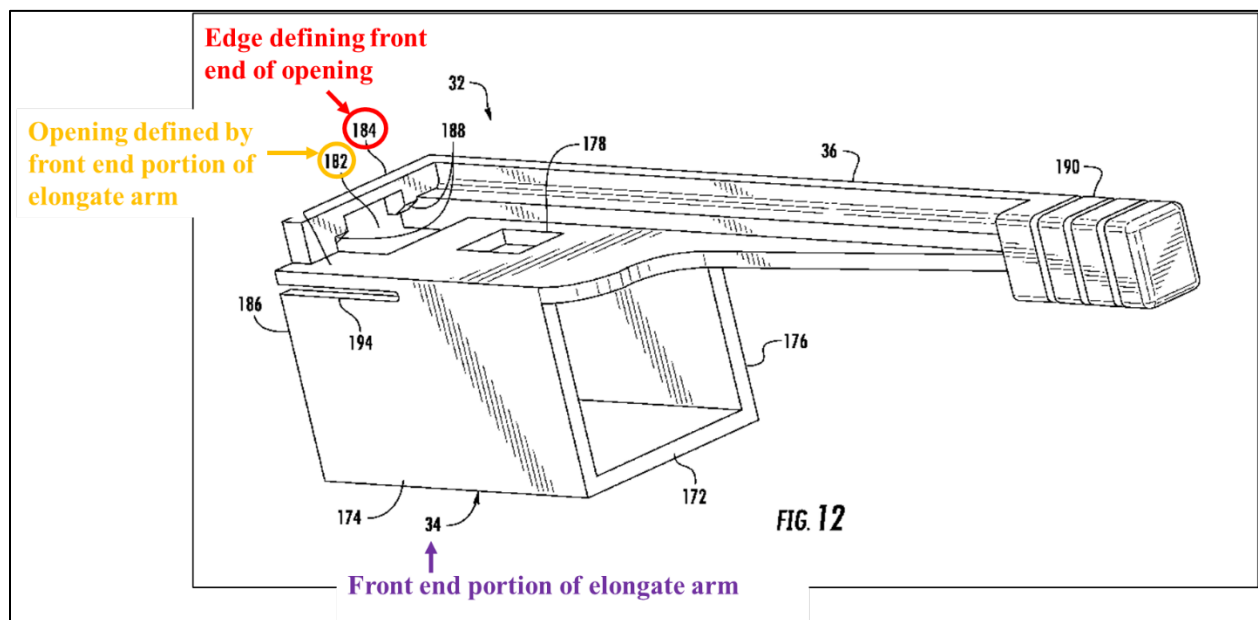
EX1005, FIGS. 4-5 (annotated).

229. Lin describes that the multi-fiber ferrules 20, 22 shown in Figure 4 “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. If each of the four rows of bores 48 are considered to extend in a vertical row, the latch arm 28 is located above the housing of Lin’s connector.

230. Lin further discloses an elongate arm provided by a handle 36 and outer body 32 configured to be pulled rearward along the longitudinal axis with respect to the connector housing, whereby an edge defining a front end of an opening defined by a front end portion of the elongate arm slides longitudinally

along the upper surface of the latch, which the edge opposes, to depress the depressible latch. EX1005, ¶¶26, 45, 52, 57-60, FIGS. 12, 15-18.

231. In particular, Lin discloses “an outer body 32 that cooperates with the... latch arm 28.” EX1005, ¶26. Lin explains that “the outer body 32 includes a housing portion 34... and a handle 36 extending rearwardly from the housing portion 34” and that “the housing portion 34 can cause the latch arm 28 to flex toward the inner connector body 24.” EX1005, ¶26. The outer body 32 is illustrated alone in Figure 12.



EX1005, FIG. 12 (annotated).

232. As shown above, the housing portion 34 is a front end portion of the outer body 32 because it is a portion that includes the front end 186, and the housing portion 34 defines a latch opening 182. EX1005, ¶45, FIG. 12. Lin states that “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. Further, the 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 the surfaces 188 oppose the upper surface of the latch arm 28 provided by the ramp 118. EX1005, ¶45, FIGS. 15-18.

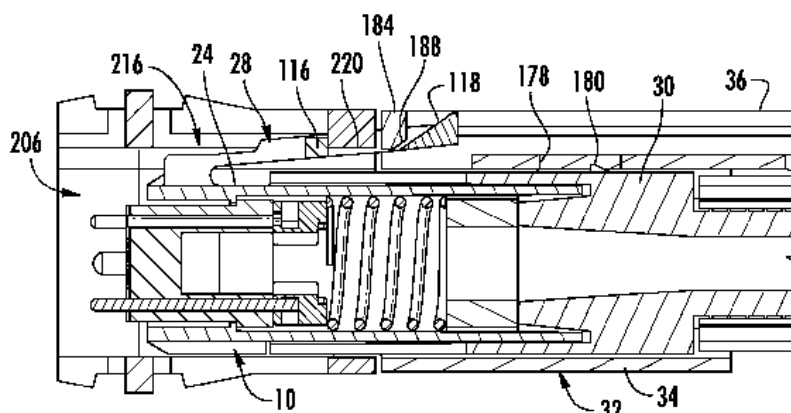


FIG. 15

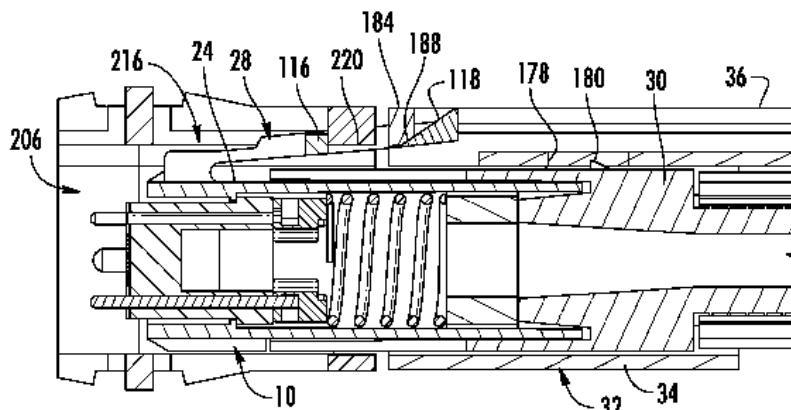
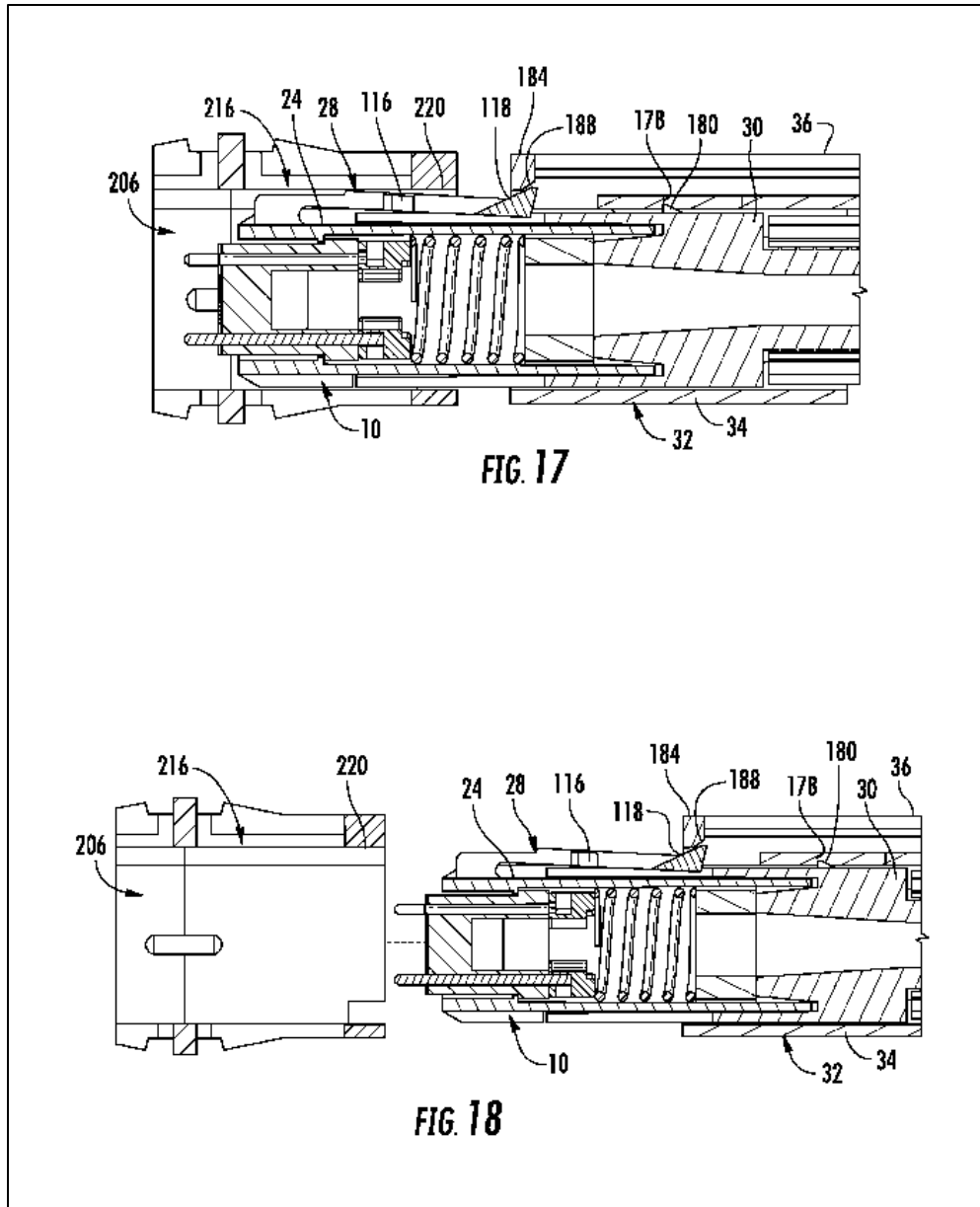


FIG. 16

EX1005, FIGS. 15-16.



EX1005, FIGS. 17-18.

233. Lin explains that after “the outer body 30 [sic] has been moved in a rearward direction (e.g., by pulling the handle 36) so that the sloped surfaces 188 of the crossbar member 184 contact the ramp 118 of the latch arm 28. Further movement of the outer body 30 [sic] in the rearward direction results in the crossbar member 184 moving along the ramp 118 and causing the latch arm 28 to

flex toward the inner connector body 24.” EX1005, ¶58. I note that “outer body 30,” as referred to above, is a typographical error and 30 refers to “rear connector body” as previously defined. *See, e.g.*, EX1005, ¶¶26, 45, 50, 56. The outer body is previously defined as “outer body 32.” *See, e.g.*, EX1005, ¶¶26, 45, 50, 57. My opinion does not change because of the typographical error. EX1005, ¶26. Thus, the elongate arm provided by outer body 32 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by bodies 24, 30 whereby the surfaces 188 of the edge provided by the crossbar member 184 slide longitudinally along the upper surface of the latch arm 28 provided by the ramp 188 to depress the latch arm 28. EX1005, ¶26. (“Thus, the outer body 32 may be used to depress the latch arm 28.”).

234. As explained above, I believe that 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 arm 36 and latch 28 because both Nguyen and Lin disclose connectors for enabling remote release of multi-fiber ferrules by pulling an arm or handle rearwardly to depress a latch positioned similarly relative to the orientation of the fibers of the ferrule or ferrules. *See* Section X.A.3. Nguyen and Lin both disclose connectors for multi-fiber ferrules configured to hold the ferrules such that the fibers are arranged in a vertical row, and the latch is disposed above a top portion of the connector housing. *See* Sections X.A.1, X.A.2. Both further disclose

an elongate arm configured to be pulled rearwardly to depress the latch, thereby releasing the connector from an adaptor. EX1005, ¶26. Thus, a POSITA would have expected to Nguyen's connector 200 to be releasable from an adaptor if its latch 208 was modified to include a ramp, similar to the ramp 118 of Lin's latch 28, and if its arm 300 was modified to include an opening and crossbar at the front end to receive and engage the ramp added to the latch 208 similarly to how Lin's opening 182 and crossbar 184 receive and engage Lin's ramp 118. The extension of Nguyen's latch 208 and replacement of Nguyen's bending distal end 310 with an opening and crossbar mechanism like Lin's would therefore have been a simple substitution of one known element for another to obtain predictable results.

235. Accordingly, it is my opinion that implementing the latch mechanism (including the ramp, opening, and crossbar configuration) disclosed by Lin into the optical fiber connector of Nguyen would have been obvious to a POSITA. *See* Section X.A. Additionally, in doing so the recited features of claim 23 and claim 26 that are disclosed by Nguyen would be preserved in the specific combination of the prior arts. Thus, it is my opinion that Nguyen in view of Lin renders obvious claims 23 and 26.

236. Thus, I believe that Nguyen in view of Lin renders obvious the additional features of claim element [27.1]. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 27.

C. Claim 28

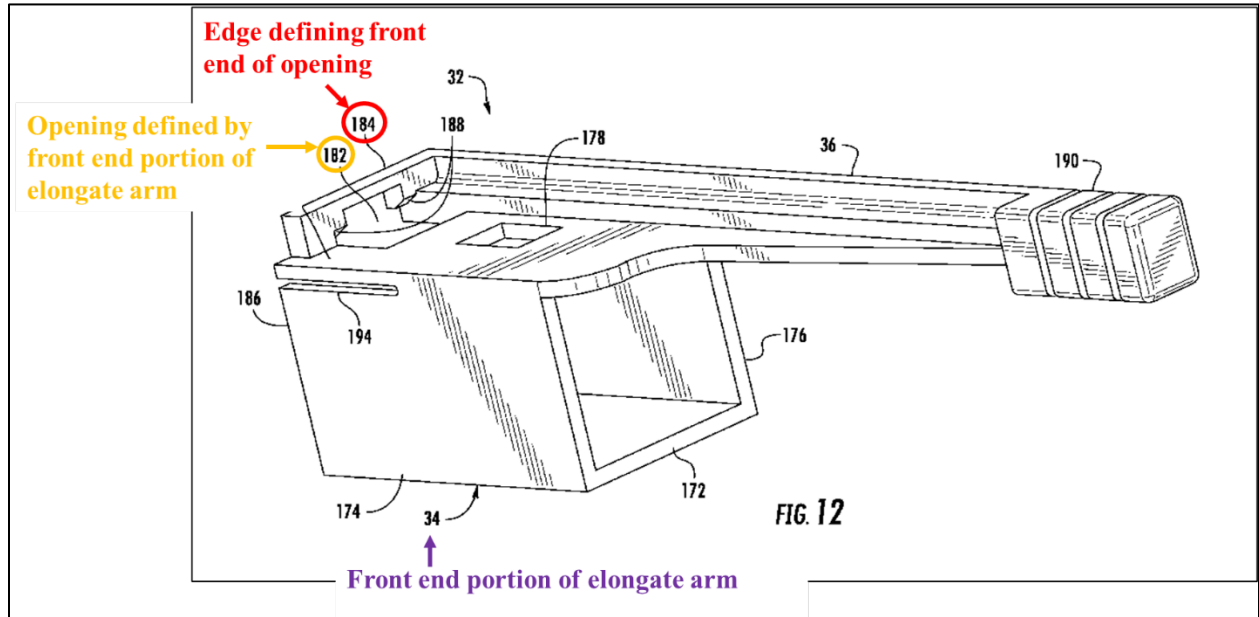
1. Preamble – “The optical fiber connector as set forth in claim 27, wherein”

237. Claim 28 depends upon claim 23 and claims 26-27, and for at least the reasons discussed above in reference to claim 23 and claims 26-27, Nguyen in view of Lin renders obvious claim 23 and claims 26-27. *See* Sections IX.A, IX.D, and X.A-B. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin also renders obvious claim 28 of the '369 patent.

2. Element [28.1] – “the depressible latch is received in the opening.”

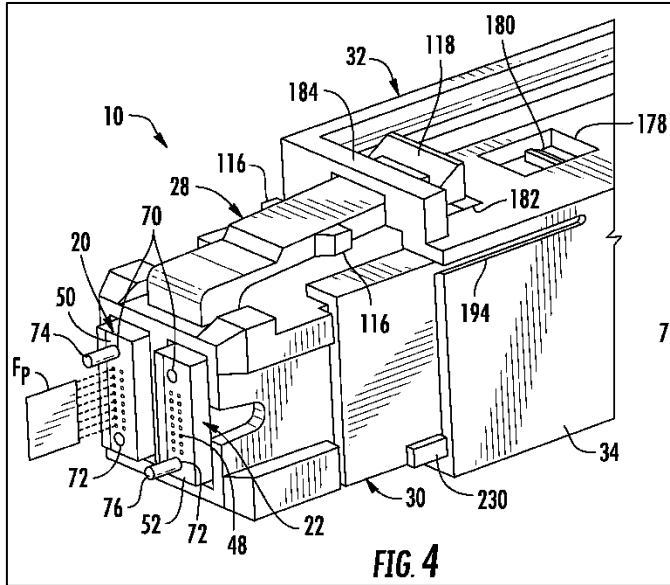
238. It is my opinion a POSITA would have understood Nguyen in view of Lin renders obvious the features of claim element [28.1]. As noted above, Patent Owner may allege that Nguyen does not expressly disclose wherein the elongate arm provided by part of Nguyen's handle 300 defines an opening. *See* Section X.B. Nguyen therefore may not expressly disclose wherein the latch 208 is received in the opening. However, as also explained above, it would have been obvious to modify Nguyen in view of Lin to replace Nguyen's depressing mechanism, wherein the handle 300 comprises an end 310 configured to bend downward onto the latch 208, with a mechanism like Lin's wherein the end of the handle comprises an opening within which the latch is received to be engaged by a crossbar. EX1005, ¶26.

239. In particular, Lin discloses an elongate arm in the form of a body 32 that defines an opening 182 “an outer body 32 that cooperates with the... latch arm 28.” EX1005, ¶¶26, 45, FIG. 12. The outer body 32 is illustrated alone in Figure 12.



EX1005, FIG. 12 (annotated).

240. Lin states that “[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, with the purpose of engaging a ramp 118 of the latch 28. EX1005, ¶45. The opening 182 accommodates the latch so that the ramp 118 can be received behind the crossbar 184. EX1005, ¶45, FIG. 4.



EX1005, FIG. 4.

241. Accordingly, a POSITA would have found obvious the modification of Nguyen in view of Lin to replace Nguyen's bending end 310 with a depressing mechanism alike to Lin's, which would therefore have included modifying the latch 208 to include a ramp, similar to Lin's ramp 118, received in the opening added to the front end portion of Nguyen's arm 300. *See* Section X.A. Thus, I believe that Nguyen in view of Lin renders obvious the additional features of claim element [28.1]. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 28.

D. Claim 29

1. Preamble – “The optical fiber connector as set forth in claim 28, wherein”

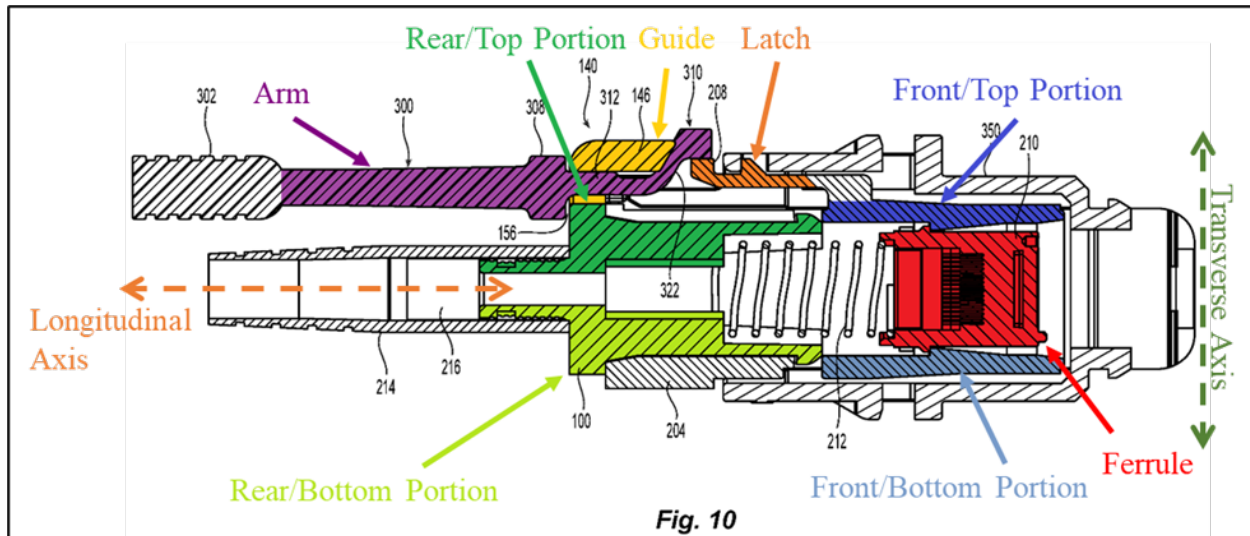
242. Claim 29 depends upon claim 23 and claims 26-28, and for at least the reasons discussed above in reference to claim 23 and claims 26-28, Nguyen in

view of Lin renders obvious claim 23 and claims 26-28. *See* Sections IX.A, IX.D, and X.A-C. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 29 of the '369 patent.

2. **Element [29.1] – “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.”**

243. It is my opinion a POSITA would have understood Nguyen in view of Lin renders obvious the features of claim element [29.1]. In my opinion, 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 in addition to the features of the claims from which claim 29 depends.

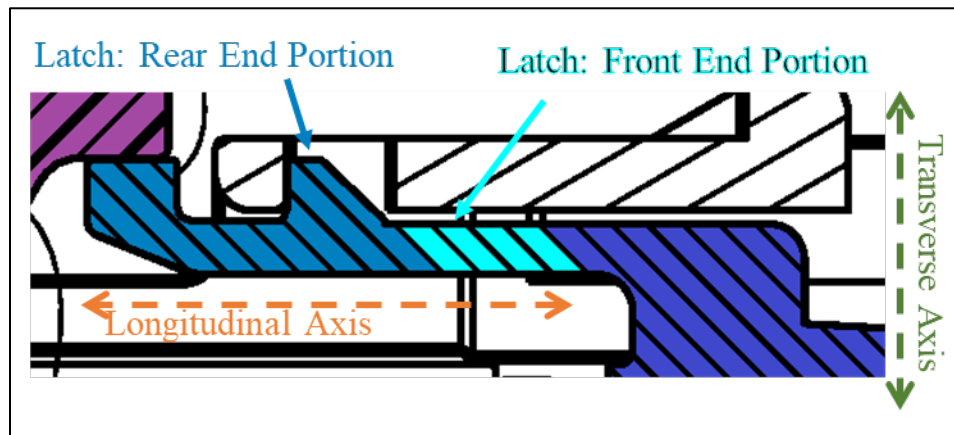
244. As noted above, Nguyen discloses an optical fiber connector 200 comprising a depressible latch 208 positioned above a top portion of a connector housing formed by a spring push 100 and a housing 204. *See* Sections IX.A.5-6.



EX1009, FIG. 10 (annotated).

245. The latch 208 further comprises a front end portion and a rear end portion spaced apart along the longitudinal axis, wherein the latch 208 extends along the longitudinal axis from the front end portion to the rear end portion.

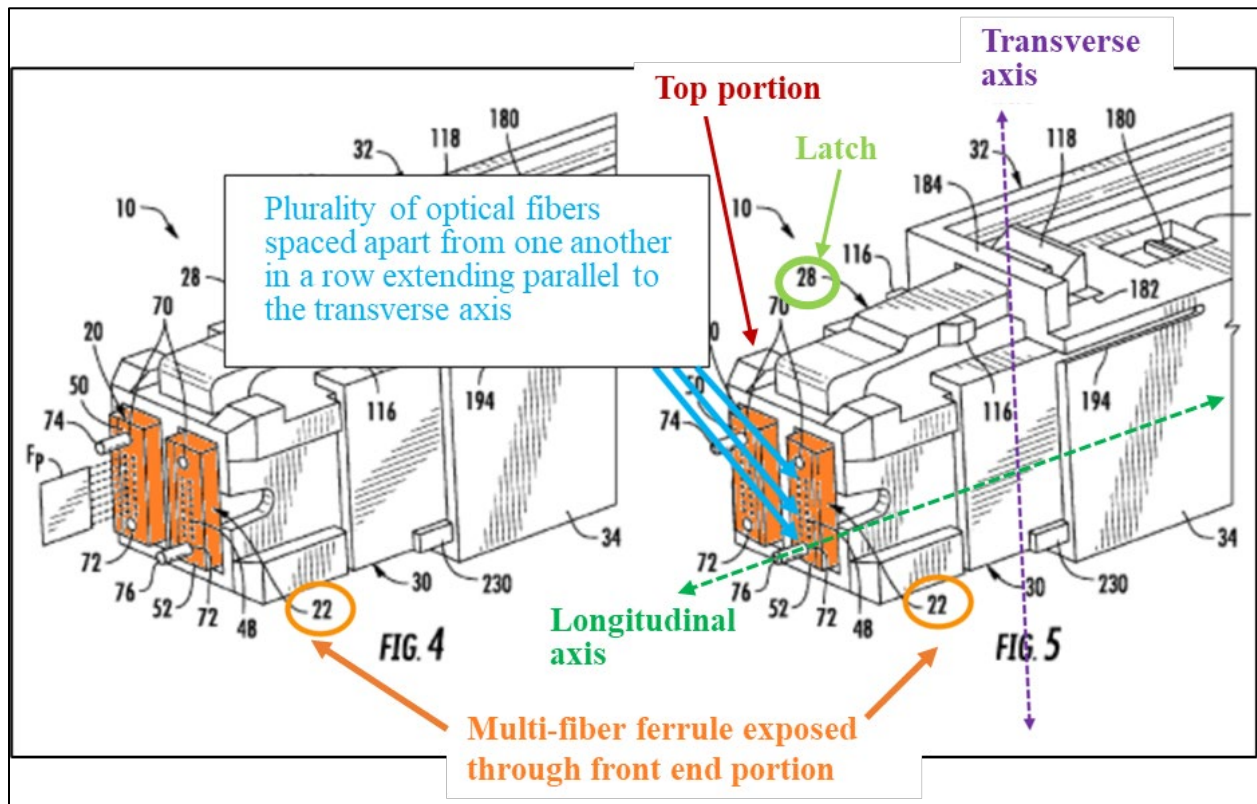
EX1009, FIG. 10.



EX1009, FIG. 10 (excerpt, annotated).

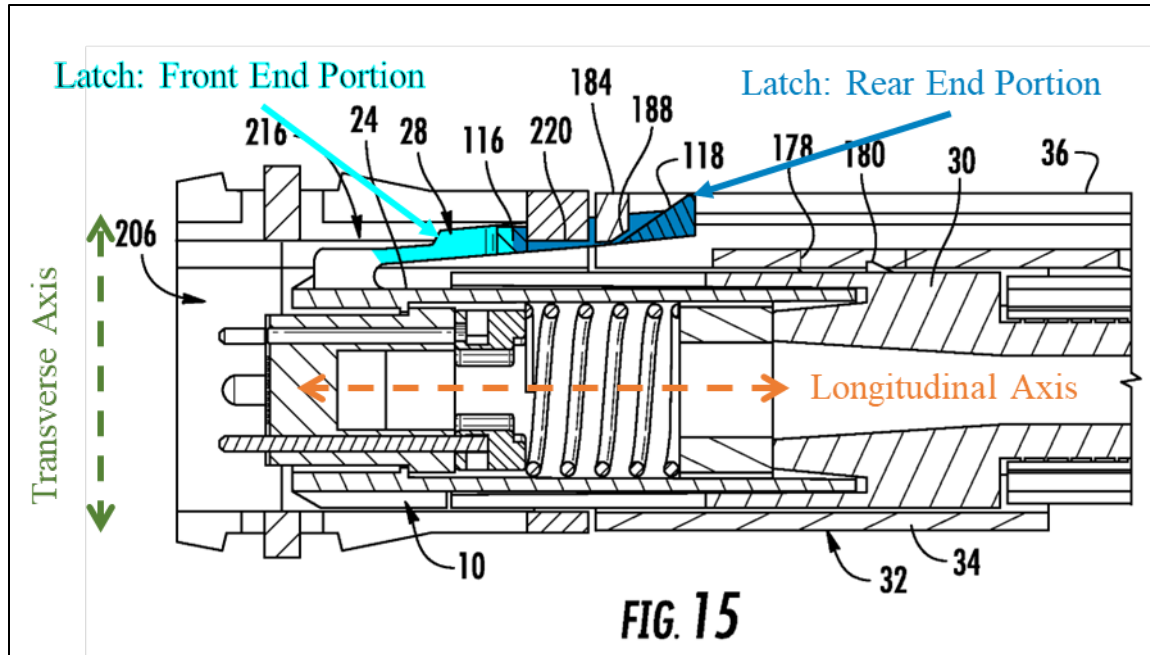
246. Patent Owner may allege that Nguyen does not expressly disclose wherein the depressible latch 208 extends upward along the transverse axis as the depressible latch extends along the longitudinal axis from the front end portion to

the rear end portion of the depressible latch. However, Lin discloses a similar optical fiber connector comprising a latch 28 positioned above a top portion of a connector housing along a transverse axis, wherein an elongate arm in the form of outer body 32 is configured to be pulled rearwardly along a longitudinal axis to depress the latch 28. *See* Section X.B.



EX1005, FIGS. 4-5 (annotated).

247. Lin's latch 28 has a front end portion and a rear end portion spaced apart along the longitudinal axis. EX1005, FIG. 15. Lin's latch 28 also 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 latch 28. EX1005, FIG. 15.



EX1005, FIG. 15 (annotated).

248. Modifying Nguyen's latch 208 to extend upward along the transverse axis as the latch 208 extends along the longitudinal axis from the front end portion to the rear end portion of the latch in a similar manner to Lin's latch 28 would be a simple matter of tilting Nguyen's latch 208 to an incline, which would not affect the function of Nguyen's connector 200. Modifying Nguyen in view of Lin to meet the features recited in this claim would therefore be a simple substitution of one known element, referring to the level orientation of Nguyen's latch 208, for another known element, referring to the inclined orientation of Lin's latch 28, to obtain predictable results. *See* Section X.A.

249. Thus, I believe that Nguyen in view of Lin renders obvious the additional features of claim element [29.1]. It is my opinion that a POSITA would

therefore have understood that understood Nguyen in view of Lin renders obvious claim 29.

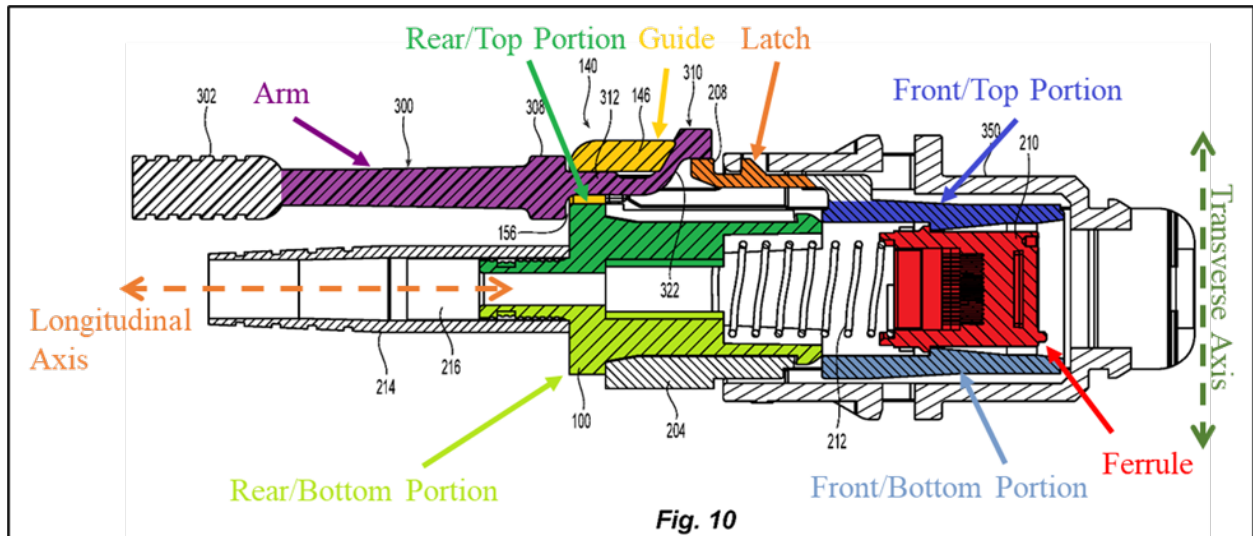
E. Claim 30

1. Preamble – “The optical fiber connector as set forth in claim 29, wherein”

250. Claim 30 depends on claim 23 and claims 26-29, and for at least the reasons discussed above in reference to claim 23 and claims 26-29, Nguyen in view of Lin renders obvious claim 23 and claims 26-29. *See* Sections IX.A, IX.D, and X.A-D. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 30 of the '369 patent.

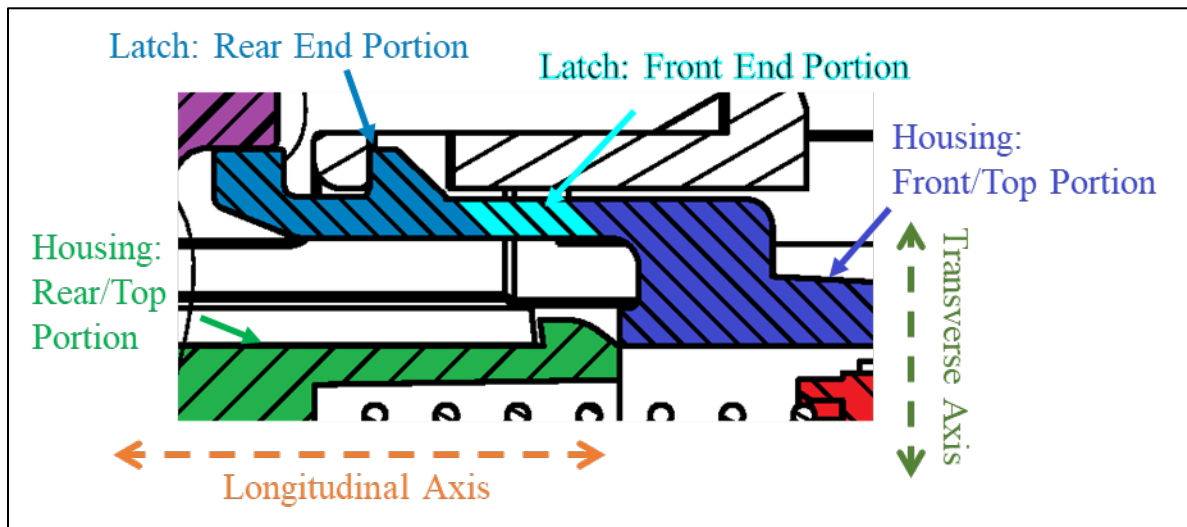
2. Element [30.1] – “the rear end portion of the depressible latch is spaced apart above the top portion of the connector housing along the transverse axis.”

251. It is my opinion that Nguyen discloses the features of claim element [30.1]. As noted above, Nguyen discloses an optical fiber connector 200 comprising a depressible latch 208 positioned above a top portion of a connector housing formed by a spring push 100 and a housing 204. *See* Sections IX.A.5-6, X.D; EX1009, FIG. 10.



EX1009, FIG. 10 (annotated).

252. As also noted above, Nguyen discloses a depressible latch 208 comprising a front end portion and a rear end portion spaced apart along the longitudinal axis, wherein the latch 208 extends along the longitudinal axis from the front end portion to the rear end portion. Section X.D; EX1009, FIG. 10.



EX1009, FIG. 10 (excerpt, annotated).

253. As shown above in annotated Figure 10, the rear end portion of the latch 208 is spaced apart above the top portion of the connector housing provided by Nguyen's spring push 100 and housing 204.

254. Accordingly, it is my opinion that Nguyen discloses the additional features of claim element [30.1]. Additionally, the features of claim element [30.1] disclosed by Nguyen would be preserved in the combination of Nguyen in view of Lin. *See* Section X.A. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 30.

F. Claim 31

1. Preamble – “The optical fiber connector as set forth in claim 30, wherein”

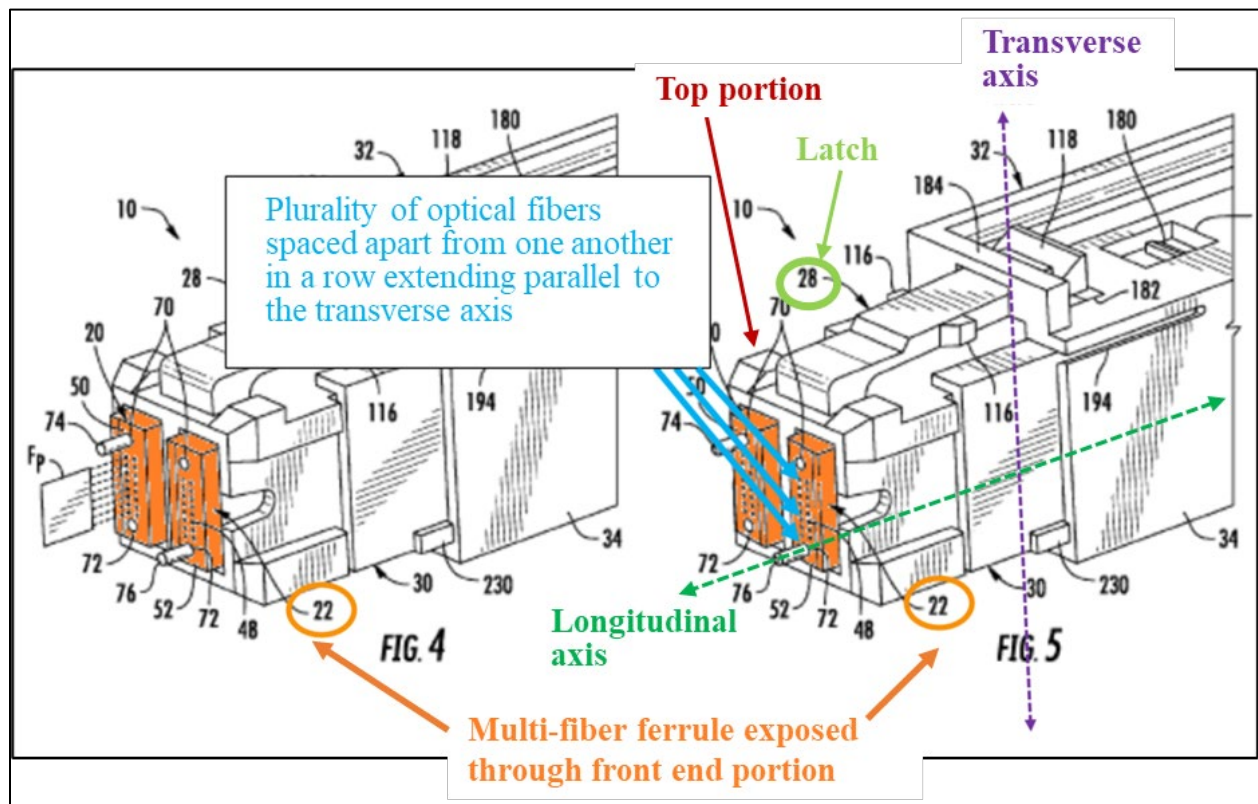
255. Claim 31 depends on claim 23 and claims 26-30, and for at least the reasons discussed above in reference to claim 23 and claims 26-30, Nguyen in view of Lin renders obvious claim 23 and claims 26-30. *See* Sections X.A-E. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin also renders obvious claim 31 of the '369 patent.

2. Element [31.1] – “the front end portion of the elongate arm includes an edge defining a front end of the opening.”

256. It is my opinion that Nguyen in view of Lin renders obvious claim element [31.1]. Patent Owner may allege that Nguyen does not expressly disclose wherein the elongate arm provided by Nguyen's handle 300 defines an opening. Patent Owner may further allege that Nguyen therefore does not disclose wherein

the front end portion of the handle 300 includes an edge defining a front end of an opening. However, as explained above in Section X.A and Section X.B, it would have been obvious to modify Nguyen in view of Lin to replace Nguyen's depressing mechanism, wherein the handle 300 comprises an end 310 configured to bend downward onto the latch 208, with a mechanism like Lin's wherein the end of the handle comprises an opening within which the latch is received to be engaged by a crossbar. EX1009, FIG. 10.

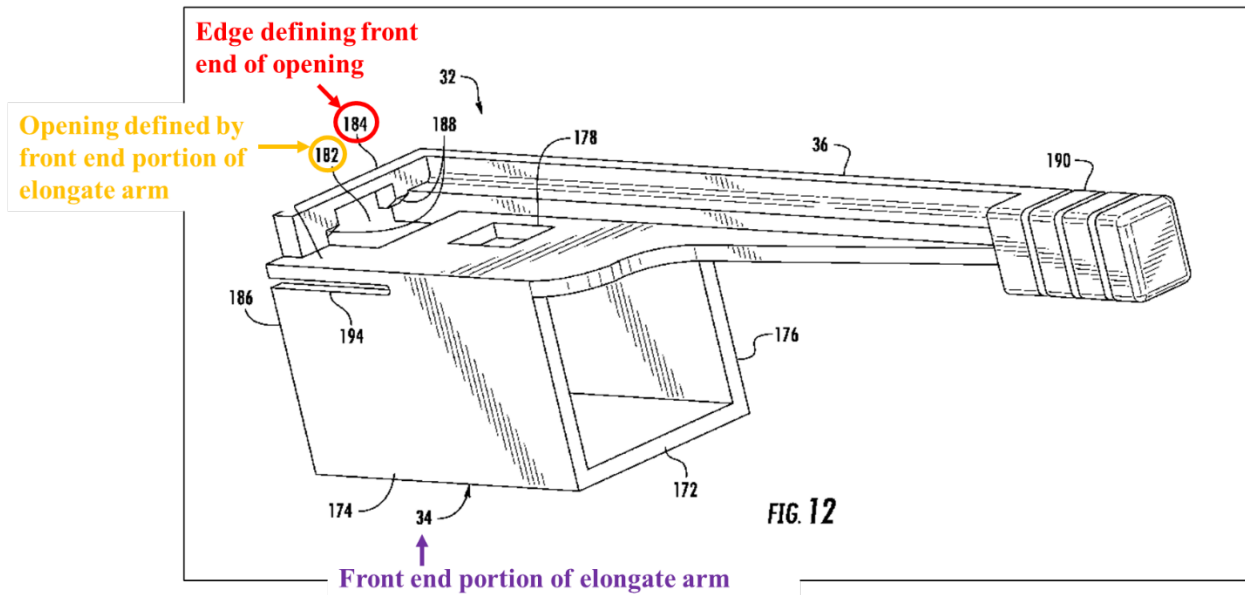
257. In particular, Lin discloses a depressible latch (latch arm 28) above a top portion of a connector housing. Sections VII.C, X.B; EX1005, ¶¶26, 52, FIGS. 3-5.



EX1005, FIGS. 4-5 (annotated).

258. Lin further discloses an elongate arm (outer body 32/handle 36) configured to be pulled rearward along the longitudinal axis with respect to the connector housing, whereby an edge defining a front end of an opening defined by a front end portion of the elongate arm slides longitudinally along the upper surface of the latch, which the edge opposes, to depress the depressible latch. EX1005, ¶¶26, 45, 52, 57-60, FIGS. 12, 15-18.

259. In particular, Lin discloses “an outer body 32 that cooperates with the... latch arm 28.” EX1005, ¶26. Lin explains that “the outer body 32 includes... a housing portion 34... and a handle 36 extending rearwardly from the housing portion 34” and that “the housing portion 34 can cause the latch arm 28 to flex toward the inner connector body 24.” EX1005, ¶26. The outer body 32 is illustrated alone in Figure 12.



EX1005, FIG. 12 (annotated).

260. As shown above, the housing portion 34 is a front end portion of the outer body 32 because it is a portion that includes the front end 186, and the housing portion 34 defines a latch opening 182. Lin states that “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. Further, the 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 the surfaces 188 oppose the upper surface of the latch arm 28 provided by the ramp 118 and provide part of the edge that defines the front end of the opening 182. EX1005, ¶45, FIGS. 15-18.

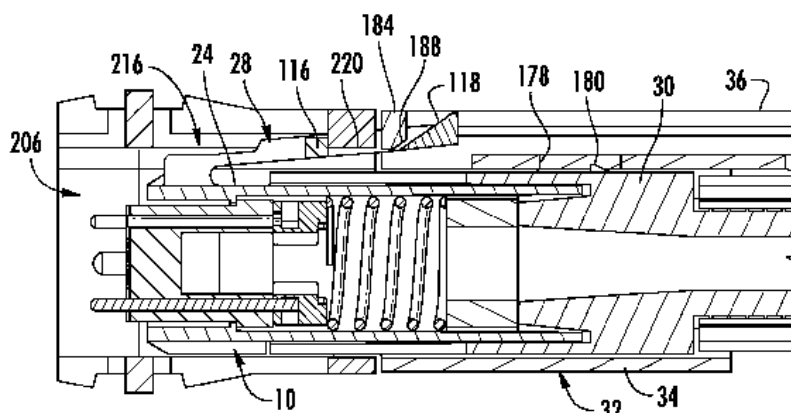


FIG. 15

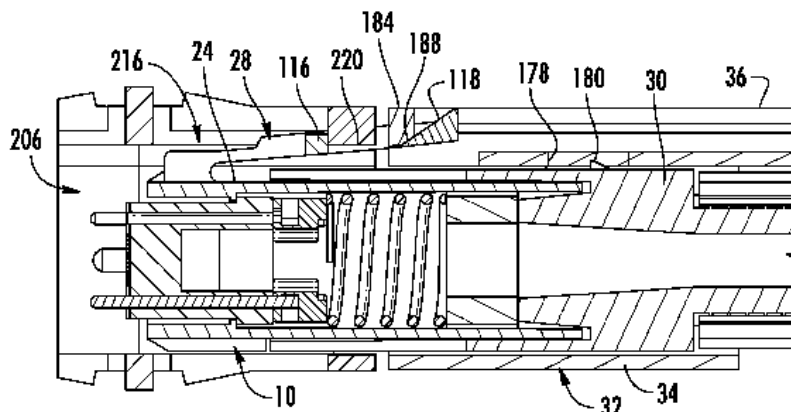
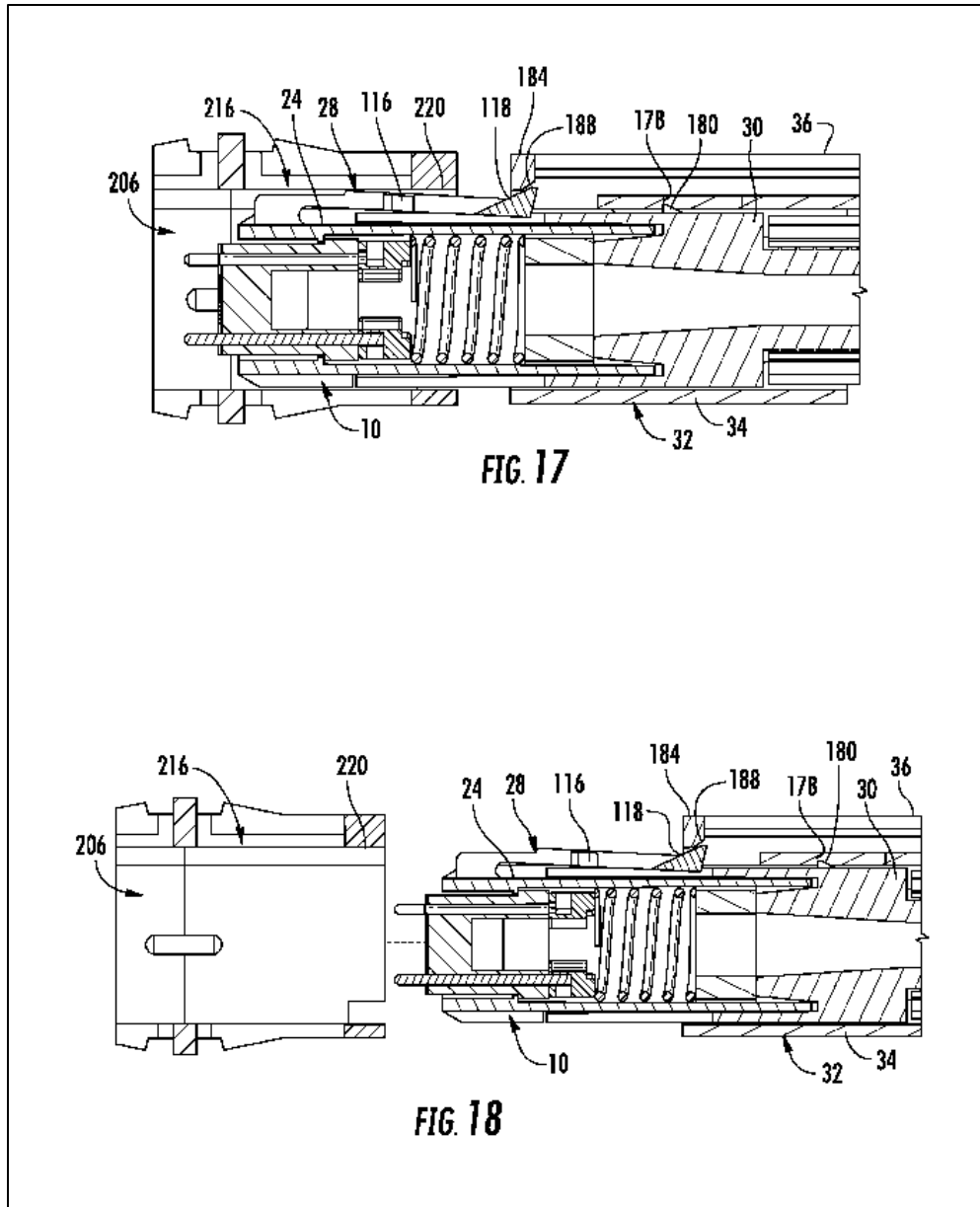


FIG. 16

EX1005, FIGS. 15-16.



EX1005, FIGS. 17-18.

261. Lin explains that after “the outer body 30 [sic] has been moved in a rearward direction (e.g., by pulling the handle 36) so that the sloped surfaces 188 of the crossbar member 184 contact the ramp 118 of the latch arm 28. Further movement of the outer body 30 [sic] in the rearward direction results in the crossbar member 184 moving along the ramp 118 and causing the latch arm 28 to

flex toward the inner connector body 24.” EX1005, ¶58. I note that “outer body 30,” as referred to above, is a typographical error and 30 refers to “rear connector body” as previously defined. *See, e.g.*, EX1005, ¶¶26, 45, 50, 56. The outer body is previously defined as “outer body 32.” *See, e.g.*, EX1005, ¶¶26, 45, 50, 57. My opinion does not change because of the typographical error. Thus, the elongate arm provided by outer body 32 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by bodies 24, 30 whereby the surfaces 188 of the edge provided by the crossbar member 184 slide longitudinally along the upper surface of the latch arm 28 provided by the ramp 188 to depress the latch arm 28. EX1005, ¶58. (“Thus, the outer body 32 may be used to depress the latch arm 28.”).

262. Accordingly, I believe a POSITA would have been motivated to modify Nguyen in view of Lin for reasons explained above in Section X.A, in which it would have been obvious to implement the latch mechanism (including the ramp, opening, and crossbar configuration) disclosed by Lin into the optical fiber connector of Nguyen. Additionally, in replacing Nguyen’s bending end 310 with a depressing mechanism alike to Lin’s as proposed above with regard to claims 27 and 28 (*see* Sections X.B-C), the front end of Nguyen’s handle 300 would therefore include an opening similar to Lin’s opening 182, a crossbar similar to Lin’s crossbar 184 that includes an edge defining a front end of the opening, and

surfaces similar to Lin's surfaces 188 to engage the latch. Thus, I believe that the Nguyen-Lin optical connector would render obvious the additional features of claim element [31.1]. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 31.

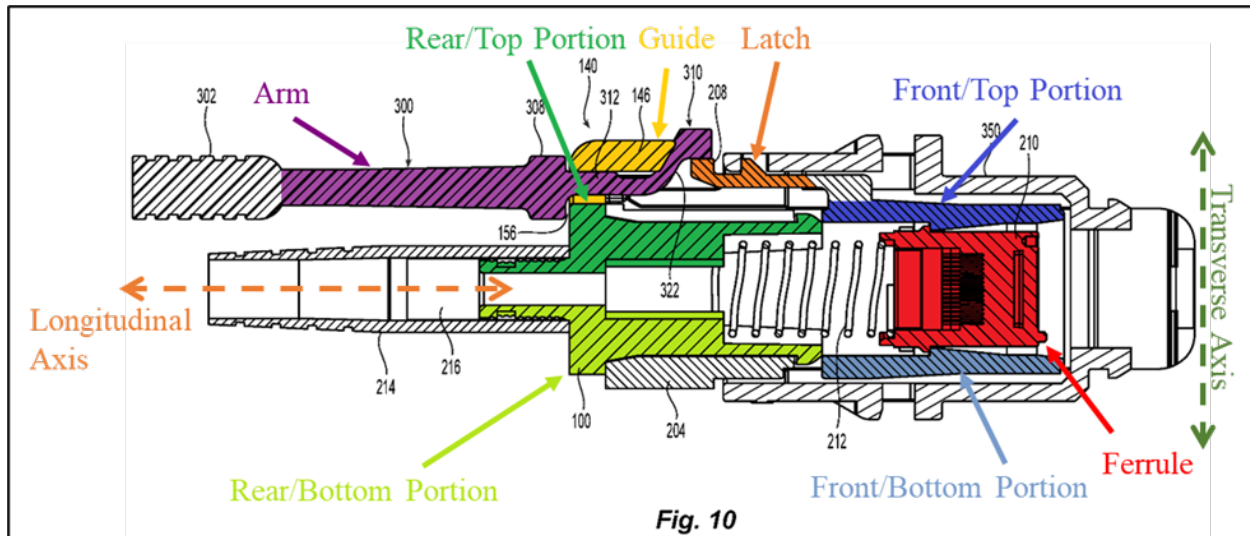
G. Claim 32

1. Preamble – “The optical fiber connector as set forth in claim 31, wherein”

263. Claim 32 depends on claim 23 and claims 26-31, and for at least the reasons discussed above in reference to claim 23 and claims 26-31, Nguyen in view of Lin renders obvious claim 23 and claims 26-31. *See* Sections IX.A, IX.D, and X.A-F. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 32 of the '369 patent.

2. Element [32.1] – “the depressible latch has an upper surface, the edge opposing the upper surface.”

264. It is my opinion that Nguyen in view of Lin renders obvious claim element [32.1]. As noted above, Nguyen discloses an optical fiber connector 200 comprising a depressible latch 208 positioned above a top portion of a connector housing formed by a spring push 100 and a housing 204. *See* Sections IX.A.5-6, X.D-E; EX1009, FIG. 10. As shown in multiple of Nguyen's figures, including the cross-sectional view of Figure 10, Nguyen's latch 208 has an upper surface, a portion of which abuts a lower surface of the end 310 of the handle 300.



EX1009, FIG. 10 (annotated).

265. Patent Owner 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. *See* Section X.F. Patent Owner may further allege that Nguyen does not expressly disclose wherein the upper surface of the latch 208 opposes such an edge. However, as further noted above, it would have been obvious to modify Nguyen in view of Lin to replace Nguyen's depressing mechanism, wherein the handle 300 comprises an end 310 configured to bend downward onto the latch 208, with a mechanism like Lin's wherein the end of the handle comprises an opening within which the latch is received to be engaged by a crossbar. *See* Section X.B.

266. The aforementioned modification of Nguyen in view of Lin would result in a device having an elongate arm that includes an opening in a front end portion thereof, wherein the front end portion of the arm further comprises an edge

defining a front end of the opening as recited in Claim 31, analogous to the edge of Lin's crossbar 184 that includes surfaces 188 defining a front end of Lin's opening 182. *See* Section X.F.

267. The device resulting from the aforementioned modification of Nguyen in view of Lin would further be configured with the edge opposing the upper surface of the latch as recited in this claim because such configuration is consistent with the portions of Lin's disclosure relating to the depressing mechanism carried over to Nguyen.

268. Lin explains that the 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 the surfaces 188 oppose the upper surface of the latch arm 28 provided by the ramp 118 and provide part of the edge that defines the front end of the opening 182. EX1005., ¶45, FIGS. 15-18.

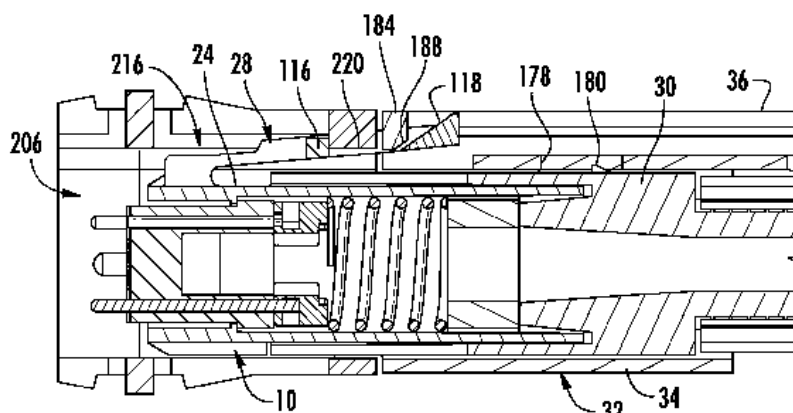


FIG. 15

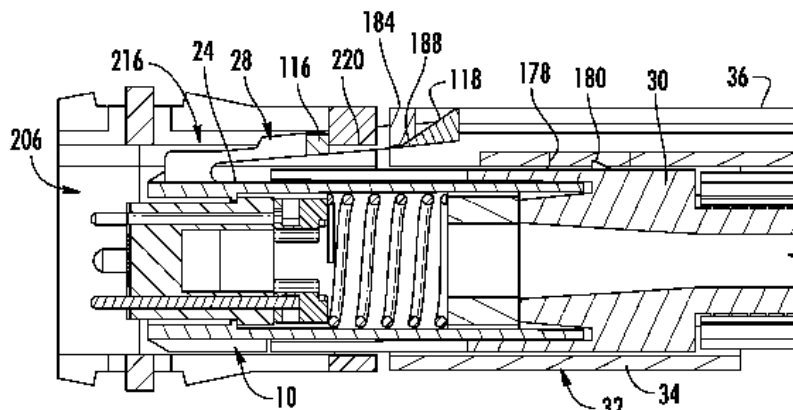
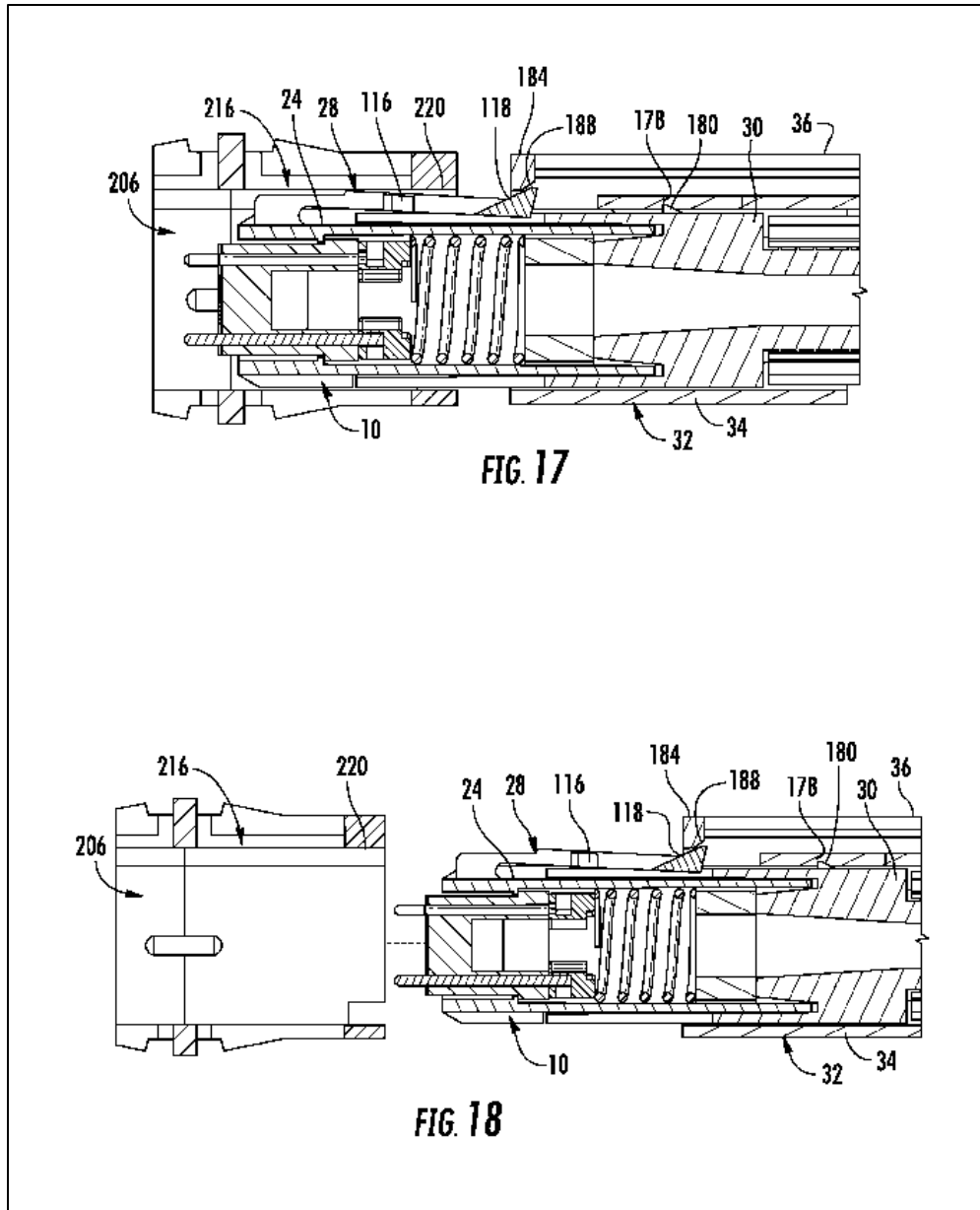


FIG. 16

EX1005, FIGS. 15-16.



EX1005, FIGS. 17-18.

269. Accordingly, a POSITA would have found obvious the modification to implement the latch mechanism (including the ramp, opening, and crossbar configuration) disclosed by Lin into the optical fiber connector of Nguyen, as described above with regard to claim 27. As explained above with regard to claim

27, this modification would have been a simple substitution of one known element for another to obtain predictable results. *See* Section X.A-B.

270. Thus, I believe that the Nguyen-Lin optical connector would render obvious the additional features of claim element [32.1]. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 32.

H. Claim 33

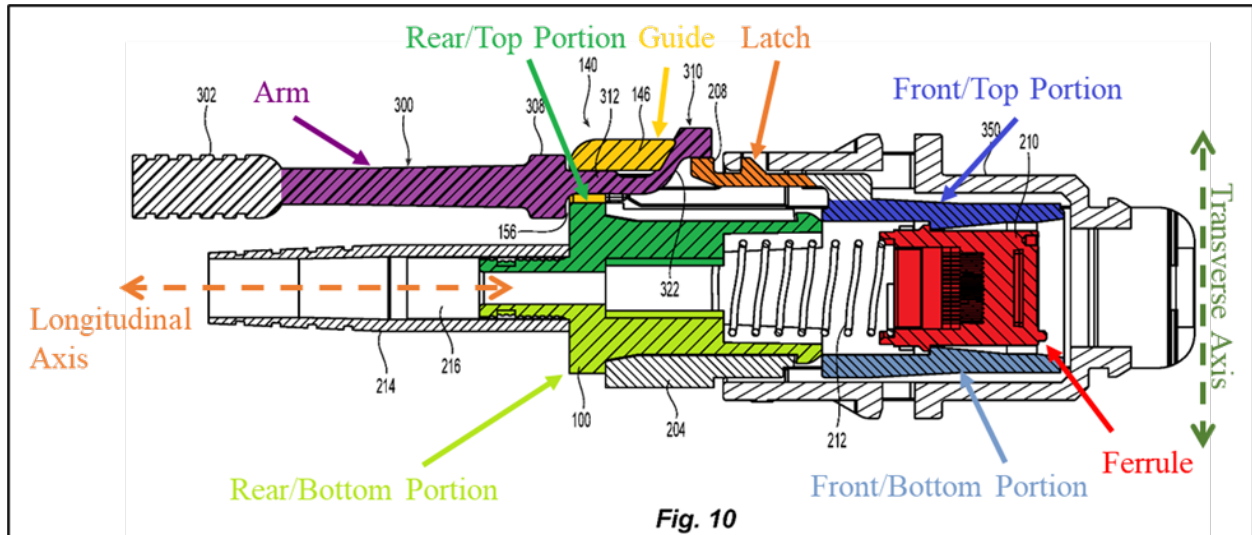
1. Preamble – “The optical fiber connector as set forth in claim 32, wherein”

271. Claim 33 depends on claim 23 and claims 26-32, and for at least the reasons discussed above in reference to claim 23 and claims 26-32, Nguyen in view of Lin renders obvious claim 23 and claims 26-32. *See* Sections IX.A, IX.D, and X.A-G. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 33 of the '369 patent.

2. Element [33.1] – “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.”

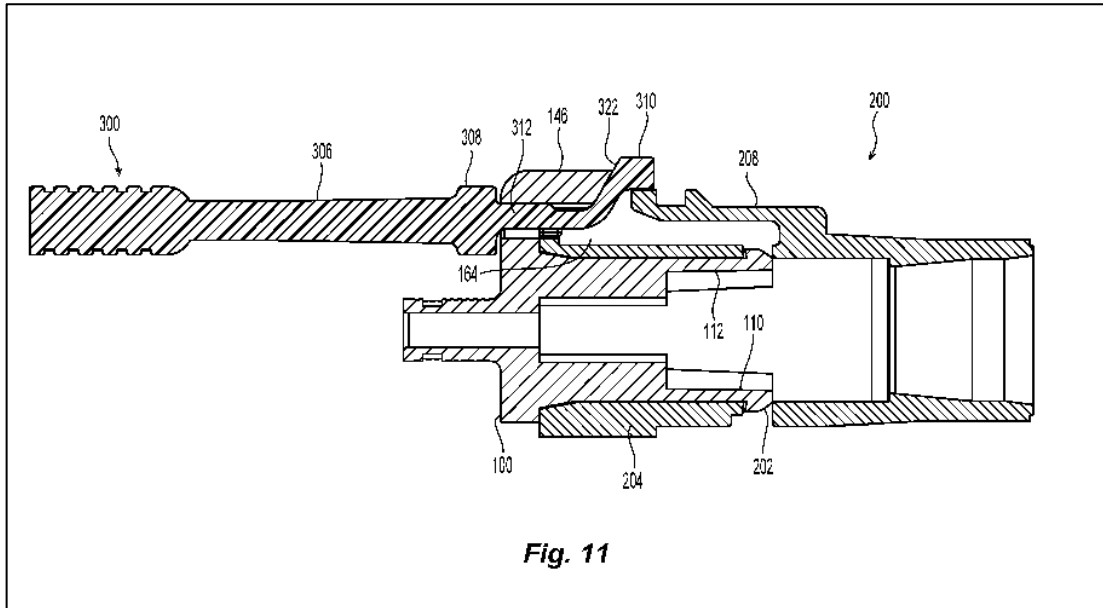
272. It is my opinion that Nguyen in view of Lin renders obvious claim element [33.1]. Nguyen discloses an optical fiber connector 200 comprising a depressible latch 208 positioned above a top portion of a connector housing formed

by a spring push 100 and a housing 204 and having an upper surface. *See* Sections IX.A.5-6, X.D-E; EX1009, FIG. 10.

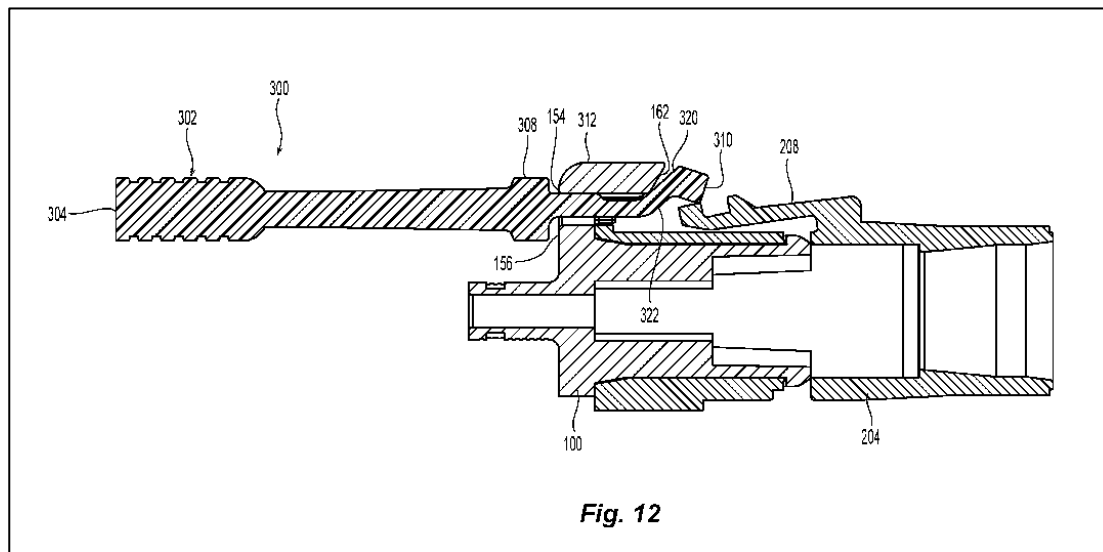


EX1009, FIG. 10 (annotated).

273. Nguyen further discloses wherein an elongate arm provided by the handle 300 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by the spring push 100 and housing 204 to depress the depressible latch 208. *See* Sections IX.A.5-6; EX1009, ¶32, FIGS. 11 and 12.



EX1009, FIG. 11.



EX1009, FIG. 12.

274. Patent Owner 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. *See* Sections X.F-G. Nguyen therefore may not disclose whereby the edge slides longitudinally along the upper surface. However, I believe it would have been obvious to modify Nguyen in view of Lin to replace

Nguyen's depressing mechanism, wherein the handle 300 comprises an end 310 configured to bend downward onto the latch 208, with a mechanism like Lin's wherein the end of the handle comprises an opening within which the latch is received to be engaged by a crossbar. *See* Sections X.A-B.

275. The aforementioned modification of Nguyen in view of Lin would result in a device having an elongate arm that includes an opening in a front end portion thereof, wherein the front end portion of the arm further comprises an edge defining a front end of the opening as recited in claim 31, analogous to the edge of Lin's crossbar 184 that includes surfaces 188 defining a front end of Lin's opening 182. *See* Section X.F.

276. The device resulting from the aforementioned modification of Nguyen in view of Lin would further be configured with the edge opposing the upper surface of the latch. *See* Section X.G.

277. The device resulting from the aforementioned modification of Nguyen in view of Lin would also be arranged so that 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 because that is how the depressing mechanism being carried from Lin operates.

278. Lin discloses that the 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 the surfaces 188 oppose the upper surface of the latch arm 28 provided by the ramp 118 and provide part of the edge that defines the front end of the opening 182. EX1005, ¶45, FIGS. 15-18.

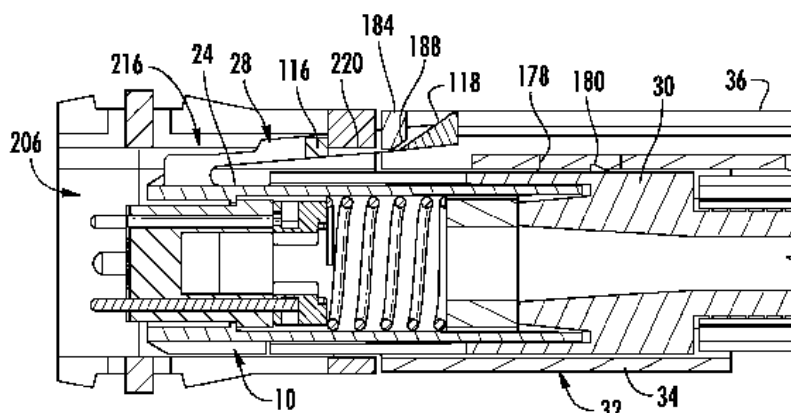


FIG. 15

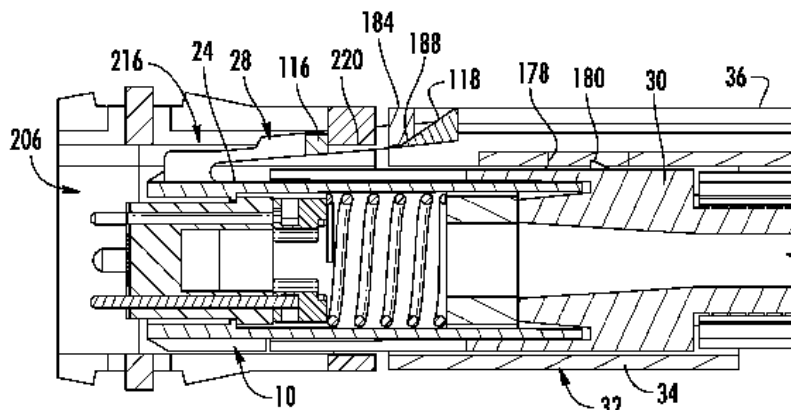
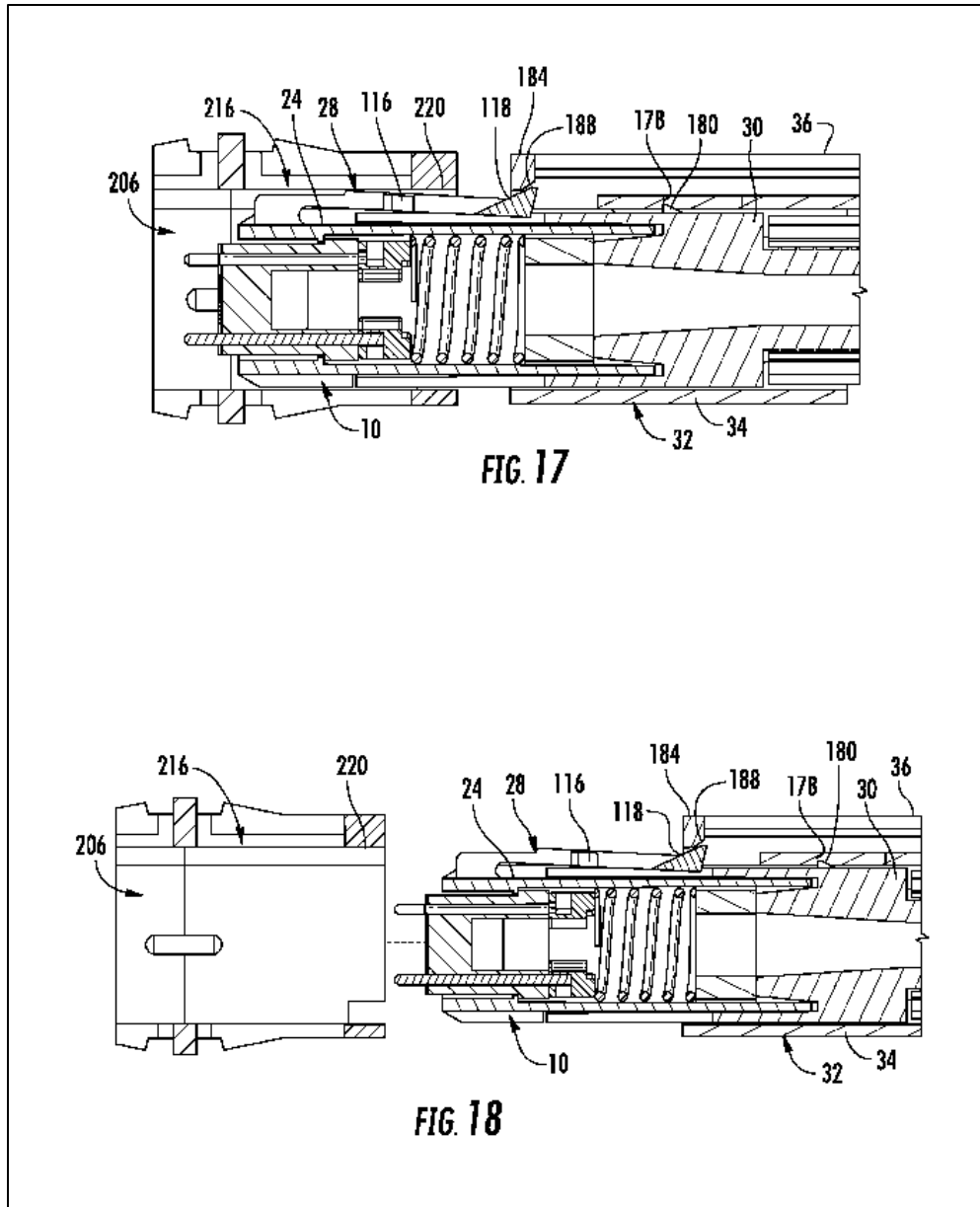


FIG. 16

EX1005, FIGS. 15-16.



EX1005, FIGS. 17-18.

279. Lin explains that after “the outer body 30 [sic] has been moved in a rearward direction (*e.g.*, by pulling the handle 36) so that the sloped surfaces 188 of the crossbar member 184 contact the ramp 118 of the latch arm 28. Further movement of the outer body 30 [sic] in the rearward direction results in the crossbar member 184 moving along the ramp 118 and causing the latch arm 28 to

flex toward the inner connector body 24.” EX1005, ¶58. I note that “outer body 30,” as referred to above, is a typographical error and 30 refers to “rear connector body” as previously defined. *See, e.g.*, EX1005, ¶¶26, 45, 50, 56. The outer body is previously defined as “outer body 32.” *See, e.g.*, EX1005, ¶¶26, 45, 50, 57. My opinion does not change because of the typographical error.

280. Thus, the elongate arm provided by outer body 32 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by bodies 24, 30 whereby the surfaces 188 of the edge provided by the crossbar member 184 slide longitudinally along the upper surface of the latch arm 28 provided by the ramp 188 to depress the latch arm 28. EX1005, ¶58. (“Thus, the outer body 32 may be used to depress the latch arm 28.”).

281. Accordingly, a POSITA would have found obvious the modification to implement the latch mechanism (including the ramp, opening, and crossbar configuration) disclosed by Lin into the optical fiber connector of Nguyen, as described above with regard to claims 27-32. *See* Sections X.A-G. As explained above with regard to claim 27, this modification would have been a simple substitution of one known element for another to obtain predictable results. *See* Sections X.A-B.

282. Furthermore, this modification would therefore have resulted in modifying Nguyen’s latch 208 and the front end of Nguyen’s handle 300 to

interact in the same manner as Lin's latch 28 and crossbar 184, wherein the handle forms an elongate arm including a crossbar that forms an edge that slides longitudinally along the upper surface of the latch to depress the latch when the arm is pulled rearward along a longitudinal axis. Thus, I believe that the Nguyen-Lin optical connector would render obvious the additional features of claim element [33.1]. It is my opinion that a POSITA would therefore have understood that Nguyen in view of Lin renders obvious claim 33.

I. Claim 34

1. Preamble – “The optical fiber connector as set forth in claim 33, wherein”

283. Claim 34 depends on claim 23 and claims 26-33, and for at least the reasons discussed above in reference to claim 23 and claims 26-33, Nguyen in view of Lin renders obvious claim 23 and claims 26-33. *See* Sections IX.A, IX.D, and X.A-H. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin also renders obvious claim 34 of the '369 patent.

2. Element [34.1] – “the guide defines a groove extending along the longitudinal axis.”

284. The additional features recited in claim element [34.1] are identical to claim element [24.1]. Accordingly, for at least the reasons set forth above with respect to claim element [24.1], it is my opinion that Nguyen discloses the features of claim element [34.1]. *See* Section IX.B. Additionally, the features of claim element [34.1] disclosed by Nguyen would be preserved in the combination of

Nguyen and Lin. *See* Section X.A. It is my opinion that a POSITA would therefore have understood Nguyen in view of Lin renders obvious claim 34.

J. Claim 35

1. Preamble – “The optical fiber connector as set forth in claim 34, wherein”

285. Claim 35 depends on claims 23 and 26-34, and for at least the reasons discussed above in reference to claim 23 and claims 26-34, Nguyen in view of Lin renders obvious claim 23 and claims 26-34. *See* Sections IX.A, IX.D, and X.A-I. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 35 of the '369 patent.

2. Element [35.1] – “the elongate arm is slidably received in the groove.”

286. The additional features recited in claim element [35.1] are identical to the features recited in claim element [25.1]. Accordingly, for at least the reasons set forth above with respect to claim element [25.1], it is my opinion that Nguyen discloses the features of claim element [35.1]. *See* Section IX.C. Additionally, the features of claim element [35.1] disclosed by Nguyen would be preserved in the combination of Nguyen and Lin. *See* Section X.A. It is my opinion that a POSITA would therefore have understood Nguyen in view of Lin renders obvious claim 35.

K. Claim 36

1. Preamble – “The optical fiber connector as set forth in claim 34, wherein”

287. Claim 36 depends on claim 23 and claims 26-34, and for at least the reasons discussed above in reference to claim 23 and claims 26-34, Nguyen in view of Lin renders obvious claim 23 and claims 26-34. *See* Sections IX.A, IX.D, and X.A-I. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 36 of the '369 patent.

2. Element [36.1] – “the connector housing includes a front body and a back body.”

288. It is my opinion a POSITA would have understood Nguyen discloses the features of claim element [36.1]. As explained above with respect to claim element [23.2], Nguyen discloses an optical fiber connector 200 comprising a spring push 100 and housing 204 that collectively form a “connector housing” within the plain and ordinary meaning of that term. *See* Section IX.A.3.

289. Two components being coupled together to form the claimed “connector housing” is consistent with how the '369 patent describes and claims a connector housing. *See, e.g.*, EX1001, 7:1-10 (disclosing the front body 302 is “securely fastened” to the back body 306), 8:23-40 (discussing different embodiments of front bodies connected to back bodies), 8:58-61 (same), 9:7-10 (same), 10:60-63 (same), 14:10-16 (discussing secure fastening of the front and back bodies); claims 11, 17 (“wherein the connector housing includes a front body

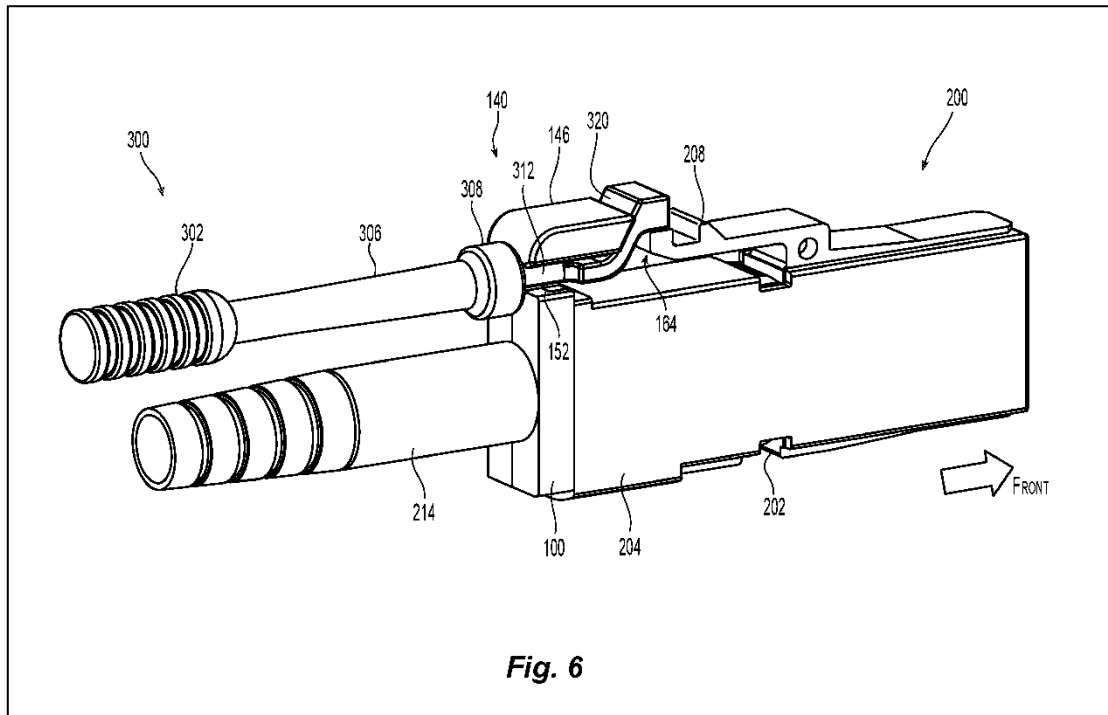
and a back body”), claim 18 (further defining the connection between the front and back bodies via a protrusion and recess).

290. Moreover, many of the ’369 patent’s front and back bodies overlap longitudinally to some degree. *See, e.g.*, EX1001, FIGS. 12B, 20, 21A, 21B, 40A-40C, 53, 54. Thus, “spaced apart along a longitudinal axis” as used in element [23.2] does not exclude longitudinally overlapping bodies.

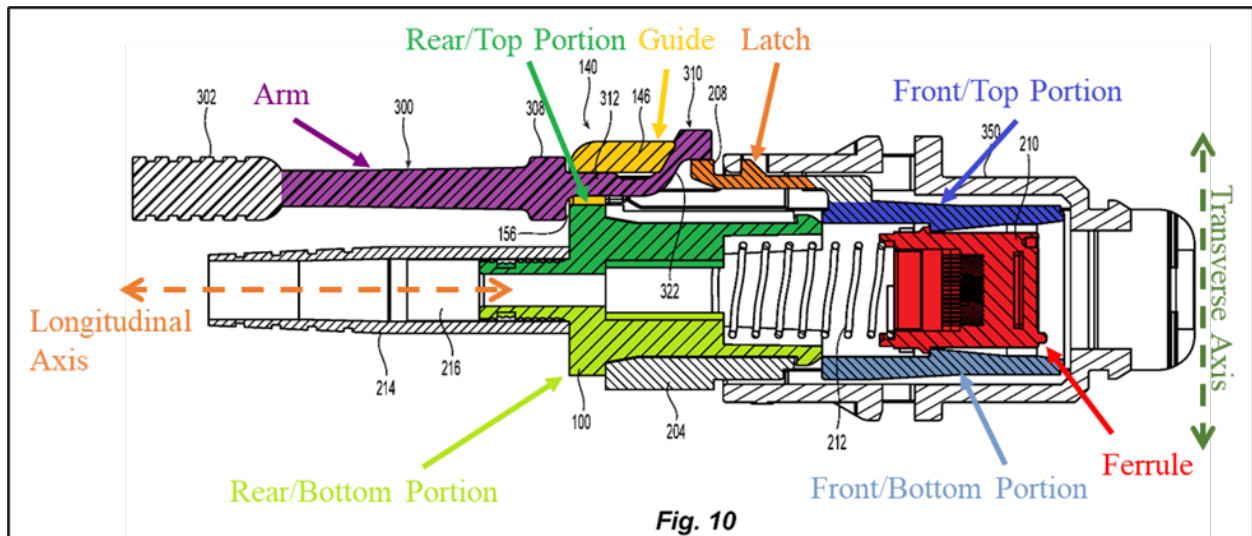
291. Nguyen similarly discloses a “connector housing 204” and “spring push 100” that are coupled together. EX1009, ¶24, FIGS. 6, 10. The optical fibers pass through the spring push’s opening 134 to reach the ferrule 210, which is disposed near the forward end of the housing 204. EX1009, ¶3, FIG. 10.

292. Thus, Nguyen’s “connector housing 204” and “spring push 100” form a “connector housing” within the plain and ordinary meaning of that term.

293. The connector housing defined collectively by Nguyen’s “connector housing 204” and “spring push 100” further 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, FIG. 6.



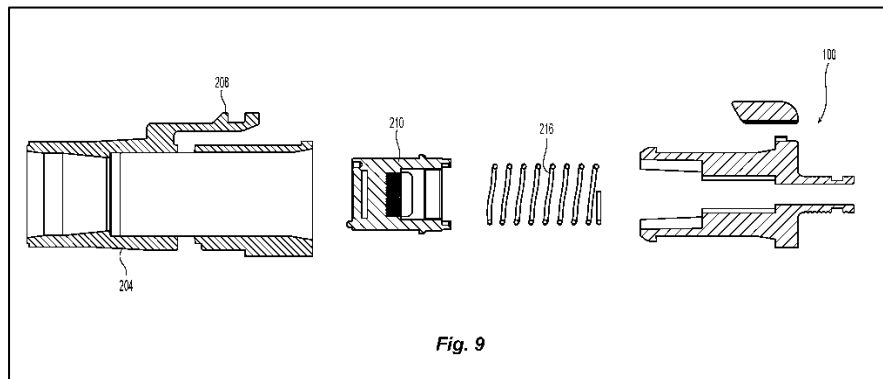
EX1009, FIG. 10 (annotated).

294. In particular, as shown above in annotated Figure 10, of the connector housing formed collectively by Nguyen's spring push 100 and housing 204, a part of the housing 204 is a front end portion, while the 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. Moreover, a top part of the housing 204 and a top part of the spring push 100 collectively form a top portion of the connector housing, while a bottom part of the housing 204 and a bottom part of the 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.

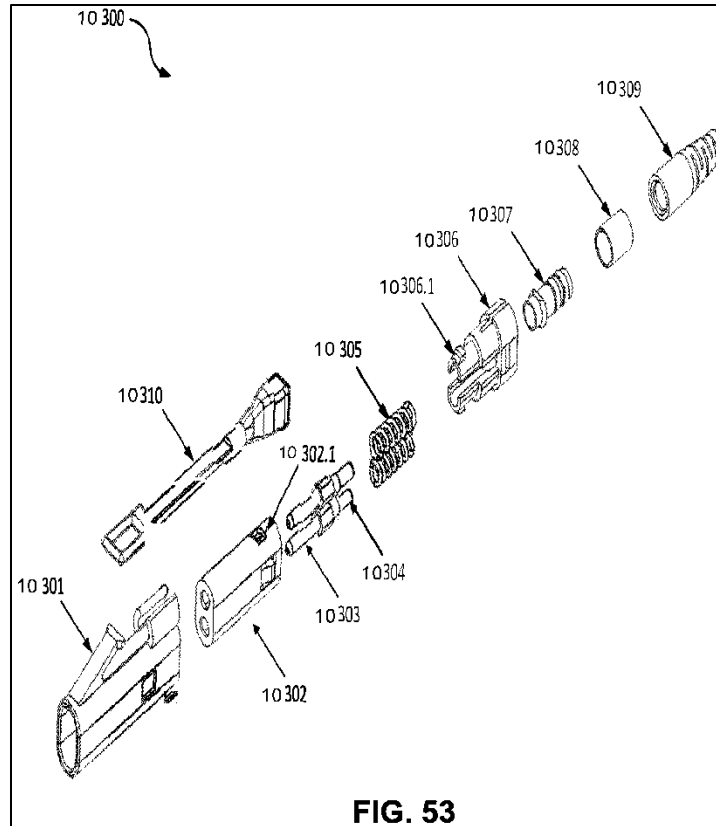
295. Nguyen's spring push 100 and housing 204 that together form a connector housing are separable bodies as shown, for example, in Figure 9.

EX1009, FIG. 9.



EX1009, FIG. 9.

296. As shown above, the spring push 100 and housing 204 are respectively configured similarly to some of the front bodies and back bodies shown in the '369 patent. *See, e.g.*, EX1001, FIGS. 3, 53, 6:64-7:10, 18:63-19:11.



EX1001, FIG. 53 (depicting a “front body 10302” and a “back body 10306”),
18:63-19:11.

297. Thus, in addition to providing a front end portion and a rear end portion, respectively, of a connector housing, Nguyen’s housing 204 and spring push 100 are a front body and back body, respectively, comprised by that connector housing.

298. Accordingly, it is my opinion that Nguyen discloses the additional features of claim element [36.1]. Additionally, the features of claim element [36.1] disclosed by Nguyen would be preserved in the combination of Nguyen in view of Lin. *See* Section IX.A. It is my opinion that a POSITA would therefore have found claim 36 obvious over Nguyen in view of Lin..

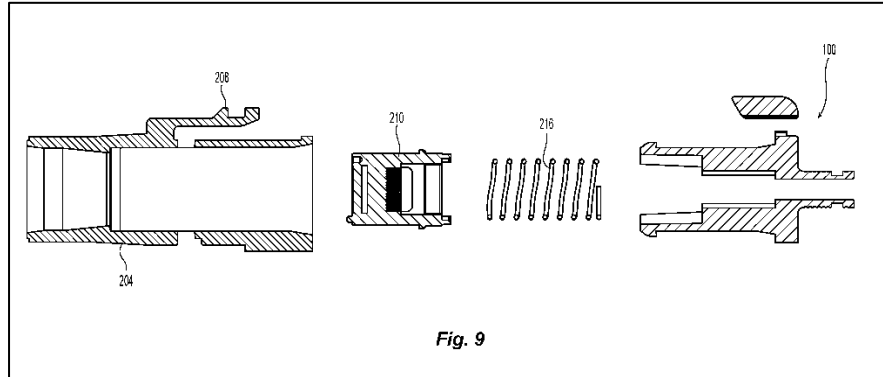
L. Claim 37

1. Preamble – “The optical fiber connector as set forth in claim 36, wherein”

299. Claim 37 depends on claims 23, claims 26-34, and claim 36, and for at least the reasons discussed above in reference to claim 23, claims 26-34, and claim 36, Nguyen in view of Lin renders obvious claim 23, claims 26-34, and claim 36. *See* Sections IX.A, IX.D, X.A-I, and X.K. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 37 of the '369 patent.

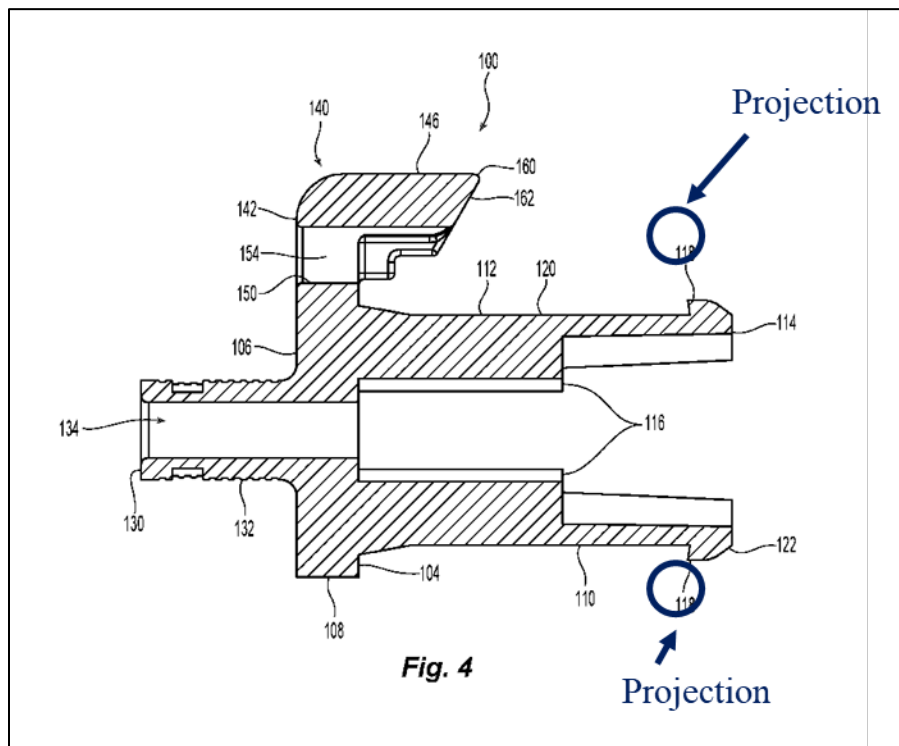
2. Element [37.1] – “the front body includes a recess and the back body includes a protrusion received in the recess to connect the back body to the front body.”

300. It is my opinion that Nguyen discloses the features of claim element [37.1]. As noted above, Nguyen discloses an optical fiber connector 200 comprising a connector housing of which Nguyen's housing 204 and spring push 100 are a front body and back body, respectively. *See* Section X.K. Nguyen's Figure 9 is an exploded view of the connector 200 illustrating both the housing 204 and spring push 100 unconnected from one another. EX1009, ¶17, FIG. 9.

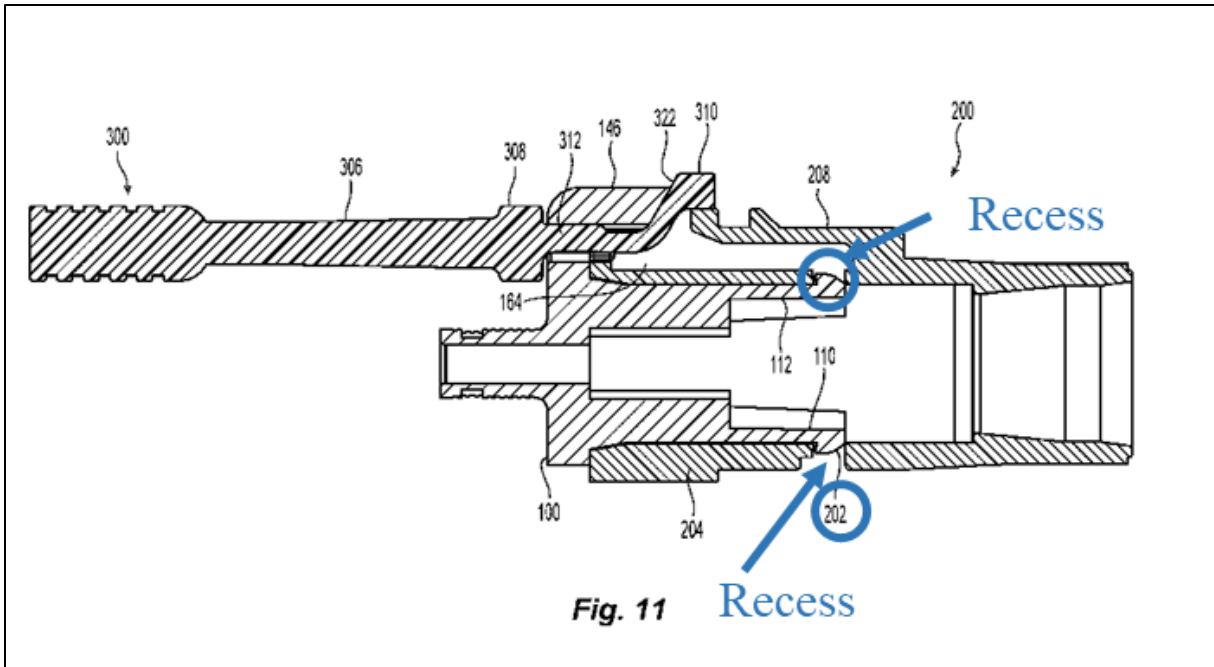


EX1009, FIG. 9.

301. 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.

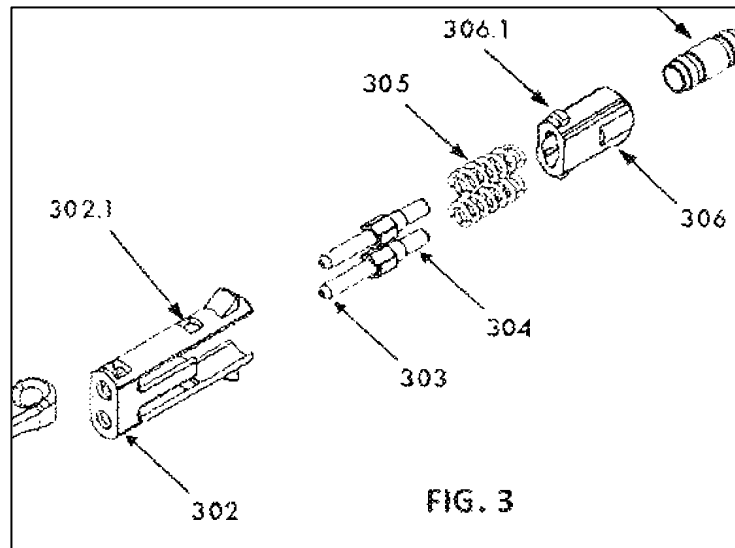


EX1009, FIG. 4 (annotated).



EX1009, FIG. 11 (annotated).

302. As shown above in Nguyen’s Figure 11, the projections 118 of the spring push 100 engage the openings 202 of the housing 204 to connect the spring push 100 in a manner similar to the way that some back bodies and front bodies disclosed in the ’369 patent connect. *See, e.g.*, EX1001, FIGS. 3, 53, 6:64-7:10, 18:63-19:11. For example, Figure 3 of the ’369 patent depicts a back body 306 and a front body 302, wherein “the back body 306 may comprise one or more protrusions 306.1 which may interlock with a window/cutout 302.1 in the front body 302.” EX1001, 7:5-7, FIG. 3.



EX1001, FIG. 3 (excerpt).

303. Nguyen's housing 204 is therefore a front body comprising recesses in the form of openings 202 while Nguyen's spring push 100 is a back body comprising protrusions in the form of projections 118 configured to be received in the openings 202 to connect the back body to the front body as claimed.

Accordingly, it is my opinion that Nguyen discloses the additional features of claim element [37.1]. Additionally, the features of claim element [37.1] disclosed by Nguyen would be preserved in the combination of Nguyen in view of Lin. *See* Section IX.A. It is my opinion that a POSITA would therefore have found claim 37 obvious over Nguyen in view of Lin.

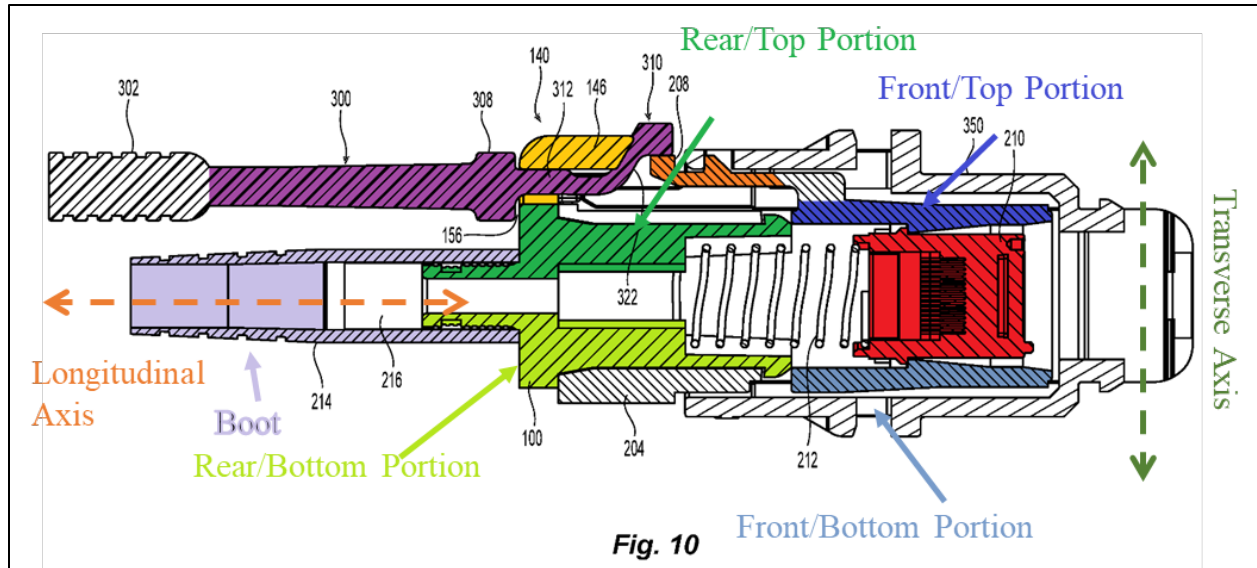
M. Claim 38

1. Preamble – “The optical fiber connector as set forth in claim 37,”

304. Claim 38 depends on claims 23, claims 26-34, and claims 36-37, and for at least the reasons discussed above in reference to claims 23, claims 26-34, and claims 36-37, the combination of Nguyen and Lin renders obvious claims 23, claims 26-34, and claims 36-37. *See* Sections IX.A, IX.D, IX.A, IX.D, X.B-I, and X.K-L. Additionally, for at least the reasons below, it is my opinion that Nguyen in view of Lin renders obvious claim 38 of the '369 patent.

2. Element [38.1] – “further comprising a single cable boot extending rearward from the connector housing.”

305. It is my opinion that Nguyen discloses the features of claim element [38.1]. As explained above, Nguyen discloses an optical fiber connector 200 comprising a connector housing of which Nguyen's housing 204 and spring push 100 provide a front end portion and a back end portion, respectively. Section IX.A.3; EX1009, FIG. 10. Nguyen further discloses a “boot 214.” EX1009, ¶33.



EX1009, FIG. 10 (annotated).

306. As shown in Nguyen's Figure 10 above, the boot 214 extends rearward from the rear end portion of the connector housing provided collectively by the spring push 100 and the housing 204.

307. Accordingly, it is my opinion that Nguyen discloses the additional features of claim element [38.1]. Additionally, the features of claim element [38.1] disclosed by Nguyen would be preserved in the combination of Nguyen in view of Lin. See Section IX.A. It is my opinion that a POSITA would therefore have found claim 38 obvious over Nguyen in view of Lin.

N. Claim 39

308. The subject matter of claim 39 combines elements of claim 23 with the additional features of preceding claim elements that I have already addressed in view of Nguyen alone or in view of the combination of Nguyen and Lin. Specifically, claim 39 recites the same features as the preamble of claim 23

through claim element [23.5] in addition to the features of dependent claims 26 through 33. Therefore, I incorporate the applicable sections by reference. *See* Sections IX.A.1-6, IX.D, X.A-H (*i.e.*, all elements of claim 23, except claim element [23.6], and claims 26-33).

1. Preamble – “An optical fiber connector comprising:”

309. The preamble of claim 39 is identical to the preamble of claim 23. Accordingly, for at least the reasons set forth above with respect to the preamble of claim 23, it is my opinion that Nguyen discloses the preamble of claim 39. *See* Section IX.A.1.

2. Element [39.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers;”

310. Claim element [39.1] is identical to claim element [23.1]. Accordingly, for at least the reasons set forth above with respect to claim element [23.1], it is my opinion that Nguyen discloses the features of claim element [39.1]. *See* Section IX.A.2.

3. Element [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,”

311. Claim element [39.2] is identical to claim element [23.2]. Accordingly, for at least the reasons set forth above with respect to claim element

[23.2], it is my opinion that Nguyen discloses the features of claim element [39.2].

See Section IX.A.3.

4. **Element [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,”**

312. Claim element [39.3] is identical to claim element [23.3].

Accordingly, for at least the reasons set forth above with respect to claim element [23.3], it is my opinion that Nguyen discloses the features of claim element [39.3].

See Section IX.A.4.

5. **Element [39.4] – “a depressible latch above the top portion of the connector housing; and”**

313. Claim element [39.4] is identical to claim element [23.4].

Accordingly, for at least the reasons set forth above with respect to claim element [23.4], it is my opinion that Nguyen discloses the features of claim element [39.4].

See Section IX.A.5.

6. **Element [39.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”**

314. Claim element [39.5] is identical to claim element [23.5].

Accordingly, for at least the reasons set forth above with respect to claim element [23.5], it is my opinion that Nguyen discloses the features of claim element [39.5].

See Section IX.A.6.

7. Element [39.6] – “wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;”

315. Claim element [39.6] is identical to claim element [26.1].

Accordingly, for at least the reasons set forth above with respect to claim element [26.1], it is my opinion that Nguyen discloses the features of claim element [39.6].

See Section IX.D.

8. Element [39.7] – “wherein the front end portion of the elongate arm defines an opening;”

316. Claim element [39.7] is identical to claim element [27.1].

Accordingly, for at least the reasons set forth above with respect to claim element [27.1], it is my opinion that Nguyen in view of Lin (described in Section X.A)

renders obvious the features of claim element [39.7]. *See* Section X.B.

9. Element [39.8] – “wherein the depressible latch is received in the opening;”

317. Claim element [39.8] is identical to claim element [28.1].

Accordingly, for at least the reasons set forth above with respect to claim element [28.1], it is my opinion that Nguyen in view of Lin (described in Section X.A)

renders obvious the features of claim element [39.8]. *See* Section X.C.

10. Element [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;”

318. Claim element [39.9] is identical to claim element [29.1].

Accordingly, for at least the reasons set forth above with respect to claim element [29.1], it is my opinion that Nguyen in view of Lin (described in Section X.A) renders obvious the features of claim element [39.9]. *See* Section X.D.

11. Element [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;”

319. Claim element [39.10] is identical to claim element [30.1].

Accordingly, for at least the reasons set forth above with respect to claim element [30.1], it is my opinion that Nguyen discloses the features of claim element [39.10]. *See* Section X.E. Additionally, the features of claim element [39.10] disclosed by Nguyen would be preserved in the combination of Nguyen in view of Lin. *See* Section X.A.

12. Element [39.11] – “wherein the front end portion of the elongate arm includes an edge defining a front end of the opening;”

320. Claim element [39.11] is identical to claim element [31.1].

Accordingly, for at least the reasons set forth above with respect to claim element [31.1], it is my opinion that Nguyen in view of Lin (described in Section X.A) renders obvious the features of claim element [39.11]. *See* Section X.F.

13. Element [39.12] – “wherein the depressible latch has an upper surface, the edge opposing the upper surface;”

321. Claim element [39.12] is identical to claim element [32.1].

Accordingly, for at least the reasons set forth above with respect to claim element [32.1], it is my opinion that Nguyen in view of Lin (described in Section X.A) renders obvious the features of claim element [39.12]. *See* Section X.G.

14. Element [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.”

322. Claim element [39.13] is identical to claim element [33.1].

Accordingly, for at least the reasons described above with respect to claim element [33.1], it is my opinion that Nguyen in view of Lin (described in Section X.A) renders obvious the features of claim element [39.13]. *See* Section X.H.

323. In summary, it is my opinion that a POSITA would have been motivated to make a combination of Nguyen in view of Lin that renders obvious each of the features of claim 39 of the '369 patent. As such, it is my opinion that Nguyen in view of Lin renders obvious the entirety of claim 39 of the '369 patent.

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

324. For at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious independent claims 23, 39, and 40 of the '369 patent.

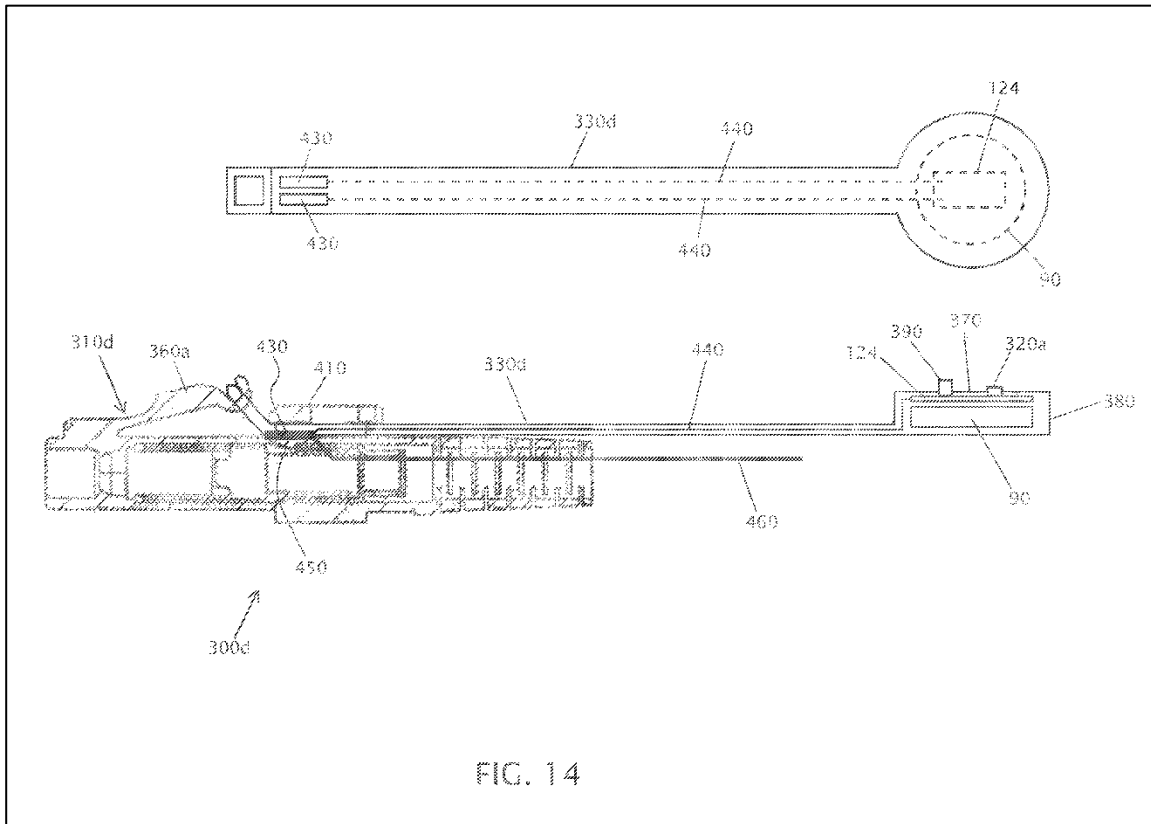
Additionally, Scherer in view of Lin renders obvious dependent claims 24-36 of the '369 patent.

A. Motivation to Combine

1. Scherer

325. Scherer discloses optical fiber connector hoods that “can be configured in any of various ways.” EX1003, ¶51. The hoods “each include[] an extender or remote release tab... 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.

326. Scherer’s connector hoods can be used to secure two-ferrule connections or single-ferrule connections. EX1003, ¶¶51, 53, 54.

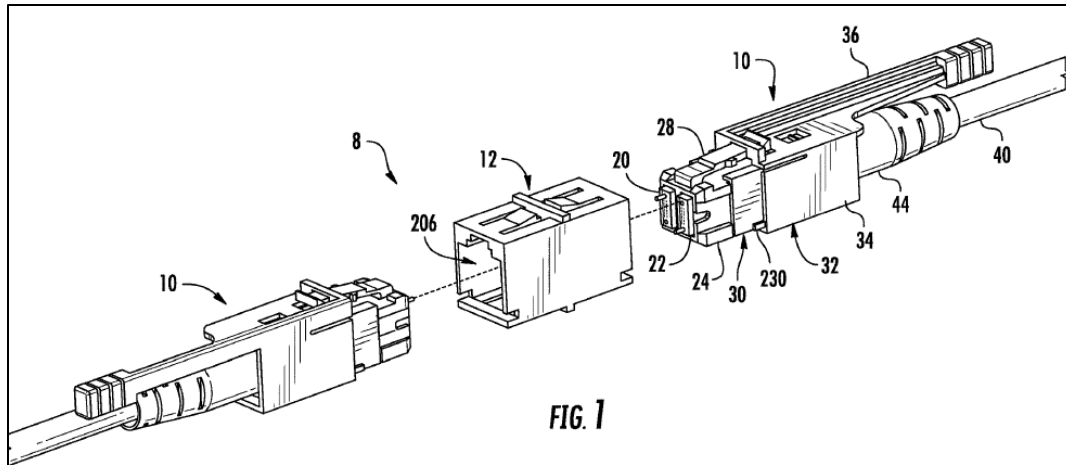


EX1003, FIG. 14.

2. Lin

327. Lin also discloses optical fiber connectors for data transmission. *See* EX1005, ¶¶2-4. Lin explains that its “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 an “optical fiber connector system 8” that includes at least one fiber optic connector 10 and an adapter 12. EX1005, ¶25.

328. Lin shows an optical fiber connector 10 in Figure 1.



EX1005, FIG. 1.

329. Lin's optical fiber connector 10 includes a latch arm 28 that extends outwardly from an inner connector body 24. EX1005, ¶26.

330. Lin discloses a handle 36 that is pulled rearward to depress the latch arm 28 to flex the latch arm 28 in order to remove the connector 10 from the adapter 12. EX1005, ¶26.

3. Reasons to Combine

331. For the reasons set forth above, a POSITA would recognize that the teachings of Scherer and Lin are within the same field of endeavor as the '369 patent, and both relate to issues purportedly addressed by the '369 patent.

332. I believe that a POSITA would have found it obvious to modify Scherer's connector for a fiber optic cable to include a multi-fiber ferrule oriented with respect to the lever 360a as Lin's multi-fiber ferrule 20 or 22 is oriented with respect to Lin's latch arm 28 for several reasons. First, 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. Specifically, Lin indicates that "[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.

333. Second, a POSITA would have found this modification of Scherer obvious because it would merely amount to finding constructional details in Lin to implement the multi-fiber optical connections Scherer discloses.

334. Third, the substitution of a ferrule is a simple variation of a known element (Scherer's ferrules) based on existing known prior art variants (the MT ferrule), and as such the modified connector would be expected to have very predictable features.

335. Scherer specifically teaches toward employing multi-fiber ferrules, such as those disclosed in Lin. As noted above, 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.

336. Scherer depicts transmission lines 52a extending through connector hoods 310a, 310b, 310c to protrude from distal ends thereof, while the line 52a is omitted from Figure 14 for clarity. EX1003, ¶¶50, 51, 54, FIGS. 10-14.

337. Thus, while Scherer teaches that the connector hoods 310a, 310b, 310c, and 310d could be used for optical cable connections and mentions multi-fiber connections among examples of optical cable connection types, Scherer does not specify which type of optical connector should be used with the optical connector hoods 310a, 310b, 310c, and 310d. However, because Scherer mentions multi-fiber connectors in the introduction to the optical connector embodiments illustrated in Figures 10-14, a POSITA would have found it obvious to implement any of the optical connector hoods 310a, 310b, 310c, and 310d according to those embodiments with a multi-fiber connector, e.g., as explicitly disclosed in Lin.

338. A POSITA would have had a reasonable expectation of success modifying Scherer with Lin as discussed above for several reasons. First, the modification only involves basic dimensional and structural changes to incorporate Lin's well-known element (a multi-fiber ferrule) into Scherer's connector. These changes would have been well within the skill of a POSITA at the relevant time. Second, the similarities between Scherer and Lin also demonstrate that a POSITA would have a reasonable expectation of success. Scherer and Lin both relate to dual-ended connectors for fiber optic cables provided with handles that release the

connectors by depressing a latch, while differing only in the type of ferrule used and how the ferrules are positioned relative to the latch.

339. Lin would have been an obvious choice as a source for guidance on how to implement Scherer's multi-fiber connection because, in addition to disclosing multi-fiber ferrules 20 and 22, Lin solves some of the same problems as Scherer in a similar way.

340. For example, 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.

341. A POSITA applying Scherer's technology to "multi-fiber (e.g., MPO and/or MTP) connectors" as Scherer encourages, EX1003, ¶50, would therefore have known that Lin's ferrules 20 and 22 would be compatible.

342. Further, while Scherer's hoods "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, 54, Lin similarly responds to challenges in designing "fiber optic connectors cable [sic] of providing high-density

interconnects” and the observation that “fiber optic connectors often become more difficult to handle and less robust as components are made smaller.” EX1005, ¶4.

343. In Lin’s solution, “[t]o remove the connector 10 from the adapter 12, the handle 36 may be pulled rearwardly so that the outer body 32 depresses the latch arm 28 and ultimately pulls the connector 10 from the adapter 12.” EX1005, ¶57.

344. Thus, pulling Lin’s handle depresses a latch arm and releases a connector in a similar manner to how pulling Scherer’s extenders or tabs in any of the embodiments of Scherer’s Figures 11-14 depresses a lever and releases a connector hood.

345. As a result, a POSITA considering Scherer and Lin together would have expected positioning a multi-fiber ferrule within Scherer’s connector hood 310d with respect to Scherer’s lever 360a the same way that Lin’s ferrules 20 and 22 are positioned with respect to Lin’s latch arm 28 to have predictable and satisfactory results.

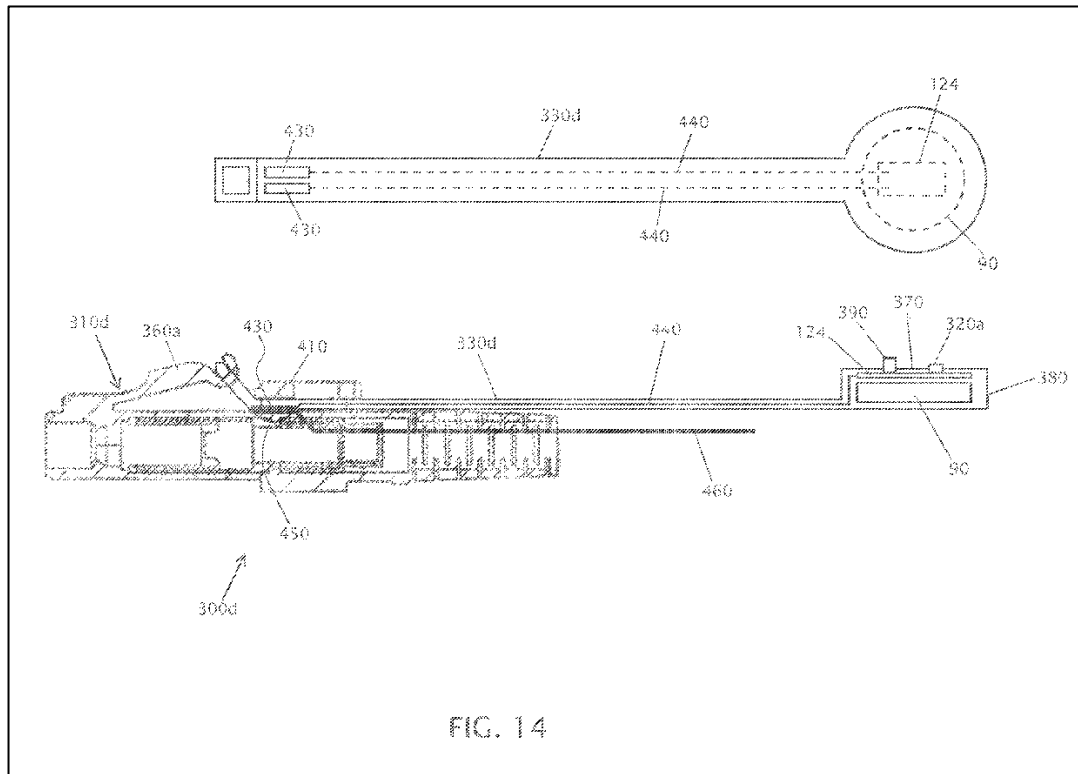
346. Accordingly, it is my opinion that the modification of Scherer’s cable 300d and connector hood 310d of Figure 14 to include a multi-fiber ferrule positioned as disclosed in Lin would have been obvious to a POSITA. Throughout my analysis herein, when I refer to the combination of Scherer and Lin, it is the above-described particular combination to which I refer. Additionally, this

modification does not conflict with any of the features of Scherer cited with regard to any claim or claim element below. Thus, the result of this obvious modification of Scherer in view of Lin would satisfy the limitations of the claims challenged in this ground as discussed below.

B. Claim 23

1. Preamble – “An optical fiber connector comprising:”

347. For at least the reasons below it is my opinion that Scherer discloses an optical fiber connector as required by the preamble of claim 23. Scherer’s optical fiber connectors according to various embodiments are illustrated in Figures 10-14. *See, e.g.*, EX1003., ¶¶50-54, FIGS. 10-14. One example is shown below in Scherer’s Figure 14. For at least the reasons below, Scherer disclose the limitations of the preamble to claim 23.



EX1003, FIG. 14.

348. A POSITA would have readily understood from the relevant description in at least paragraphs 50, 51, 54 that Figure 14 shows a fiber optic connector. In particular, 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 embodiment including connector hood 310d shown in Figure 14 is similar to at least the embodiment of cable 300c. EX1003, ¶51. The connector hood 310d and associated transmission line together are therefore 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. *See, e.g.*, 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).

349. Accordingly, it is my opinion that a POSITA would have understood that Scherer discloses the preamble of claim 23.

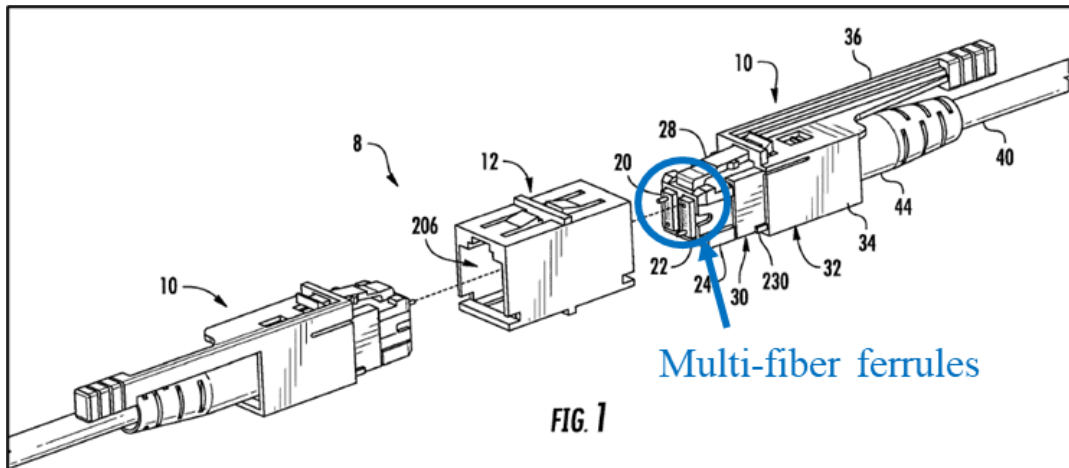
2. Element [23.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers,”

350. For at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim element [23.1].

351. To the extent that Patent Owner argues that Scherer does not expressly teach that the connector hood 310d could be used with a multi-fiber ferrule, this feature was well-known in the prior art, *e.g.*, as explicitly taught by Lin.

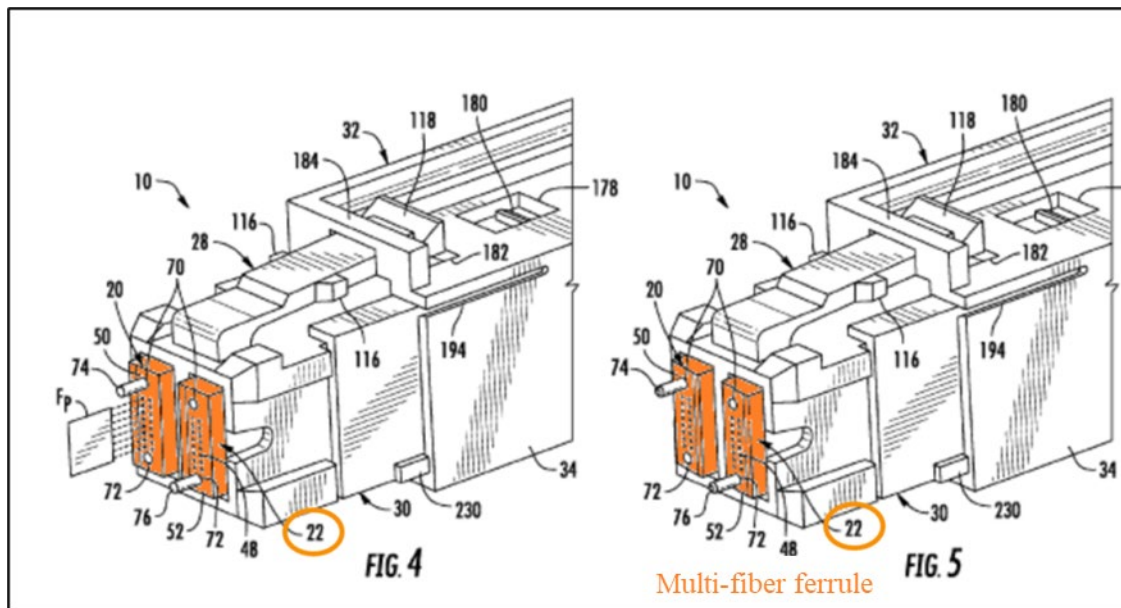
352. For example, Lin explains the “disclosure relates generally to fiber optic connectors, and more particularly to fiber optic connectors that include multiple, multi-fiber ferrules, such as MT ferrules. EX1005, ¶2.

353. Figure 1 of Lin shows two multi-fiber ferrules 20, 22.



EX1005, FIG. 1 (annotated).

354. Some embodiments showing enlarged multi-fiber ferrules 20, 22 can be seen, *e.g.*, in Figures 4 and 5 of Lin.



EX1005, FIGS. 4-5 (annotated).

355. Lin describes that the multi-fiber ferrules 20, 22 shown in Figure 4 “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.

356. Lin explains that although two rows are shown with eight (8) bores, a greater number or a smaller number of bores may be used (*e.g.*, 4, 12, or 16 bores). EX1005, ¶28. Lin describes that “[a]ny combination of M rowsxN [sic]bores is possible,” but observes it may be advantageous to use arrangements that correspond to known connector designs. EX1005, ¶28. Lin discloses that “[f]or 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.” EX1005, ¶28. A POSITA would have readily understood these are all examples of multi-fiber ferrules.

357. A POSITA would have found it obvious to substitute Lin’s multi-fiber ferrules for Scherer’s ferrules as I have explained above, and in my opinion a POSITA would have found this claim element obvious based on the combined disclosures of Scherer and Lin. *See* Section XI.A. In particular, because Scherer states that its teachings can be applied to optical fiber connectors and gives “multi-fiber (*e.g.*, MPO and/or MTP) connectors” as examples of such optical fiber connectors, EX1003, ¶50, while 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, a POSITA would have found it obvious to include at least one of Lin’s multi-fiber ferrules 20 and 22 in a multi-fiber connector according to Scherer’s teachings.

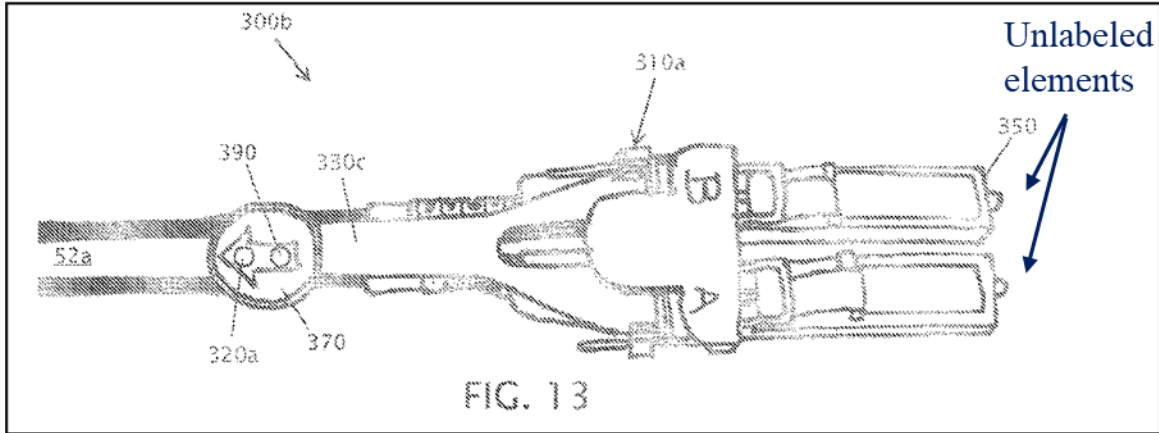
358. Accordingly, it is my opinion that a POSITA would have understood Scherer in view of Lin renders obvious claim element [23.1].

3. Element [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,”

359. For at least the reasons below, it is my opinion that Scherer discloses claim element [23.2]. In particular, I believe a POSITA would have understood that 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.

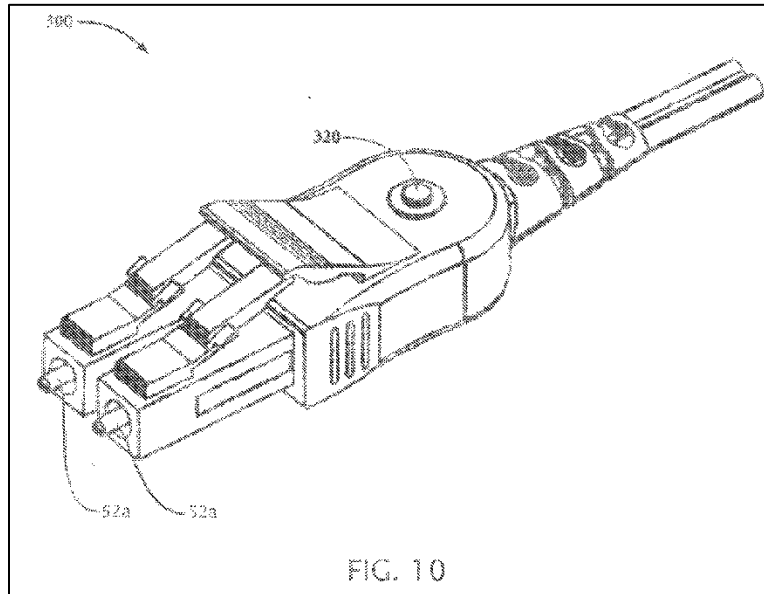
360. Scherer explains that “FIG. 14 depicts cutaway side view of a first end of a fourth embodiment 300d of the present fiber-optic cables. Cable 300d is similar to cable 300c with the primary exception that cable 300d includes only a single fiber optic cable (which is omitted for clarity).” EX1003,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

361. Figure 13 depicts the embodiment including cable 300c with unlabeled elements exposed through the front end portion, or distal end 350, of the connector hood 310. EX1003, ¶53, FIG. 13 (the appearance of numeral 300b in Figure 13 appears to be an error because Scherer states that “FIG. 13 depicts a first end of a third embodiment 300c of the present fiber optic cables”).



EX1003, FIG. 13 (annotated).

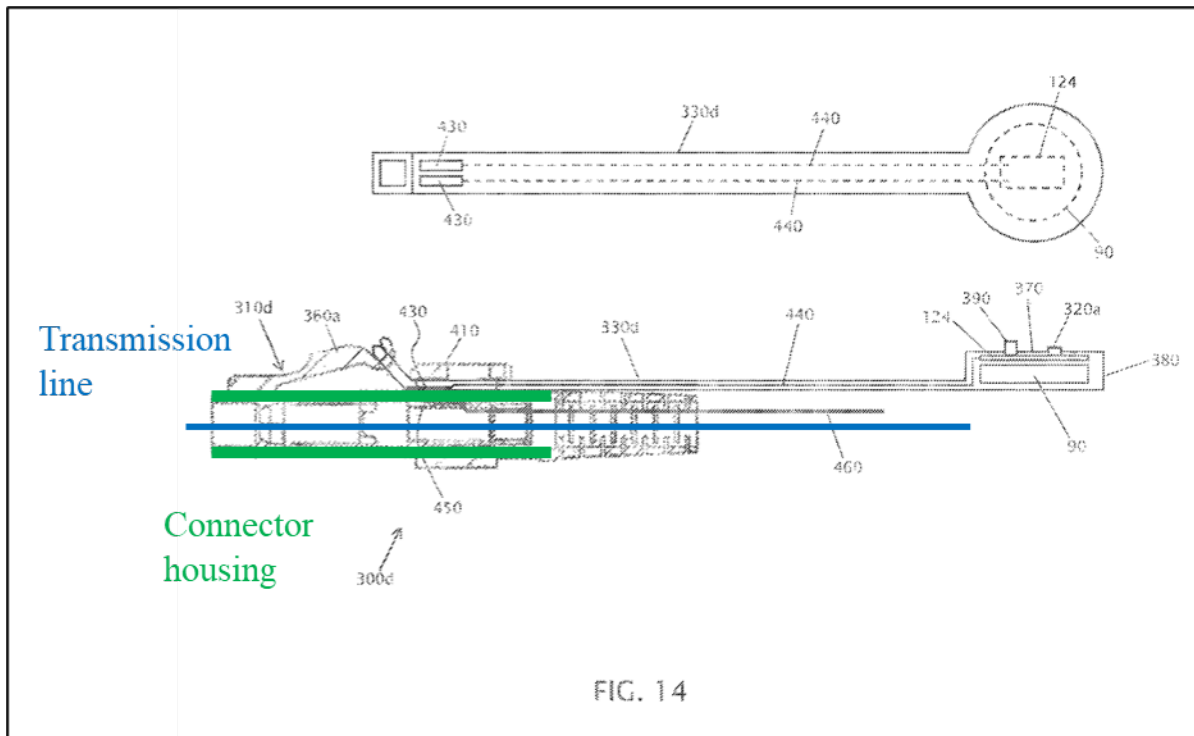
362. Scherer states that the embodiments of cables 300a, 300b, 300c each include a “transmission line 52a,” also referred to as a “cable 52a.” Features resembling the “unlabeled elements” indicated in Figure 13 above are labeled with numeral 52a in Figure 10.



EX1003, FIG. 10.

363. A POSITA would therefore understand from context that the above annotated “unlabeled elements” in Figure 13 are each extensions of the

“transmission line 52a” or “cable 52a” that Scherer describes as being present in the embodiment illustrated in Figure 13. Because Scherer states that the embodiments of Figures 13 and 14 are similar, and that the cable is omitted from Figure 14 for clarity, the POSITA would understand from comparing Figures 13 and 14 that the transmission line 52a would be located at the position shown in annotated Figure 14 below, extending through the connector hood 310d to be exposed through the front end portion thereof.



EX1003, FIG. 14 (annotated).

364. In my opinion, the portion of the connector hood 310d highlighted in green above that surrounds the space through which the transmission line would extend is a “connector housing” as recited in claim 1.

365. The '369 patent provides minimal descriptions of the term “connector housing”, indicating that “[i]n some embodiments, the housing body may incorporate any of all of the components described herein,” and eludes to connector housings in certain embodiments without explicitly defining the term. EX1001, 6:5-7, 12:38-49. Thus, the term “connector housing” as claimed is left to be interpreted according to its plain and ordinary meaning.

366. The above highlighted portion of the connector hood 310d is a part of an optical fiber connector that defines a structural housing for the transmission line 52a, and thereby meets the plain and ordinary meaning of “connector housing.”

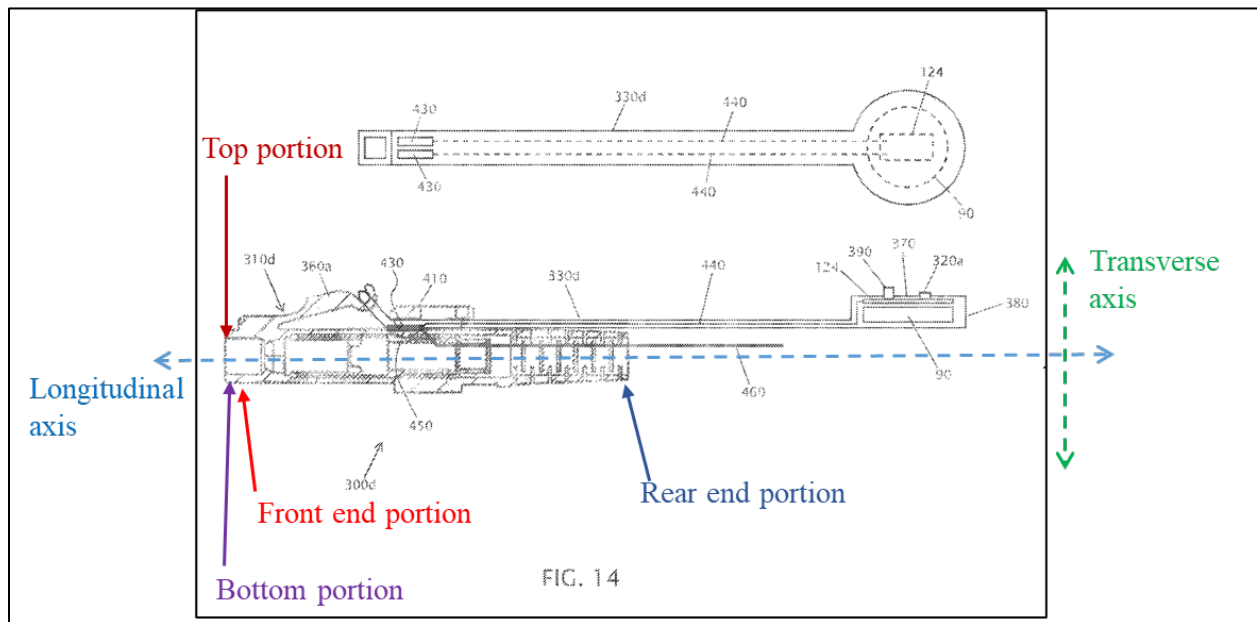
367. Scherer explains the meaning of “connector hood” for the purposes of the disclosure refers to a combination of a connector and a boot. EX1003, ¶35 (“[A] connector assembly or hood 54 comprises a connector 56 coupled to a boot 58, and the connector hood is coupled to an end of cable 52. ... The overall connector (connector plus boot) will be referred to as the connector hood in this description and in the appended claims.”).

368. A POSITA therefore would have understood the element in Figure 14 that Scherer labels as a “connector hood 310d” to include both a connector and a boot.

369. Two components being coupled together to form the claimed “connector housing” is consistent with how the '369 patent describes and claims a

connector housing. *See, e.g.*, EX1001, 7:1-10 (disclosing the front body 302 is “securely fastened” to the back body 306), 8:23-40 (discussing different embodiments of front bodies connected to back bodies), 8:58-61 (same), 9:7-10 (same), 10:60-63 (same), 14:10-16 (discussing secure fastening of the front and back bodies), claims 11, 17 (“wherein the connector housing includes a front body and a back body”), claim 18 (further defining the connection between the front and back bodies via a protrusion and recess).

370. The connector housing defined by connector hood 310d has 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 as claimed.



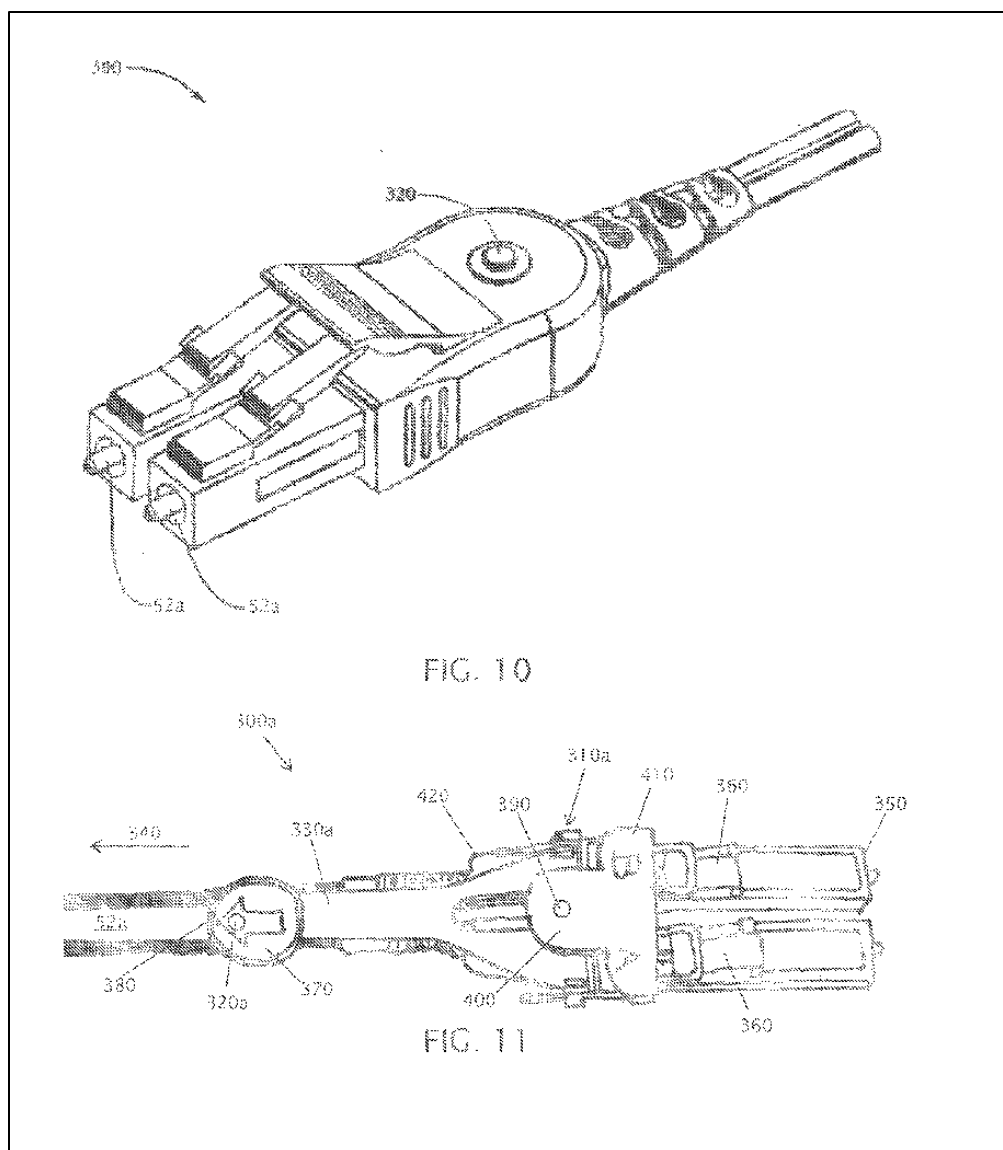
EX1003, FIG. 14 (annotated).

371. Accordingly, it is my opinion that a POSITA would have understood that Scherer discloses the features of claim element [23.2].

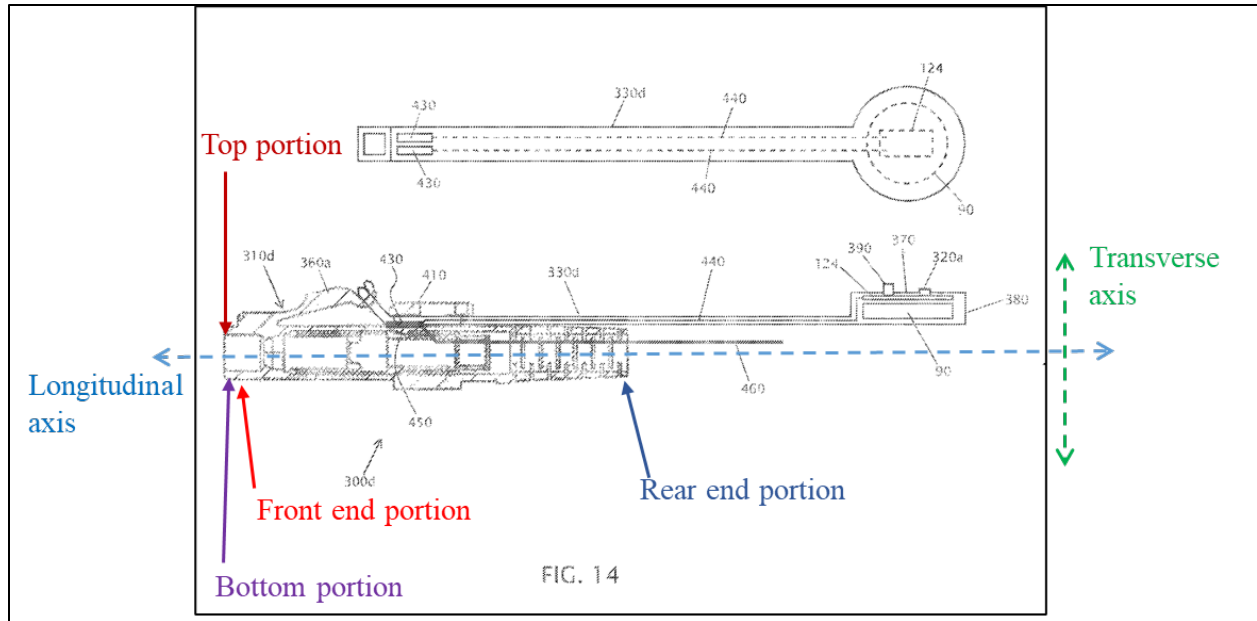
4. **Element [23.3] – “the connector housing being configured to hold the multi-fiber ferrule such that the multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis,”**

372. For at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim element [23.3]. Scherer discloses the details of the connector housing recited in this element as I explained above in Section XI.B.3. Scherer’s connector housing is further configured to hold at least a “transmission line(s) 52a (e.g., optical fiber(s), in the embodiment shown)” or “cable 52a” such that it is exposed through the front end portion of the connector housing for making an optical connection. EX1003, ¶¶51, 54, FIGS. 11-14.

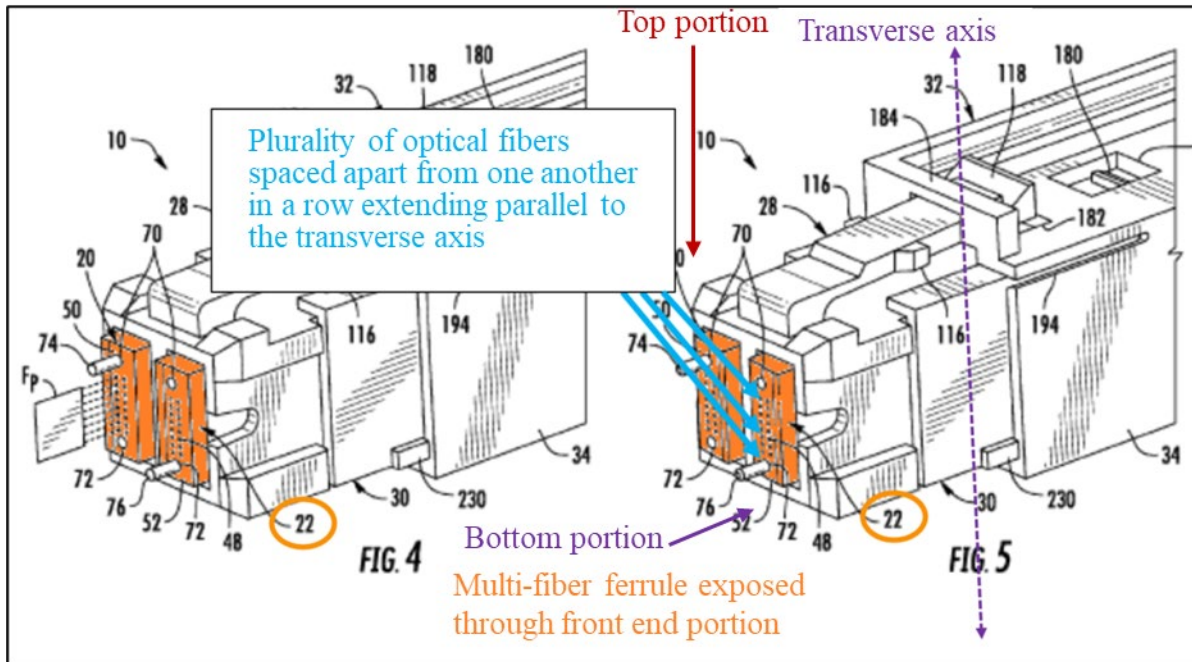
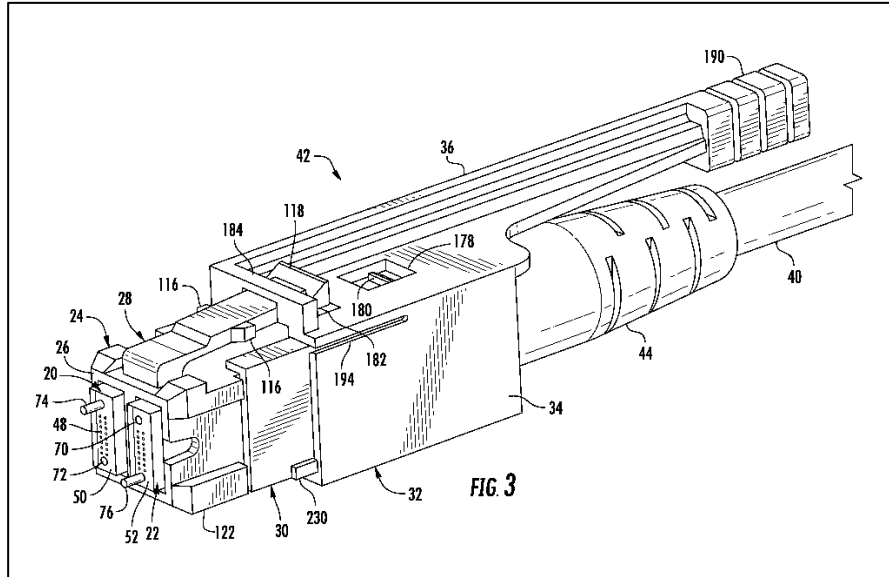
373. In the combination of Scherer and Lin described above with regard to claim element [23.1], Lin’s multi-fiber ferrule is exposed through the front end portion for making an optical connection and the plurality of optical fibers are spaced apart from one another in a row extending parallel to the transverse axis, wherein a top portion and a bottom portion of the connector housing are spaced apart along the transverse axis, as this is the configuration described in both references. *See* EX1003, FIGS. 10, 11, 14; EX1005, FIGS. 3-5.



EX1003, FIGS. 10, 11 (showing the exposed ends of the transmission line 52a protruding from the front end portions of the connectors).



EX1003, FIG. 14 (annotated), (showing a connector hood 310d in cross section with the transmission line omitted).



EX1005, FIGS. 3-5 (annotated), (showing multi-fiber ferrules exposed through a front end portion of a connector housing provided by an inner connector body 24 and a rear connector body 30).

374. A POSITA would have found this modification obvious for the reasons explained above in Section XI.A. In particular, because Scherer and Lin both improve the ease of releasing an optical fiber connector in a high-density

environment by configuring a latch (Scherer's lever 360a and Lin's latch arm 28) to be depressed when an elongate arm (Scherer's extender or tab 330d and Lin's handle 36) is pulled proximally, a POSITA modifying Scherer's cable 300d in view of Lin would have found it obvious employ a multi-fiber ferrule like Lin's and as posed by Scherer and to position this multi-fiber ferrule relative to the lever 360a the same way that Lin's ferrules 20 and 22 are positioned relative to Lin's latch arm 28. Accordingly, it is my opinion that Scherer in view of Lin renders obvious the features of claim element [23.3].

5. Element [23.4] – “a depressible latch above the top portion of the connector housing”

375. For at least the reasons below, it is my opinion that the Scherer discloses claim element [23.4].

376. In particular, I believe a POSITA would have understood that Scherer discloses “a depressible latch above the top portion of the connector housing”. Scherer discloses a lever 360a that is configured to engage a mating connector or jack to resist removal of the connector hood and to release the connector hood when depressed toward the transmission line. EX1003, ¶¶5, 10, 51, 54.

377. In particular, Scherer explains that “connector hood 310d includes extender 300d that is configured to be removably coupled to connector body 400a such that extender 300d can slide relative to connector body 400a to depress or

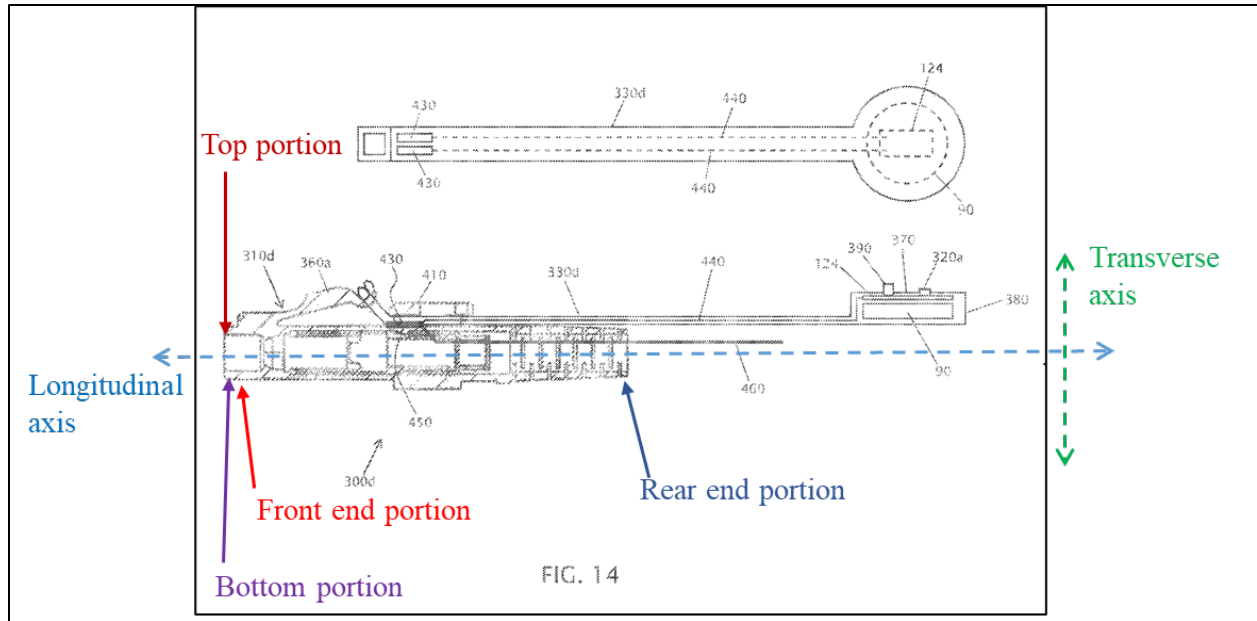
compress lever 360a.” EX1003, ¶54. Scherer thus explicitly states that lever 360a can be depressed.

378. Further, Scherer explains with regard to other embodiments that 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.

379. Moreover, with reference to the related embodiments of optical fiber connectors in Figures 11-13, Scherer explains that the 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... 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.

380. I believe a POSITA would have understood from the disclosures of Scherer and the ’369 patent that the lever 360a is a “depressible latch” as recited in this claim.

381. A POSITA would also have understood that Figure 14 of Scherer shows the lever 360a is “above the top portion of the connector housing” as recited in this element. The lever 360a is readily seen as extending above the top portion of the connector housing (*i.e.*, the connector hood 310d).



EX1003, FIG. 14 (annotated).

382. Accordingly, a POSITA would have understood that Scherer discloses the features of claim element [23.4].

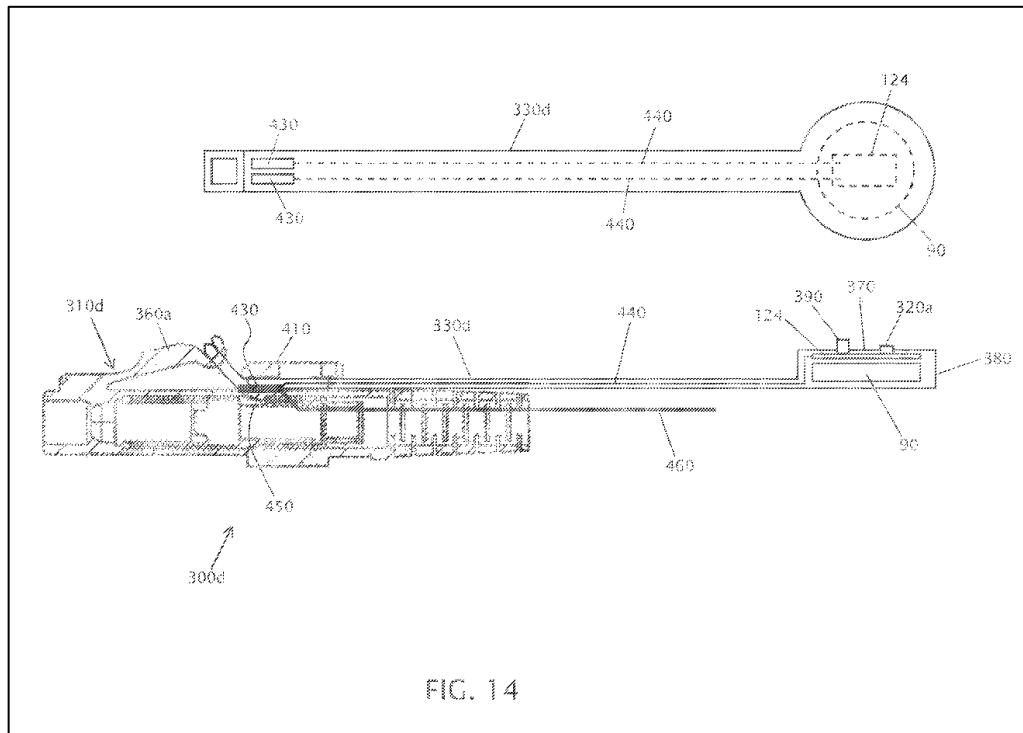
6. Element [23.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”

383. For at least the reasons below, it is my opinion that Scherer discloses claim element [23.5]. In particular, I believe a POSITA would have understood Scherer discloses an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch. *See* EX1003, ¶54, FIG. 14.

384. The extender 330d shown in Figure 14 satisfies the “elongate arm” claim element because “connector hood 310d includes extender 300d that is configured to be removably coupled to connector body 400a such that extender

300d can slide relative to connector body 400a to depress or compress lever 360a.”

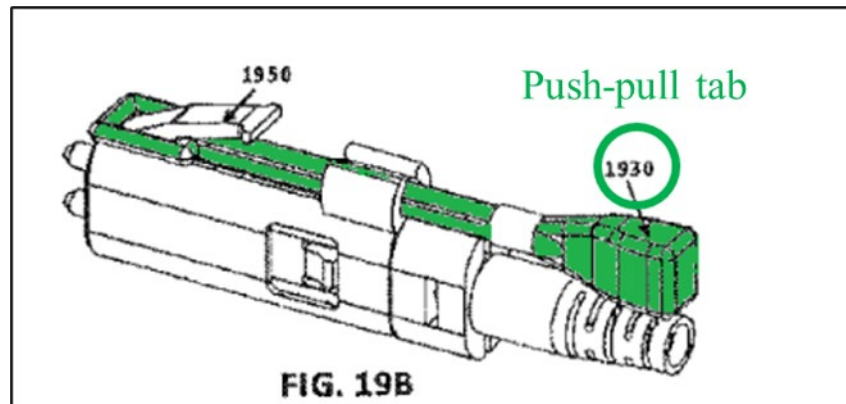
EX1003, ¶54 (the usage of “extender 330d” in four instances and “cable 300d” in three instances in the same paragraph suggesting that the reference to “extender 300d” in the foregoing quote is a numbering error of the element “extender 330d”).



EX1003, FIG. 14.

385. The '369 patent specification does not expressly use this claim term, which further highlights its breadth and why Scherer discloses this element. First, the '369 patent provides no discussion or information regarding the scope or meaning of an “elongate arm.” *See generally* EX1001. Based on that lack of discussion, I conclude that a POSITA would have understood that the claimed “elongate arm” to have its plain and ordinary that would include at least Scherer’s tab or extender 330d.

386. I note that the '369 patent includes dependent claims directed to a push-pull tab. *See* EX1001, claims 21, 40. Both of these claims also recite “further comprising a push/pull tab extending from the rear end portion of the elongate arm.” EX1001, claims 21, 40. The term push-pull tab is discussed in the specification with respect to the embodiment of Figure 19B, which is included below. EX1001, 12:38-46 (describing that the push-pull tab 1930 is “a separable element from the connector housing” and actuates the latch 1950).

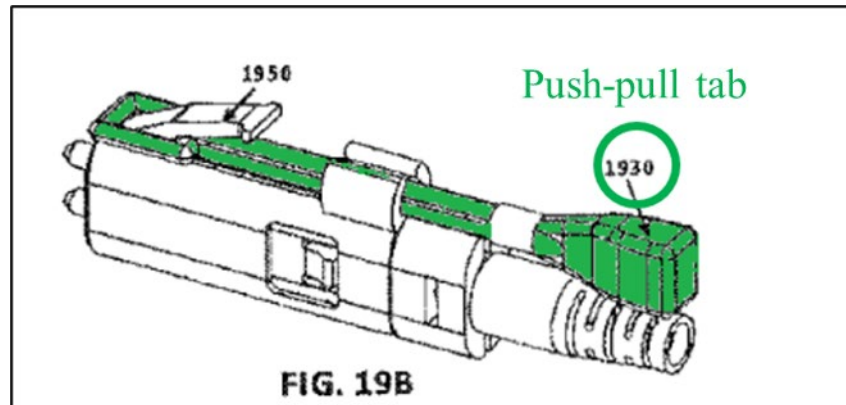


EX1001, FIG. 19B (annotated).

387. Therefore, I believe a POSITA would have understood that the term “elongate arm” as used in claim 1 does not necessarily require a “push-pull tab,” but would at least encompass the kind of structure the '369 patent discloses as having a rear end portion from which a push/pull tab extends. Such a structure would include the elongate part of the element highlighted in green in the '369 patent's Figure 19B above that extends forward from the portion specifically labeled as “push/pull tab 1930.”

388. Because Scherer's extender 330d is structurally similar to that forward extending portion and the '369 patent's specification provides no reason to believe "elongate arm" as recited in claim 1 would have anything other than its plain and ordinary meaning, I believe Scherer's extender 330d includes an elongate arm as used in claim element [23.5].

389. As a second point, Scherer's extender 330d is connected to the top portion of the connector housing (the connector hood 310d as shown in annotated Figure 14 above) at least in the same respect as is described in the '369 patent itself. I have carefully reviewed the '369 patent, and I have not found any discussion in the specification of an elongate arm "connected to" a connector housing. *See generally* EX1001. To the extent that Figure 19B provides a non-limiting example of an elongate arm "connected to" the connector housing, Scherer provides the same disclosure of such a connection. That is, the '369 patent is clear that the push-pull tab 1930 is "not integrated" with the connector housing and is instead a "separable element" from the connector housing, EX1001, 12:38-42, and further shows an example where the push-pull tab 1930 is constrained at one location in the lateral direction by an unlabeled, undescribed component.

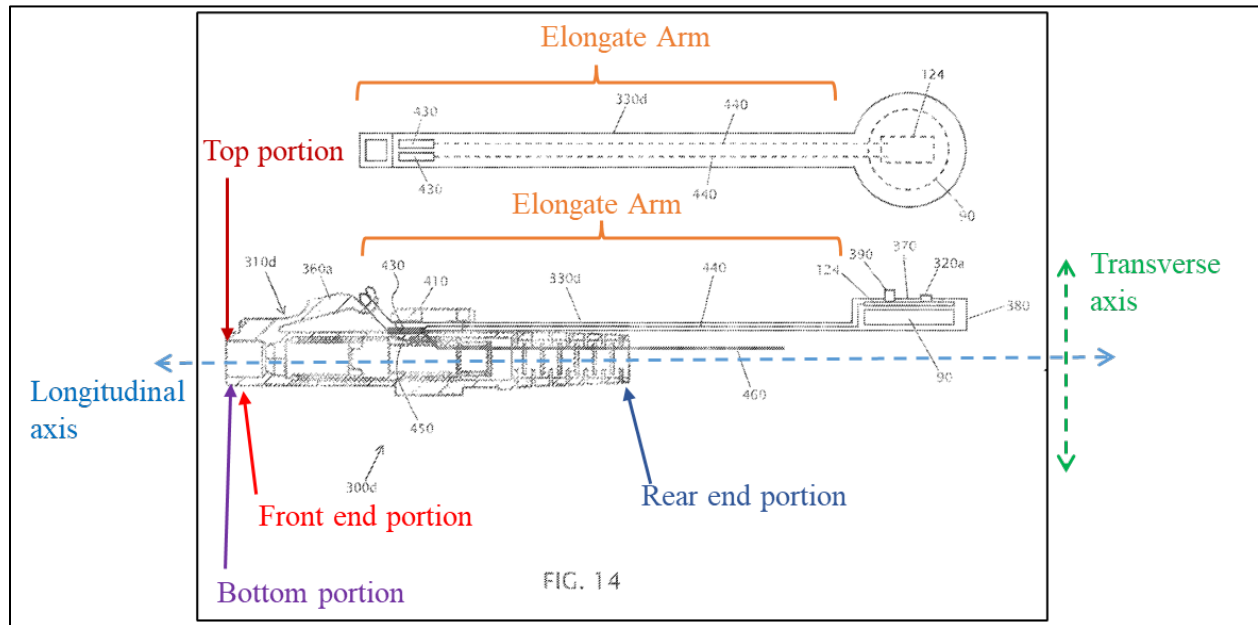


EX1001, FIG. 19B (annotated).

390. In my opinion, Scherer discloses this feature at least in the same way as shown in the '369 patent in that “connector hood 310d includes extender 300d that is configured to be removably coupled to connector body 400a such that extender 300d can slide relative to connector body 400a to depress or compress lever 360a.” EX1003, ¶54 (as noted previously in Section VII.B, it is clear from context that the foregoing reference to “extender 300d” is incorrectly numbered, and that the extender of this embodiment would properly be numbered “extender 330d”).

391. Though Scherer does not use the numeral 400a in any figure, elsewhere in paragraph 54 Scherer refers to “movement of extender 330d relative to connector body 410,” and in paragraph 51 Scherer refers to “a lateral surface 400 of connector body 410.” EX1003, ¶¶51, 54. From the foregoing context, despite any ambiguity concerning which of the illustrated features is referred to as “connector body 400a” in paragraph 54, a POSITA would understand that the

extender 330d is connected to the part of the connector hood 310d identified above as being a “connector housing” above the top portion of that connector housing by being received between the top portion and the connector body 410 as shown in Figure 14.



EX1003, FIG. 14 (annotated).

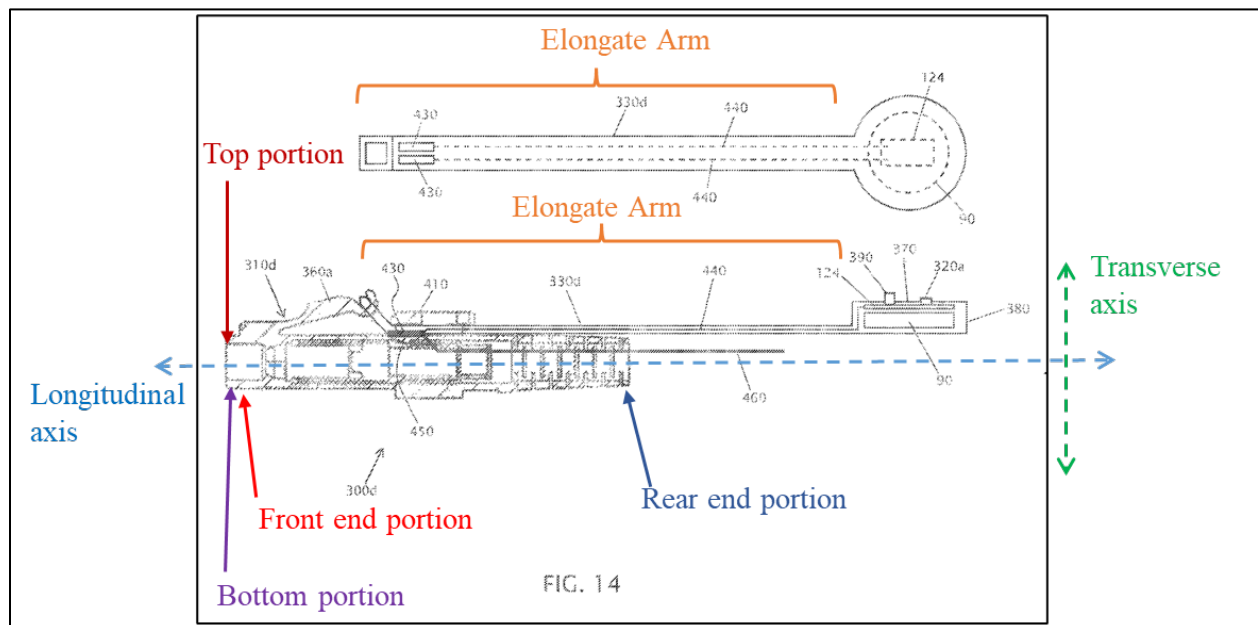
392. As shown above, Scherer’s extender 330d is confined between the connector body 400 and the top portion of the connector housing in a manner that restricts transverse movement of the extender 330.

393. Accordingly, a POSITA would have understood that Scherer discloses the features of claim element [23.5].

7. **Element [23.6] – “wherein the connector housing comprises a guide connecting the elongate arm to the optical fiber connector.”**

394. For at least the reasons below, it is my opinion that Scherer discloses claim element [23.6]. In particular, I believe a POSITA would have understood that Scherer discloses the connector housing includes a guide connecting the elongate arm to the optical fiber connector. EX1003, ¶¶51, 54, FIG. 14.

395. As observed above, Scherer’s extender 330d, which includes an “elongate arm” as recited in claim 1, is connected to the part of Scherer’s connector hood 310d identified above as being a “connector housing” by being received between Scherer’s connector body 410 and the top portion of the “connector housing.”



EX1003, FIG. 14 (annotated).

396. As shown in Figure 14 above, the extender 330d fills the space between the connector body 410 and the top portion of the connector housing, which would restrict transverse movement of the extender 330d while allowing the sliding motion described in paragraph 54. EX1003, ¶54, FIG. 14. By restricting the extender 330d from moving transversely while allowing the extender 330d to slide in another direction, the connector body 410 and the top portion of the connector housing cooperate to guide movement of the extender 330d to facilitate use of the extender 330d to depress the lever 360a. EX1003, ¶54. The space between the connector body 410 and the top portion of the connector housing in which the extender 330d is received, thereby connecting the extender 330d to the connector housing as discussed above with regard to element [23.5], is therefore a guide that connects the extender 330d to the housing provided by connector hood 310d. The connector 310d is part of the assembly depicted in Figure 14 that is identified as an “optical fiber connector” above with regard to the preamble of claim 23.

397. Accordingly, a POSITA would have understood that Scherer discloses the features of claim element [23.6].

398. In summary, it is my opinion that a POSITA would have been motivated to make a combination of Scherer in view of Lin that renders obvious each of the features of claim 23 of the '369 patent. As such, it is my opinion that Scherer in view of Lin renders obvious the entirety of claim 23 of the '369 patent.

C. Claim 24

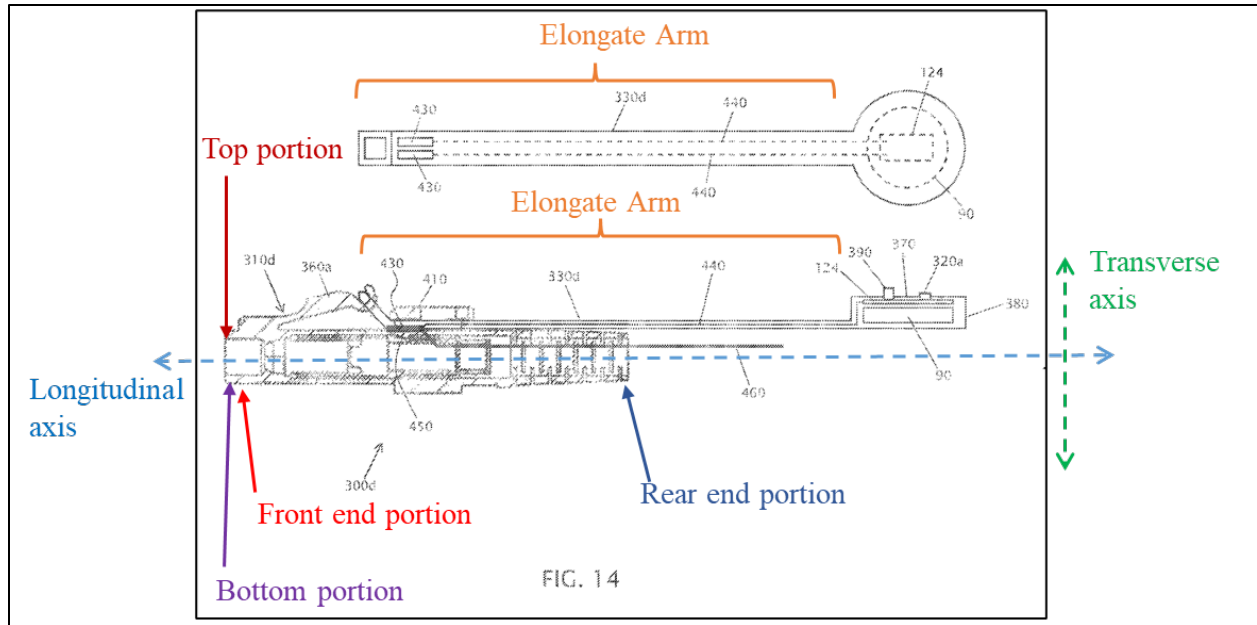
1. Preamble – “The optical fiber connector as set forth in claim 23, wherein”

399. Claim 24 depends upon claim 23, and for at least the reasons discussed above in reference to claim 23, Scherer in view of Lin renders obvious claim 23. *See* Section XI.B. Additionally, for at least the reasons below, it is my opinion that the Scherer in view of Lin renders obvious claim 24 of the '369 patent.

2. Element [24.1] – “the guide defines a groove extending along the longitudinal axis.”

400. It is my opinion that Scherer discloses claim element [24.1].

401. As explained above with regard to elements [23.5] and [23.6] of claim 23, Scherer's extender 330d, which is an “elongate arm” as claimed, is connected to the part of Scherer's connector hood 310d that defines a “connector housing” by being received between the connector housing and a part of a connector body 410. Sections XI.B.6, XI.B.7; EX1003, ¶¶51, 54, FIG. 14.



EX1003, FIG. 14 (annotated).

402. As further explained above, a POSITA would have understood from the relevant portions of Scherer’s disclosure, including Figure 14, that the connector body 410 and connector housing define a guide therebetween because the close fit of the extender 330d between the connector body 410 and the top portion of the connector housing would restrict transverse movement of the extender 330d while allowing the extender 330d to slide. *See* Sections XI.B.6, XI.B.7; EX1003, ¶54.

403. Other portions of Scherer’s disclosure describe the space identified herein as a “guide” a “slot.” EX1003, ¶8 (“In some embodiments, the connector body defines a slot, and the extender is configured to be slidably disposed in the slot.”). A slot is within the plain and ordinary meaning of the word “groove,”

meaning the aforementioned guide defined by the optical fiber connector shown in Figure 14 includes a guide defining a groove.

404. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [24.1]. Additionally, the features of claim element [24.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 24.

D. Claim 25

1. Preamble – “The optical fiber connector as set forth in claim 24, wherein”

405. Claim 25 depends upon claims 23 and 24, and for at least the reasons discussed above in reference to claims 23 and 24, the Scherer in view of Lin renders obvious claims 23 and 24. *See* Section XI.B-C. Additionally, for at least the reasons below, it is my opinion that the Scherer in view of Lin renders obvious claim 25 of the '369 patent.

2. Element [25.1] – “the elongate arm is slidably received in the groove.”

406. It is my opinion that Scherer discloses claim element [25.1].

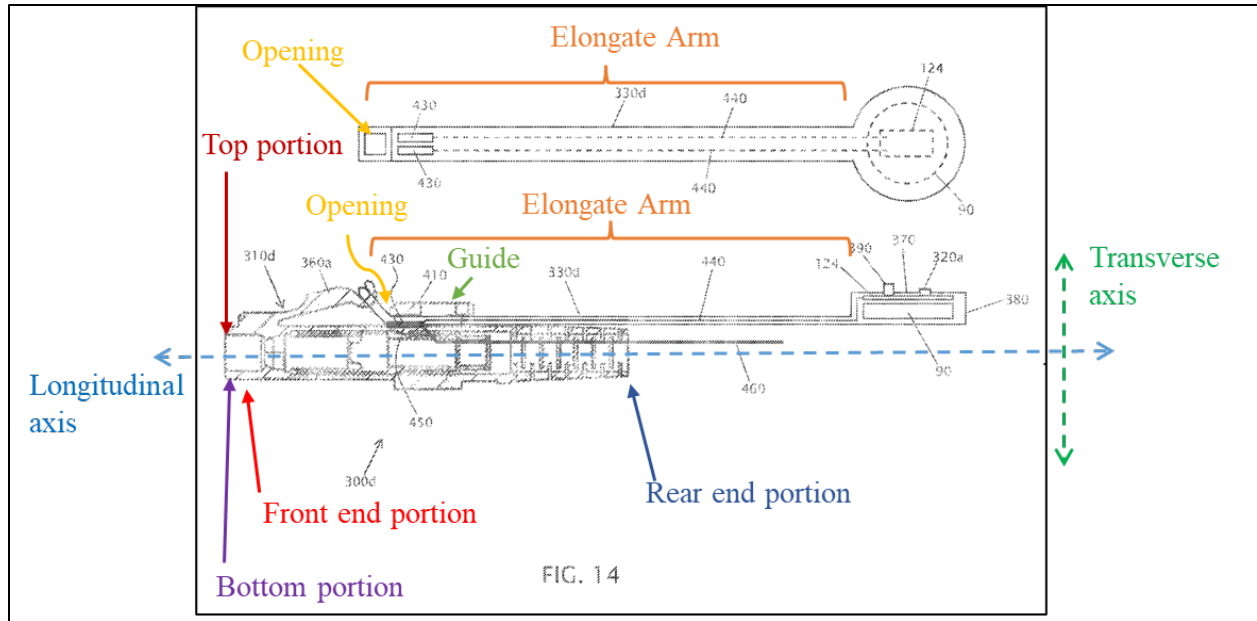
407. As explained above with regard to claim 24, Scherer's extender 330d, which is an “elongate arm” as claimed, is connected to the part of Scherer's connector hood 310d that defines a “connector housing” by being received

between the connector housing and a part of connector body 410. Section XI.C; EX1003, ¶¶51, 54, FIG. 14.

408. As further explained above, Scherer describes the guide for the extender 330d as a “slot,” and a slot is within the plain and ordinary meaning of the word “groove.” *See* Section XI.C; EX1003, ¶8.

409. Scherer further discloses that the extender 330d is configured to slide along the “longitudinal axis” identified herein with respect to the optical fiber connector shown in Scherer’s Figure 14. Scherer explains “extender 300d can slide relative to connector body 400a to depress or compress lever 360a.” EX1003, ¶54 (as explained above, I note that the “extender 300d” mentioned in paragraph 54 is a typographical error and is actually the “extender 330d” referred to elsewhere in the same paragraph. This error does not change my analysis.)

410. A POSITA would have understood from the configuration of the extender 330d relative to the lever 360a in Figure 14 that the aforementioned sliding of the extender 330d to depress the lever 360a would be parallel to the longitudinal axis of the connector housing because such motion would cause an edge of an opening at the front end of the extender 330d, which receives a free end of the lever 360a, to either pull the lever 360a down, toward the connector housing, or allow the lever 360a to move up, away from the connector housing.



EX1003, FIG. 14 (annotated).

411. Moreover, Scherer explains that the extenders of related embodiments are pulled “away from the distal end,” *i.e.*, proximally, and Figure 14 shows that the “proximal end 380” is an extreme of the optical fiber connector assembly along the longitudinal axis. EX1003, ¶¶5 (“Some embodiments... comprise... an extender configured to be coupled to the lever and configured to be pulled longitudinally away from the distal end to draw a portion of the lever laterally toward one or more cables”), 51 (“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”).

412. Though the “distal end” is not labeled in Scherer’s Figure 14, a POSITA would have understood from context that the extender 330d is also pulled

away from the distal end of the connector hood 310d, *i.e.*, proximally, and thus along the longitudinal axis.

413. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [25.1]. Additionally, the features of claim element [25.1] disclosed by Scherer would be preserved in the combination of Nguyen in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 25.

E. Claim 26

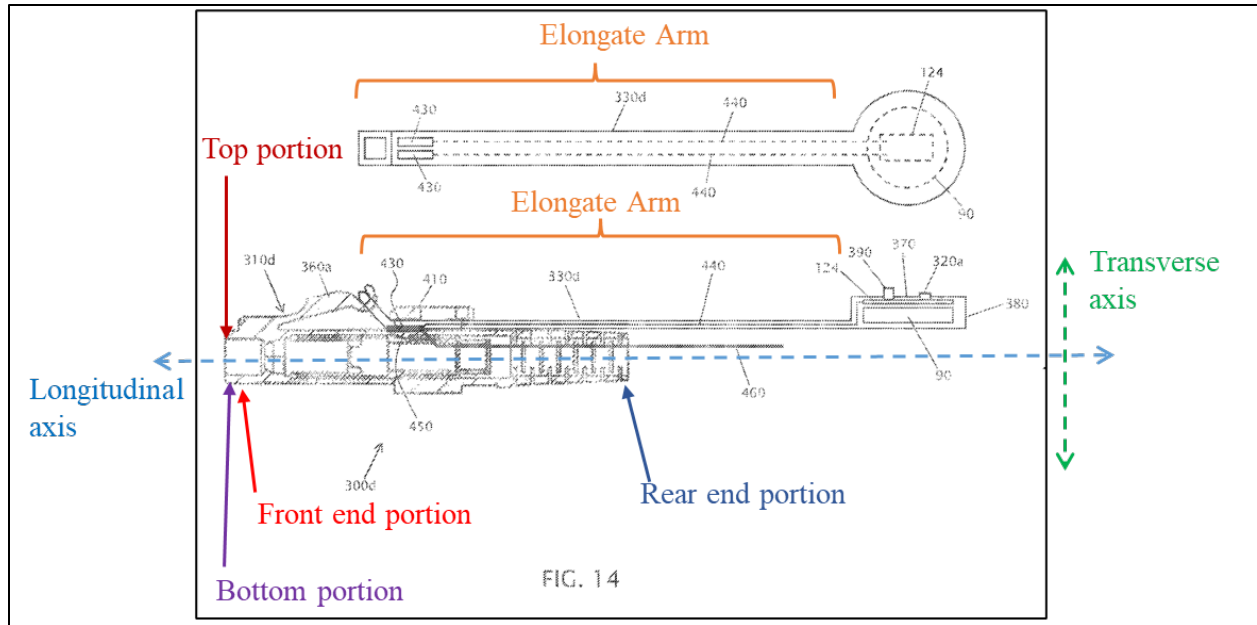
1. Preamble – “The optical fiber connector as set forth in claim 23, wherein”

414. Claim 26 depends upon claim 23, and for at least the reasons discussed above in reference to claim 23, Scherer in view of Lin renders obvious claim 23. *See* Section XI.B. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 26 of the '369 patent.

2. Element [26.1] – “the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis.”

415. It is my opinion that Scherer discloses the features of claim element [26.1].

416. I believe a POSITA would have understood that Figure 14 of Scherer illustrates all of the aspects of claim 26.



EX1003, FIG. 14 (annotated).

417. As shown in Figure 14, the front end portion of the part of the extender 330d that defines an elongate arm is spaced apart from a rear end portion of that part. EX1003, Fig. 14.

418. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [26.1]. Additionally, the features of claim element [26.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 26.

F. Claim 27

1. Preamble – “The optical fiber connector as set forth in claim 26, wherein”

419. Claim 27 depends upon claim 23 and claim 26, and for at least the reasons discussed above in reference to claim 23 and claim 26, Scherer in view of

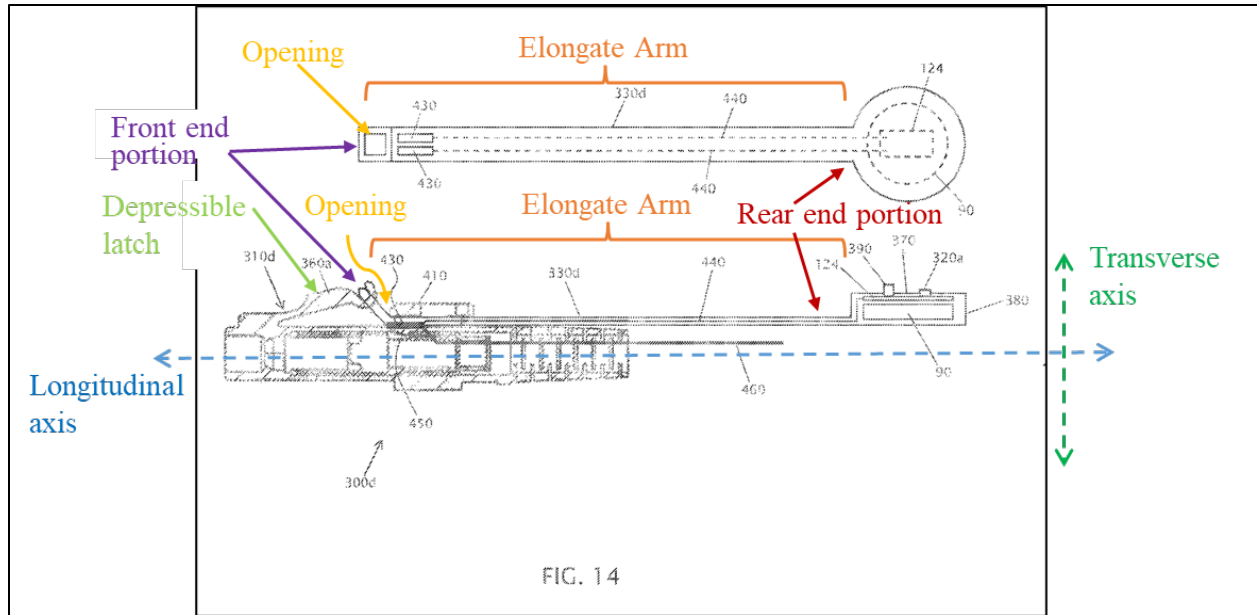
Lin renders obvious claim 23 and claim 26. *See* Section XI.B, XI.E. Additionally, for at least the reasons below, it is my opinion that the Scherer in view of Lin renders obvious claim 27 of the '369 patent.

2. Element [27.1] – “the front end portion of the elongate arm defines an opening.”

420. It is my opinion that Scherer discloses the features of claim element [27.1].

421. As noted above with regard to claim 26, a POSITA would have understood that Scherer's elongate arm (elongate portion of the extender 330d) includes a front end portion and a rear end portion spaced apart along the longitudinal axis. Section XI.E. Further, in my opinion, a POSITA would have understood Scherer's elongate arm (elongate portion of the extender 330d) defines an opening at the front end portion. Therefore, I believe Scherer discloses the additional features of claim 27.

422. I believe a POSITA would have understood that Figure 14 of Scherer illustrates all of the aspects of claim 27.



EX1003, FIG. 14 (annotated).

423. As shown in Figure 14, the front end portion of the part of the extender 330d that defines an elongate arm is spaced apart from a rear end portion of that part, and that front end portion defines an opening. EX1003, FIG. 14.

424. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [27.1]. Additionally, the features of claim element [27.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 27.

G. Claim 28

1. Preamble – “The optical fiber connector as set forth in claim 27, wherein”

425. Claim 28 depends upon claim 23 and claims 26-27, and for at least the reasons discussed above in reference to claim 23 and claims 26-27, Scherer in view

of Lin renders obvious claim 23 and claims 26-27. *See* Section XI.B, XI.E-F.

Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 28 of the '369 patent.

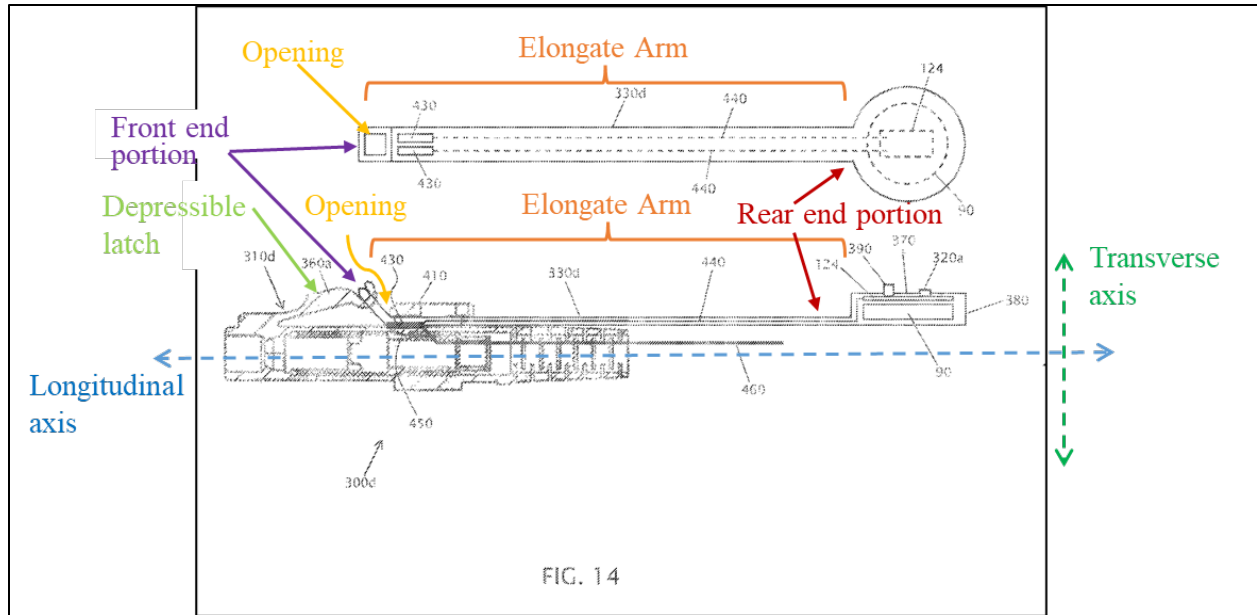
2. Element [28.1] – “the depressible latch is received in the opening.”

426. It is my opinion that Scherer discloses the additional features of claim element [28.1].

427. As noted above with regard to claims 26 and 27, a POSITA would have understood that Scherer’s elongate arm (elongate portion of the extender 330d) includes a front end portion and a rear end portion spaced apart along the longitudinal axis, and that the front end portion defines an opening. Sections IX.E, IX.F.

428. Further, in my opinion, a POSITA would have understood Scherer’s elongate arm (elongate portion of the extender 330d) defines an opening at the front end portion and that the depressible latch (lever 360a) is received in the opening. Therefore, I believe Scherer discloses the additional features of claim 28.

429. I believe a POSITA would have understood that Figure 14 of Scherer illustrates all of the aspects of claim 28.



EX1003, FIG. 14 (annotated).

430. As shown in Figure 14, the front end portion of the part of the extender 330d that defines an elongate arm is spaced apart from a rear end portion of that part. EX1003, FIG. 14. That front end portion defines an opening. EX1003, FIG. 14. 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.

431. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [28.1]. Additionally, the features of claim element [28.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 28.

H. Claim 29

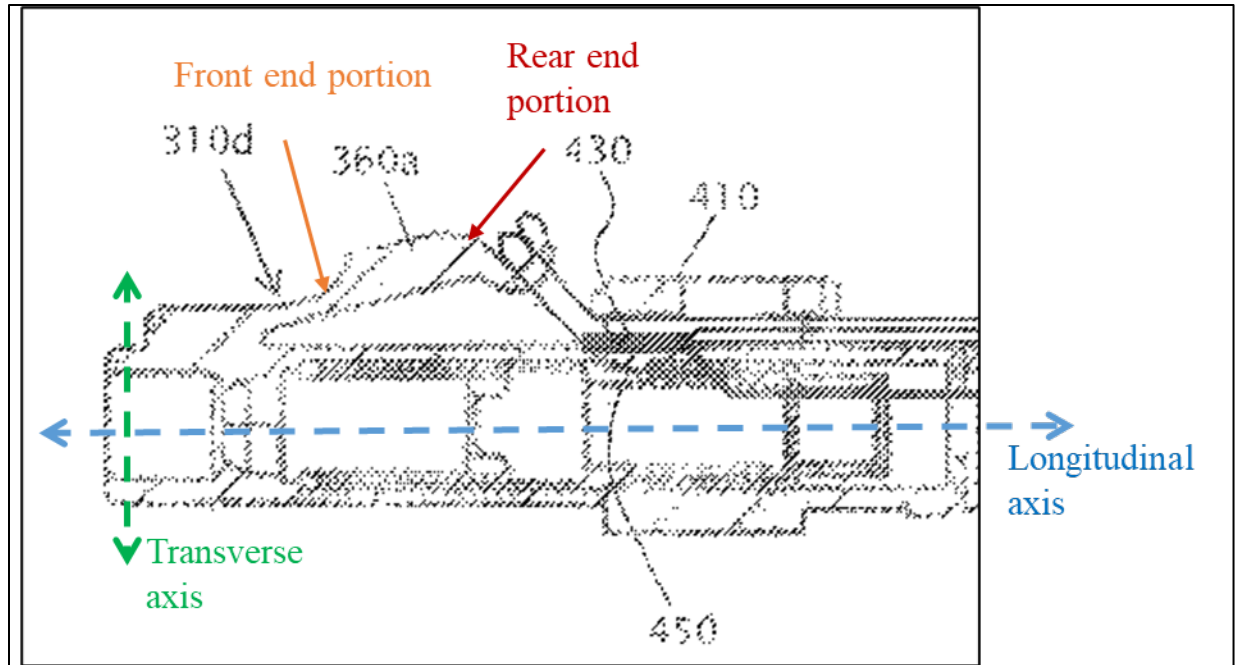
1. Preamble – “The optical fiber connector as set forth in claim 28, wherein”

432. Claim 29 depends upon claim 23 and claims 26-28, and for at least the reasons discussed above in reference to claim 23 and claims 26-28, the Scherer in view of Lin renders obvious claim 23 and claims 26-28. *See* Section XI.B; *see also* Sections XI.E-G. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 29 of the '369 patent.

2. Element [29.1] – “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.”

433. It is my opinion that Scherer discloses the features of claim element [29.1].

434. I believe a POSITA would have understood that Scherer's latch arm (lever 360a) has a front end portion and rear end portion spaced apart along the longitudinal axis and that the latch arm 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. *See, e.g.,* EX1003, FIG. 14.



EX1003, FIG. 14 (excerpt, annotated).

435. In my opinion, a POSITA would have understood that “front portion” and “rear end portion” denote different sections (as opposed to a particular point) of the depressible latch as: (i) this would be the plain and ordinary meaning; and (ii) these terms are clearly used to refer to portions/segments of the structure (as opposed to a particular front point and end point) throughout the specification and claims of the ’369 patent. *See, e.g.*, EX1001, claims 4-5 (using “front portion” to refer to a portion of structure that includes an opening).

436. Therefore, I believe that a POSITA would have understood this claim is satisfied at least by the lever 360a extending upwards in the transverse direction from the front portion to the rear portion of the lever 360a.

437. Even if a more restrictive view of “front portion” and “rear end portion” were applied to only refer to the leading edge and trailing edge of the depressible latch, Scherer shows that this element is met as the lever 360a extends upward along the transverse axis between these edges as I have annotated above.

438. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [29.1]. Additionally, the features of claim element [29.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 29.

I. Claim 30

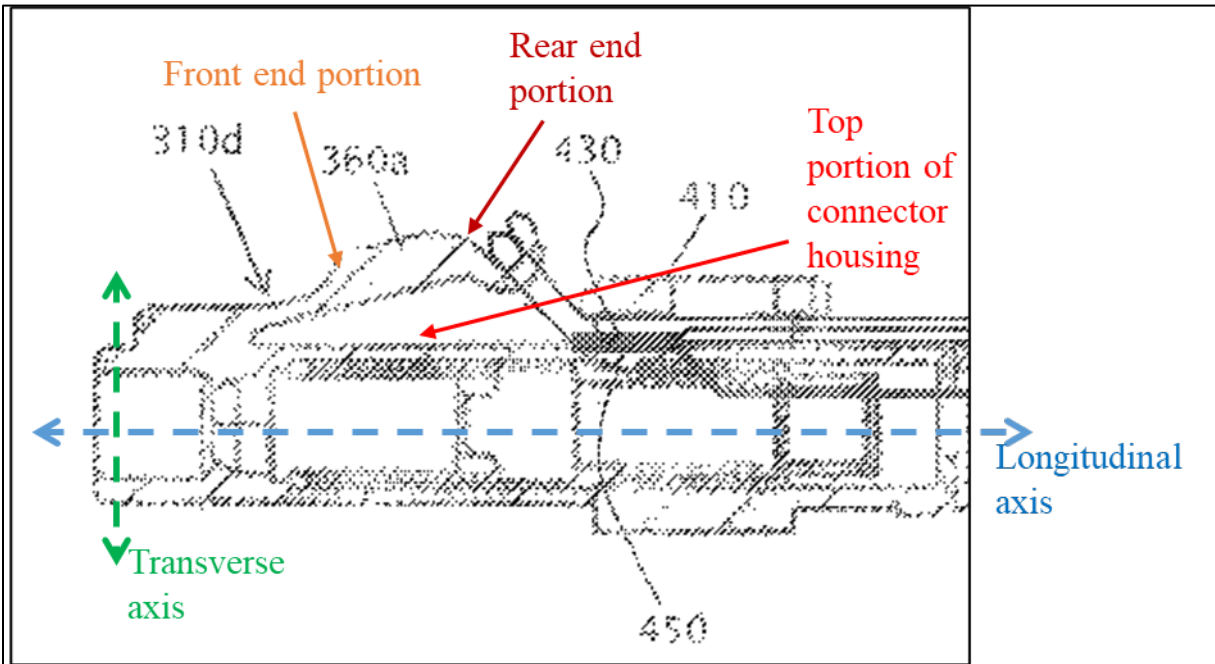
1. Preamble – “The optical fiber connector as set forth in claim 29, wherein”

439. Claim 30 depends upon claim 23 and claims 26-29, and for at least the reasons discussed above in reference to claim 23 and claims 26-29, Scherer in view of Lin renders obvious claim 23 and claims 26-29. *See* Section XI.B; *see also* Sections XI.E-H. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 30 of the '369 patent.

2. Element [30.1] – “the rear end portion of the depressible latch is spaced apart above the top portion of the connector housing along the transverse axis.”

440. It is my opinion that Scherer discloses the features of claim element [30.1].

441. I believe a POSITA would have understood that the rear end portion of Scherer's latch (lever 360a) is spaced apart above the top portion of the connector housing along the transverse axis. *See, e.g.*, EX1003, FIG. 14.



EX1003, FIG. 14 (excerpt, annotated).

442. As shown above, 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 such that it is above the top portion of the connector housing.

443. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [30.1]. Additionally, the features of claim element [30.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 30.

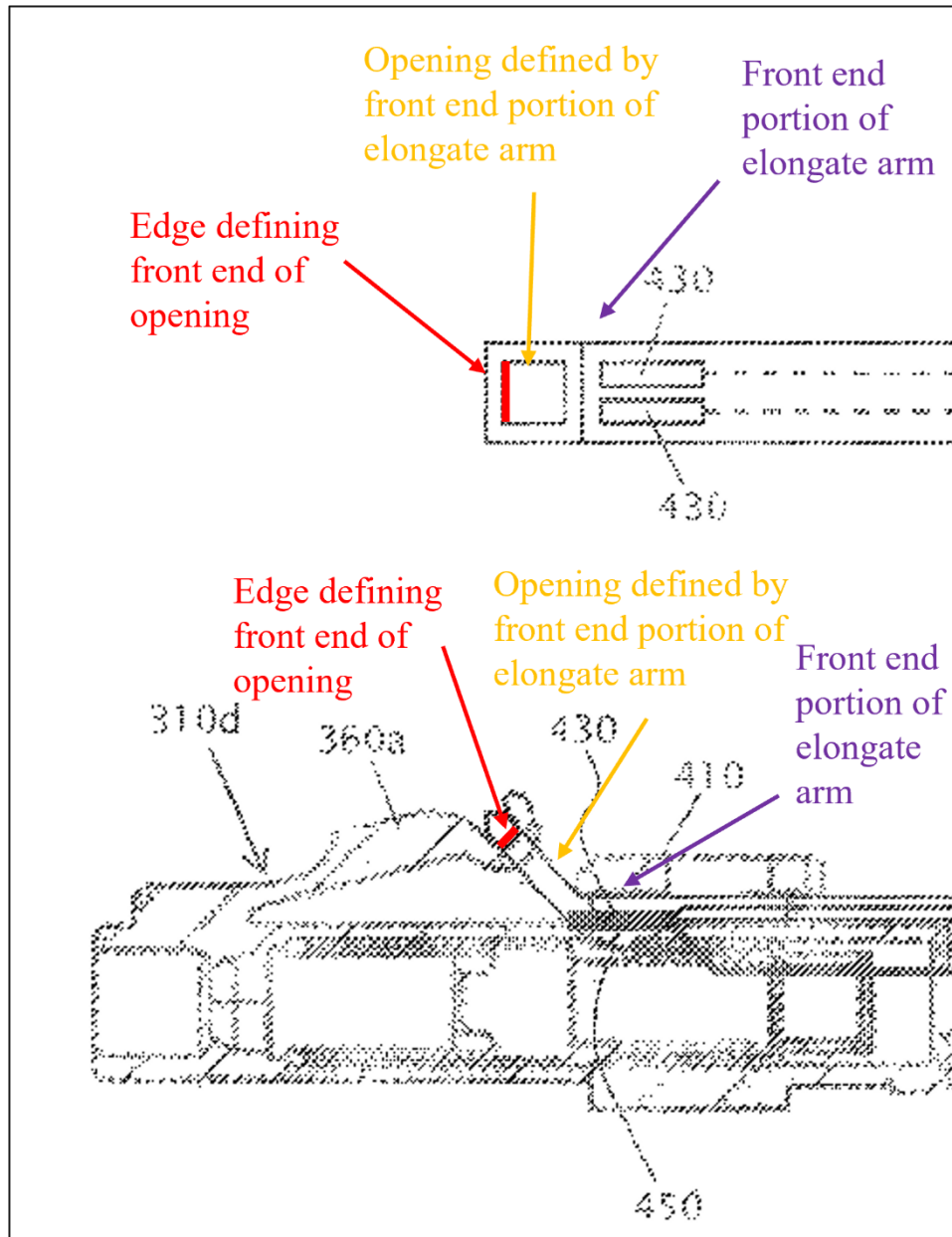
J. Claim 31

1. Preamble – “The optical fiber connector as set forth in claim 30, wherein”

444. Claim 31 depends upon claim 23 and claim 26-30, and for at least the reasons discussed above in reference to claim 23 and claims 26-30, Scherer in view of Lin renders obvious claim 23 and claims 26-30. *See* Section XI.B; *see also* Sections XI.E-I. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 31 of the '369 patent.

2. Element [31.1] – “the front end portion of the elongate arm includes an edge defining a front end of the opening.”

445. It is my opinion that Scherer discloses the features of claim element [31.1]. I believe a POSITA would have understood Scherer discloses that a front end portion of the elongate arm (opening defined at the front end of the elongate part of extender 330d) includes an edge defining a front of the opening. *See, e.g.*, EX1003, FIG. 14.



EX1003, FIG. 14 (excerpt, annotated).

446. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [31.1]. Additionally, the features of claim element [31.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 31.

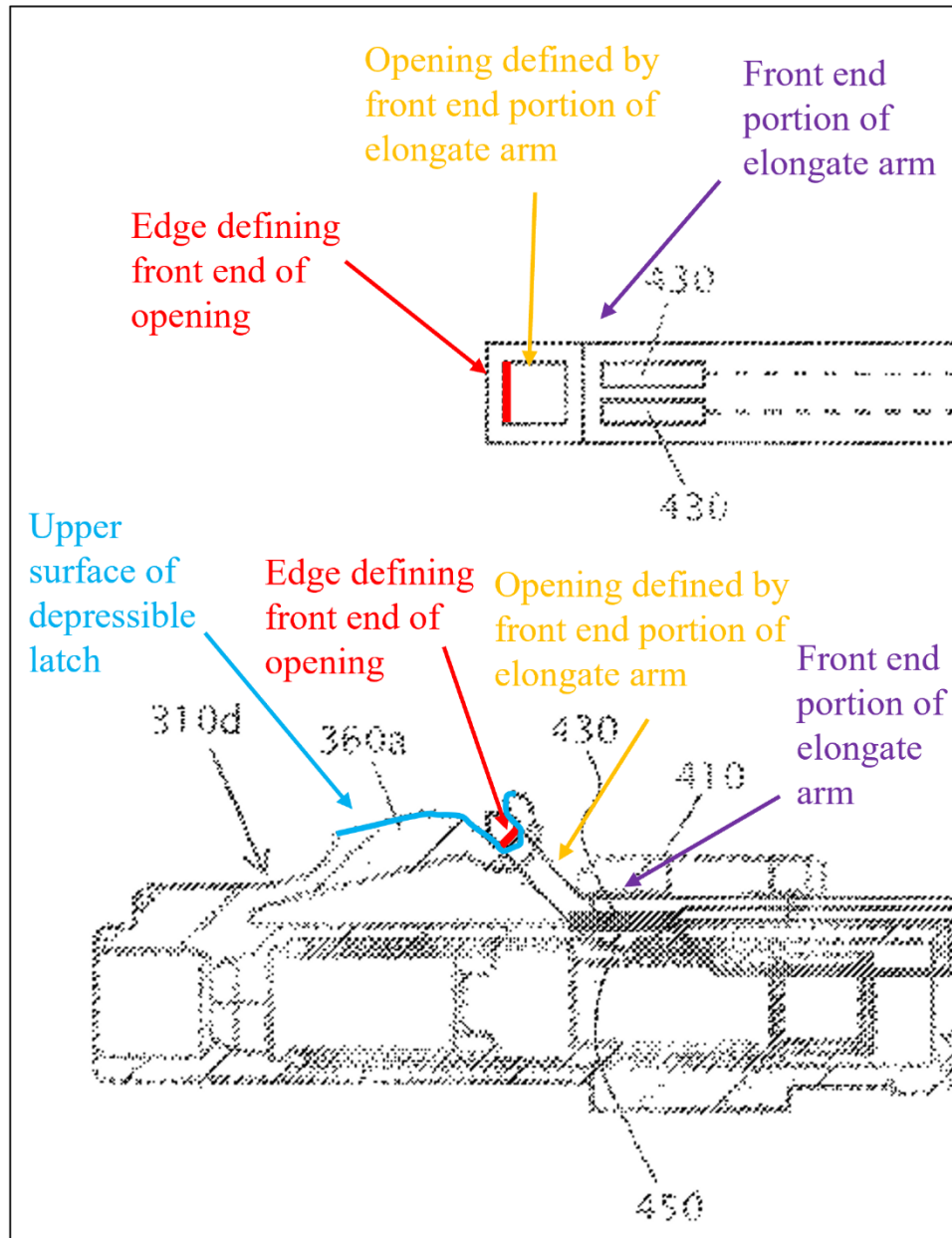
K. Claim 32

1. Preamble – “The optical fiber connector as set forth in claim 31, wherein”

447. Claim 32 depends upon claim 23 and claims 26-31, and for at least the reasons discussed above in reference to claim 23 and claims 26-31, Scherer in view of Lin renders obvious claim 23 and claims 26-31. *See* Section XI.B; *see also* Sections XI.E-J. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 32 of the '369 patent.

2. Element [32.1] – “the depressible latch has an upper surface, the edge opposing the upper surface.”

448. It is my opinion that a POSITA would have understood Scherer discloses the features of claim element [32.1]. As noted above with regard to claim 31, Scherer discloses that a front end portion of the elongate arm (opening defined at the front end of the elongate part of extender 330d) includes an edge defining a front of the opening. Section XI.J. I believe that Scherer further discloses that the upper surface of the latch arm (lever 360a) opposes the edge. *See, e.g.*, EX1003, FIG. 14.



EX1003, FIG. 14 (excerpt, annotated).

449. Scherer details how the lever 360a is actuated by pulling the extender 330d rearwardly. EX1003, ¶54 (“extender 300d can slide relative to connector body 400a to depress or compress lever 360a.”).

450. As explained above, I note that the “extender 300d” mentioned in paragraph 54 is a typographical error and is actually the “extender 330d” referred

to elsewhere in the same paragraph. This error does not change my analysis. *See* Section VII.B. The description of the extender 330d depressing the lever 360a is consistent with the leading edge of the opening defined at the front end portion of the extender 330d opposing the upper surface of the lever 360a, as this arrangement would cause the extender 330d to depress the lever 360a when slid longitudinally.

451. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [32.1]. Additionally, the features of claim element [32.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 32.

L. Claim 33

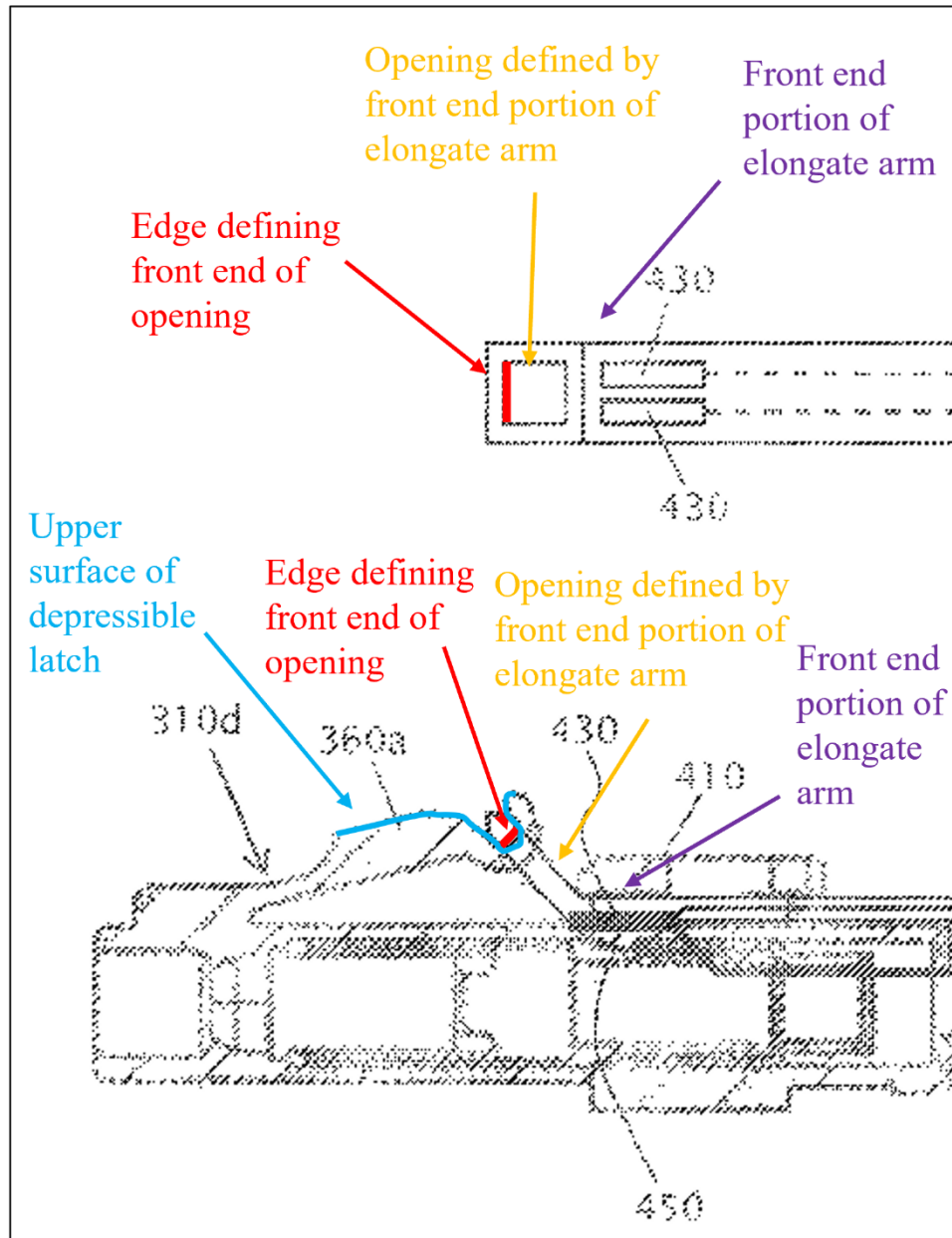
1. Preamble – “The optical fiber connector as set forth in claim 32, wherein”

452. Claim 33 depends upon claim 23 and claims 26-32, and for at least the reasons discussed above in reference to claim 23 and claims 26-32, Scherer in view of Lin renders obvious claim 23 and claims 26-32. *See* Section XI.B; *see also* Sections XI.E-K. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 33 of the '369 patent.

2. Element [33.1] – “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.”

453. It is my opinion that Scherer in view of Lin renders obvious claim element [33.1]. Scherer discloses that the extender 330d is configured to be pulled rearward along the longitudinal axis with respect to the housing provided by the connector hood 310d such that the edge defining the front end of the opening in the front portion of the extender 330d acts on the upper surface of the lever 360a to depress the lever 360a. EX1003, ¶54 (“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”), FIG. 14.

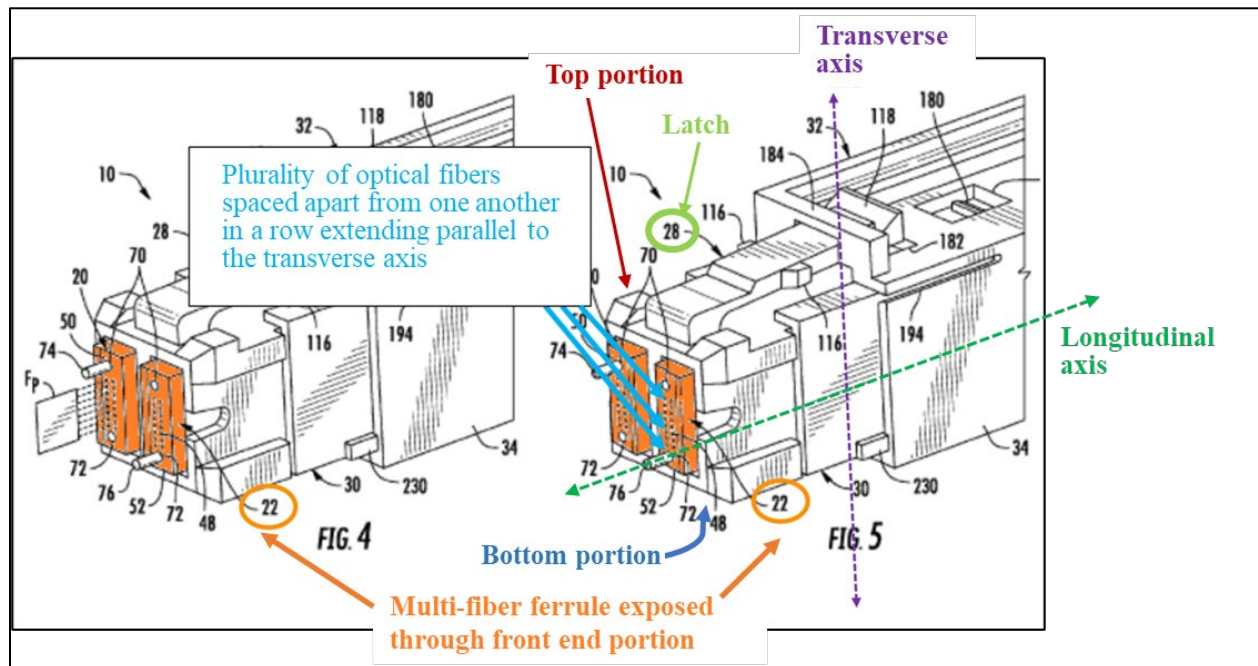


EX1003, FIG. 14 (excerpt, annotated).

454. In my opinion, Scherer therefore discloses “the elongate arm is configured to be pulled rearward along the longitudinal axis with respect to the connector housing” to “depress the depressible latch” as claimed. In the event that Patent Owner may allege that Scherer does not expressly disclose all subject matter of this claim, specifically “whereby the edge slides longitudinally along the upper

surface,” it is further my opinion that Lin discloses this feature, and a POSITA would have found it obvious to modify Scherer in view of Lin as previously discussed in Section XI.A.3.

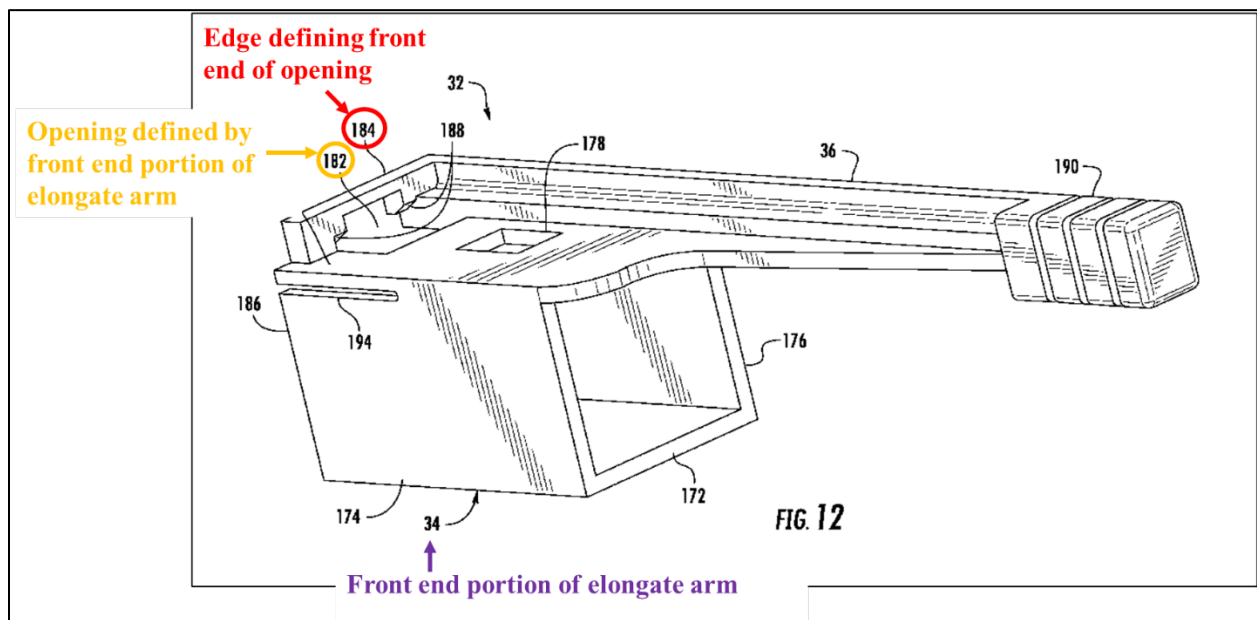
455. As noted above, Lin discloses a depressible latch (latch arm 28) above a top portion of a connector housing. Section X.B.; EX1005, ¶¶26, 52, FIGS. 3-5.



EX1005, FIGS. 4-5 (annotated).

456. Lin further discloses an elongate arm provided in outer body 32 and handle 36 configured to be pulled rearward along the longitudinal axis with respect to the connector housing, whereby an edge defining a front end of an opening defined by a front end portion of the elongate arm slides longitudinally along the upper surface of the latch, which the edge opposes, to depress the depressible latch. EX1005, ¶¶26, 45, 52, 57-60, FIGS. 12, 15-18.

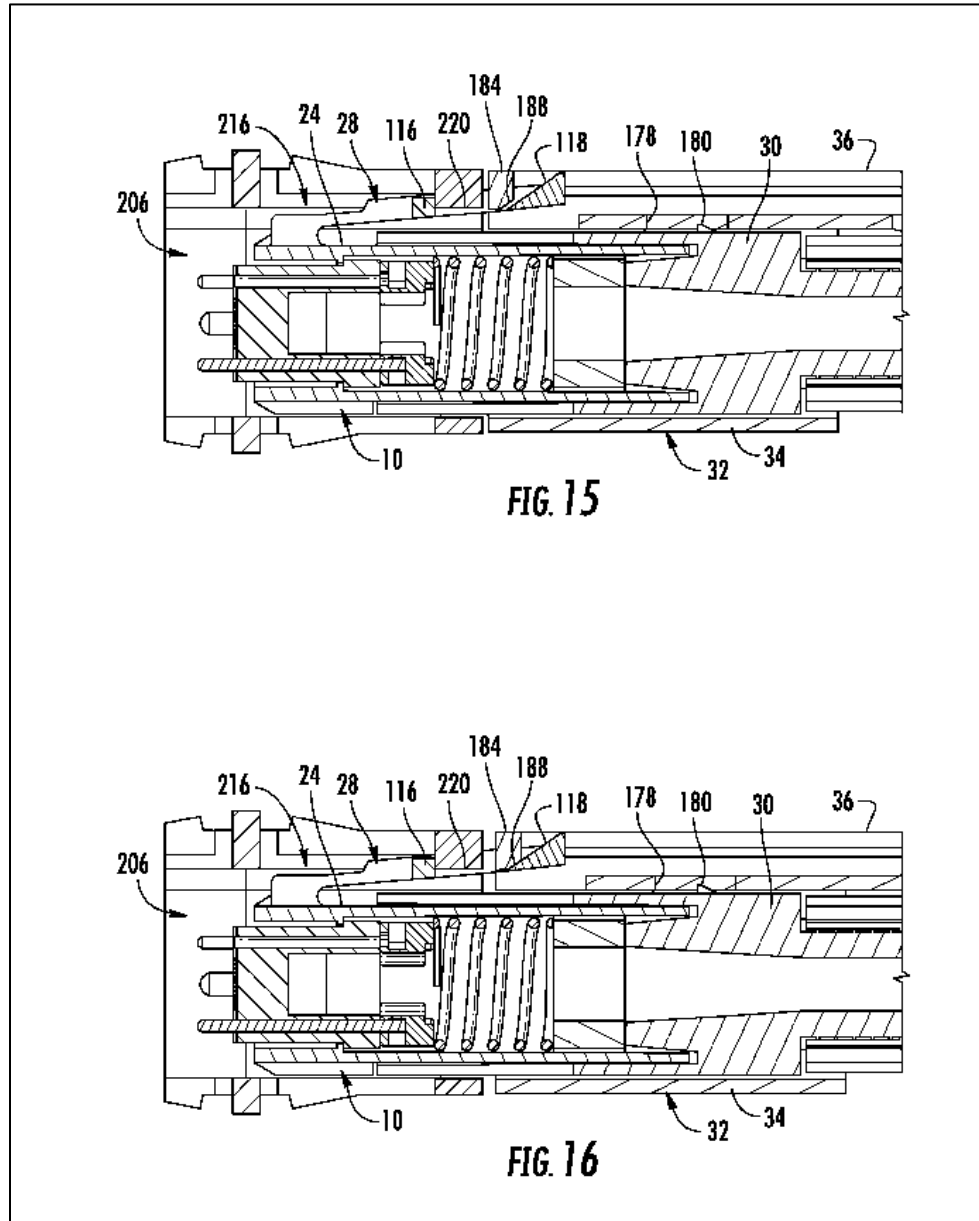
457. In particular, Lin discloses “an outer body 32 that cooperates with the... latch arm 28.” EX1005, ¶26. Lin explains that “the outer body 32 includes... a housing portion 34... and a handle 36 extending rearwardly from the housing portion 34” and that “the housing portion 34 can cause the latch arm 28 to flex toward the inner connector body 24.” EX1005, ¶26. The outer body 32 is illustrated alone in Figure 12.



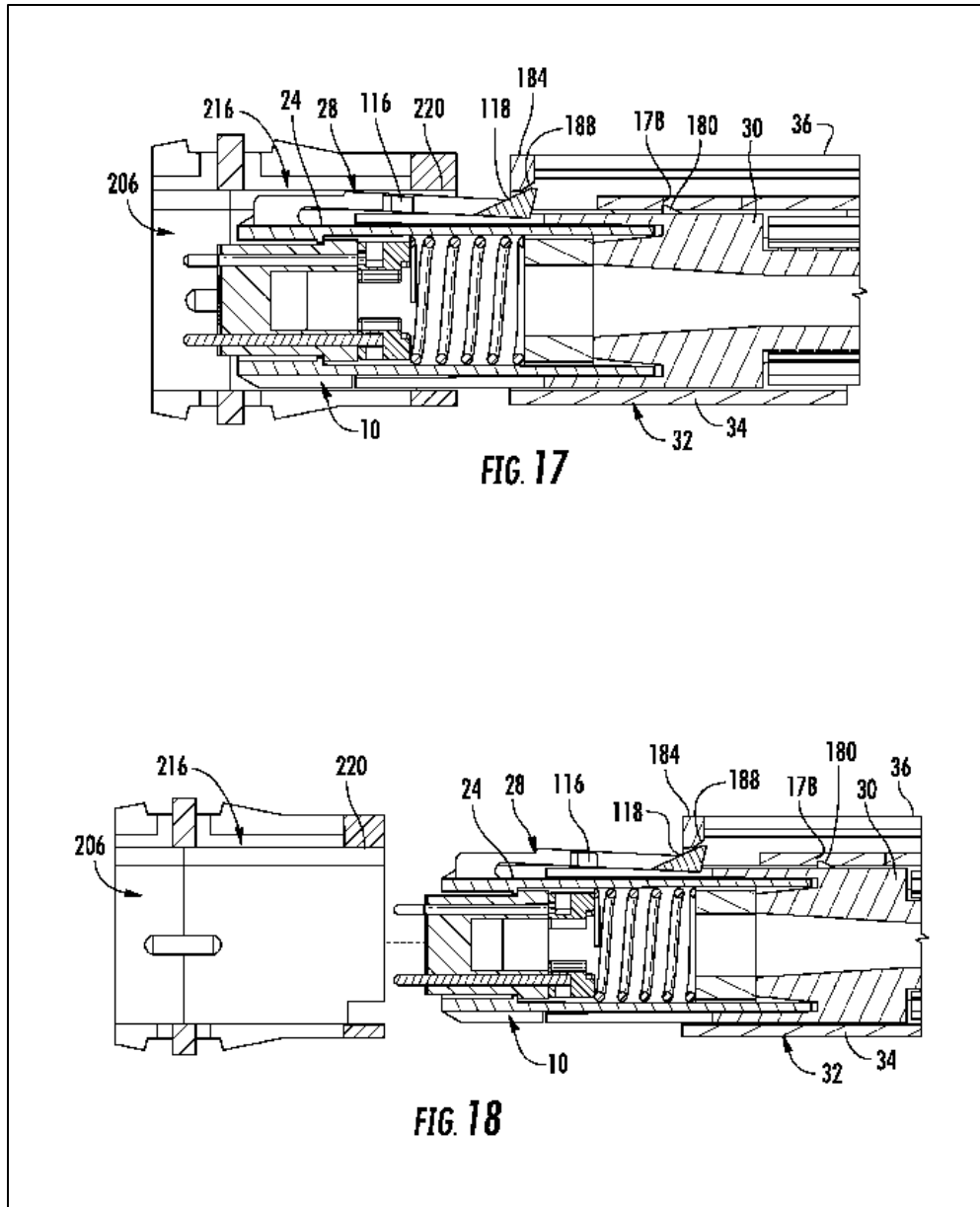
EX1005, FIG. 12 (annotated).

458. As shown above, the housing portion 34 is a front end portion of the outer body 32 because it is a portion that includes the front end 186, and the housing portion 34 defines a latch opening 182. Lin states that “a crossbar member 184 extends across the latch opening 182 at a front end 186,” meaning the cross bar member 184 provides an edge that defines a front end of the latch opening 182. EX1005, ¶45. Further, the 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 the surfaces 188 oppose the upper surface of the latch arm 28 provided by the ramp 118 and provide part of the edge that defines the front end of the opening 182. EX1005, ¶45, FIGS. 15-18.



EX1005, FIGS. 15-16.



EX1005, FIGS. 17-18.

459. Lin explains that after “the outer body 30 [sic] has been moved in a rearward direction (e.g., by pulling the handle 36) so that the sloped surfaces 188 of the crossbar member 184 contact the ramp 118 of the latch arm 28. Further movement of the outer body 30 [sic] in the rearward direction results in the crossbar member 184 moving along the ramp 118 and causing the latch arm 28 to

flex toward the inner connector body 24.” EX1005, ¶58. I note that “outer body 30,” as referred to above, is a typographical error and 30 refers to “rear connector body” as previously defined. *See, e.g.*, EX1005, ¶¶26, 45, 50, 56. The outer body is previously defined as “outer body 32.” *See, e.g.*, EX1005, ¶¶26, 45, 50, 57. My opinion does not change because of the typographical error. Thus, the elongate arm provided by outer body 32 is configured to be pulled rearward along the longitudinal axis with respect to the connector housing provided by bodies 24, 30 whereby the surfaces 188 of the edge provided by the crossbar member 184 slide longitudinally along the upper surface of the latch arm 28 provided by the ramp 188 to depress the latch arm 28. EX1005, ¶58. (“Thus, the outer body 32 may be used to depress the latch arm 28.”).

460. Should Patent Owner allege that Scherer does not fully disclose claim 33, specifically “whereby the edge slides longitudinally along the upper surface,” I believe a POSITA would have found it obvious to modify Scherer in view of Lin. Specifically, it would have been obvious to modify Scherer such that Scherer’s edge would slide longitudinally along the upper surface of Scherer’s latch (lever 360a) when Scherer’s elongate arm (extender 330d) is moved relative to the latch along the longitudinal axis, and that when the elongate arm is pulled rearward along the longitudinal axis the edge would depress the latch. This modification would be obvious because it would amount to substituting an incidental feature of

Scherer's disclosure with an equivalent feature having the same purpose and result in Lin.

461. It is my opinion that it was within the skill of a POSITA to construct similar optical fiber connectors such that pulling an elongate arm rearward causes a front edge of an opening defined by a front end portion of the arm to slide longitudinally along an upper surface of a latch, thereby depressing the latch, as evidenced by Lin. Thus, I believe 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 upper surface (thereby smoothing the distal part of the hook feature) alike to Lin's ramp 188 for the edge of Scherer's extender 330d to slide along. In addition to being derived from features in Lin intended to solve the same problem as the modified portions of Scherer, such a modification would have had predictable results that would operate in the same manner Scherer already describes, thereby amounting to a simple substitution of one known element for another.

462. Accordingly, it is my opinion that Scherer in view of Lin renders obvious the additional features of claim element [33.1]. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 33.

M. Claim 34

1. Preamble – “The optical fiber connector as set forth in claim 33, wherein”

463. Claim 34 depends upon claim 23 and claim 26-33, and for at least the reasons discussed above in reference to claim 23 and claims 26-33, Scherer in view of Lin renders obvious claim 23 and claims 26-33. *See* Sections XI.B, XI.E-L. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 34 of the '369 patent.

2. Element [34.1] – “the guide defines a groove extending along the longitudinal axis.”

464. The additional features recited in claim element [34.1] are identical to claim element [24.1]. Accordingly, for at least the reasons set forth above with respect to claim element [24.1], it is my opinion that Scherer discloses the features of claim element [34.1]. *See* Section XI.C. Additionally, the features of claim element [34.1] disclosed by Scherer would be preserved in the combination of Nguyen and Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood Scherer in view of Lin renders obvious claim 34.

N. Claim 35

1. Preamble – “The optical fiber connector as set forth in claim 34, wherein”

465. Claim 35 depends upon claim 23 and claims 26-34, and for at least the reasons discussed above in reference to claim 23 and claims 26-34, the Scherer in

view of Lin renders obvious claim 23 and claims 26-34. *See* Section XI.B, XI.E-M. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 35 of the '369 patent.

2. Element [35.1] – “the elongate arm is slidably received in the groove.”

466. The additional features recited in claim element [35.1] are identical to claim element [25.1]. Accordingly, for at least the reasons set forth above with respect to claim element [25.1], it is my opinion that Scherer discloses the features of claim element [35.1]. *See* Section XI.C. Additionally, the features of claim element [35.1] disclosed by Scherer would be preserved in the combination of Nguyen and Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood Scherer in view of Lin renders obvious claim 35.

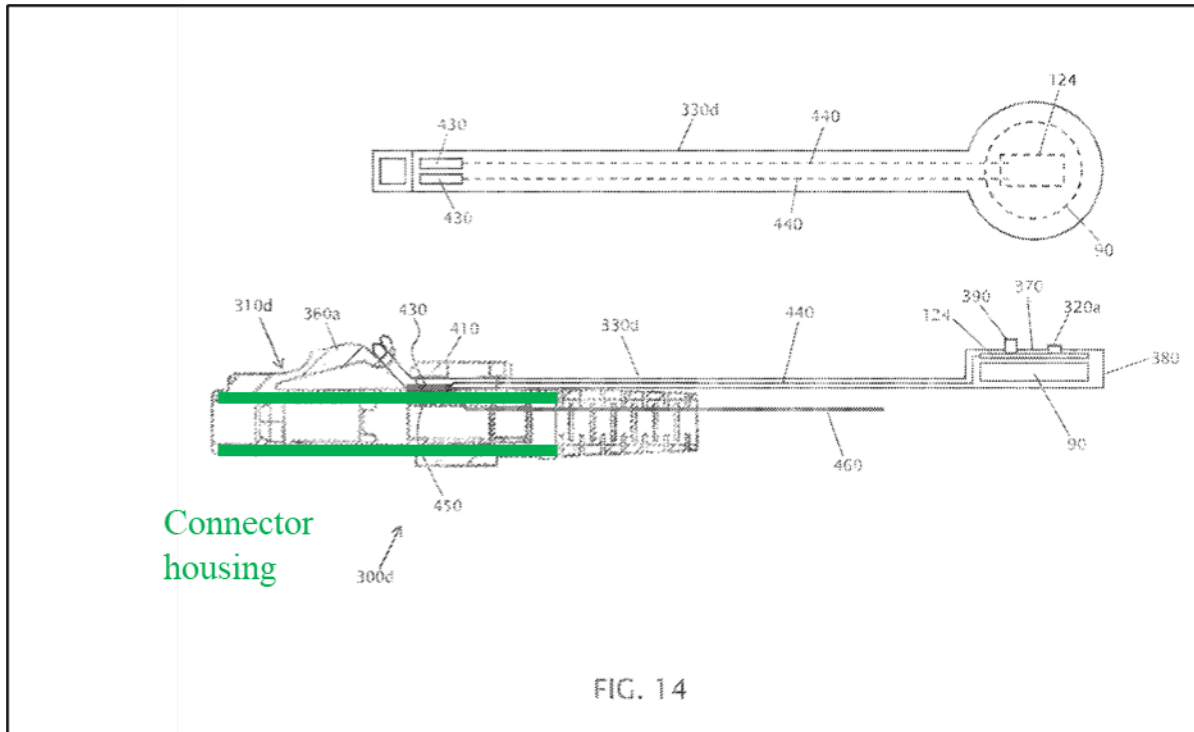
O. Claim 36

1. Preamble – “The optical fiber connector as set forth in claim 34, wherein”

467. Claim 36 depends upon claim 23 and claims 26-34, and for at least the reasons discussed above in reference to claim 23 and claims 26-34, Scherer in view of Lin renders obvious claim 23 and claims 26-34. *See* Sections XI.B, XI.E-M. Additionally, for at least the reasons below, it is my opinion that Scherer in view of Lin renders obvious claim 36 of the '369 patent.

2. Element [36.1] – “the connector housing includes a front body and a back body.”

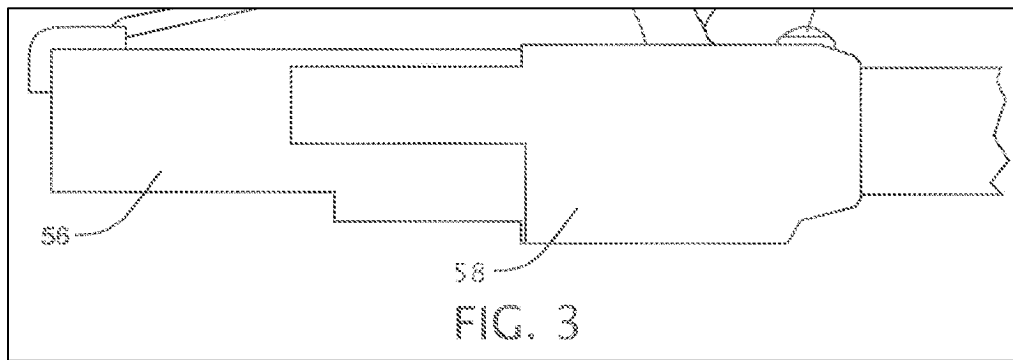
468. It is my opinion that Scherer discloses the features of claim element [36.1]. Scherer’s connector housing includes a portion of the connector hood 310d, as shown in the annotated copy of Scherer’s Figure 14 below.



EX1003, FIG. 14 (annotated).

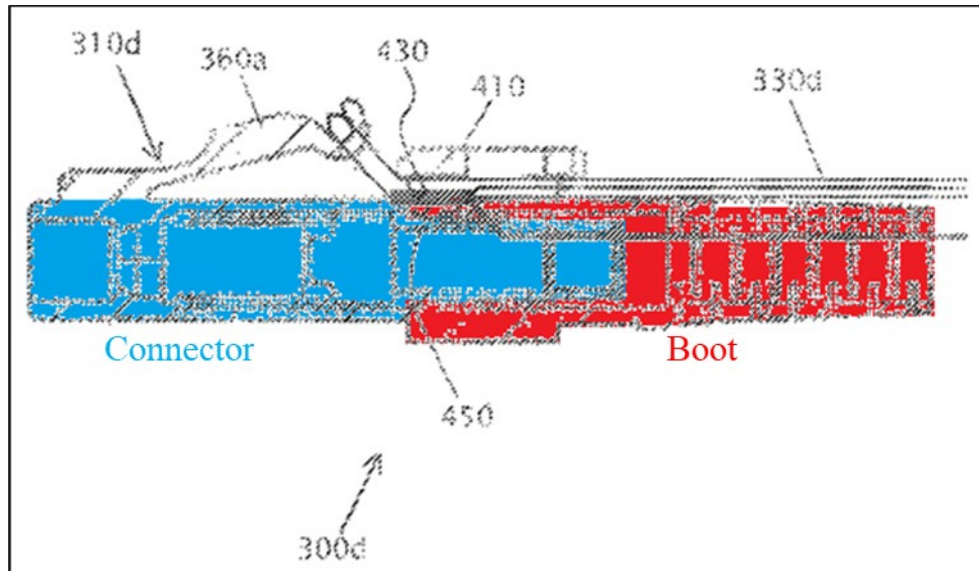
469. Scherer explains the meaning of “connector hood” for the purposes of the disclosure refers to a combination of a connector and a boot. EX1003, ¶35 (“a connector assembly or hood 54 comprises a connector 56 coupled to a boot 58, and the connector hood is coupled to an end of cable 52... The overall connector (connector plus boot) will be referred to as the connector hood in this description and in the appended claims.”).

470. A POSITA therefore would have understood the element in Figure 14 that Scherer labels as a “connector hood 310d” to also be an assembly of an element termed a “connector” and another element termed a “boot.” Scherer illustrates the arrangement of the connector 56 and boot 58 discussed in paragraph 37 in Figure 3.



EX1003, FIG. 3.

471. As shown in Figure 3, the connector 56 and the boot 58 are respectively a front body and a back body within the connector hood 54. Thus, where Scherer states that the cable 300d comprises a “connector body 400” and “boot 420” without using either numeral in Figure 14, a POSITA would understand that the elements highlighted blue and red in the portion of Figure 14 below would be the connector and boot, respectively, that make up the hood 310d of the cable 300d. EX1003, ¶54, FIG. 14.



EX1003, FIG. 14 (excerpt, annotated).

472. As shown above, the connector and boot of Scherer's hood 310d are a front body and back body, respectively. Each makes up a portion of the part of the connector hood 310d that defines the connector housing, meaning Scherer discloses a connector housing that includes a front body and back body as claimed.

473. Accordingly, it is my opinion that Scherer discloses the additional features of claim element [36.1]. Additionally, the features of claim element [36.1] disclosed by Scherer would be preserved in the combination of Scherer in view of Lin. *See* Section XI.A. It is my opinion that a POSITA would therefore have understood that Scherer in view of Lin renders obvious claim 36.

P. Claim 39

474. As previously stated in Section X.N, I note that the subject matter of claim 39 combines elements of claim 23 with the additional features of certain claims depending from claim 23 that I have already addressed in view of the

combination of Scherer and Lin. *See* Sections XI.A, XI.B.1-6, XI.E-L (*i.e.*, all elements of claim 23, except claim element [23.6], and claims 26-33).

1. Preamble – “An optical fiber connector comprising:”

475. The preamble of claim 39 is identical to the preamble of claim 23. Accordingly, for at least the reasons set forth above with respect to claim 23, it is my opinion that a POSITA would have understood that Scherer discloses the preamble of claim 39. *See* Section XI.B.1.

2. Element [39.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers;”

476. Claim element [39.1] is identical to claim element [23.1]. Accordingly, for at least the reasons set forth above with respect to claim element [23.1], it is my opinion that Scherer in view of Lin (described in Section XI.A) renders obvious the features of claim element [39.1]. *See* Section XI.B.2.

3. Element [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,”

477. Claim element [39.2] is identical to claim element [23.2]. Accordingly, for at least the reasons set forth above with respect to claim element [23.2], it is my opinion that that Scherer discloses the features of claim element [39.2]. *See* Section XI.B.3.

4. Element [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,”

478. Claim element [39.3] is identical to claim element [23.3].

Accordingly, for at least the reasons set forth above with respect to claim element [23.3], it is my opinion the combination of Scherer in view of Lin (described in Section XI.A) renders obvious the features of claim element [39.3]. *See* Section XI.B.4.

5. Element [39.4] – “a depressible latch above the top portion of the connector housing; and”

479. Claim element [39.4] is identical to claim element [23.4].

Accordingly, for at least the reasons set forth above with respect to claim element [23.4], it is my opinion that Scherer discloses the features of claim element [39.4]. *See* Section XI.B.5.

6. Element [39.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”

480. Claim element [39.5] is identical to claim element [23.5].

Accordingly, for at least the reasons set forth above with respect to claim element [23.5], it is my opinion that Scherer discloses the features of claim element [39.5]. *See* Section XI.B.6.

7. Element [39.6] – “wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;”

481. Claim element [39.6] is identical to claim element [26.1].

Accordingly, for at least the reasons set forth above with respect to claim element [26.1], it is my opinion Scherer discloses the features of claim element [39.6]. *See* Section XI.E.

8. Element [39.7] – “wherein the front end portion of the elongate arm defines an opening;”

482. Claim element [39.7] is identical to claim element [27.1].

Accordingly, for at least the reasons set forth above with respect to claim element [27.1], it is my opinion that a Scherer discloses claim element [39.7]. *See* Section XI.F.

9. Element [39.8] – “wherein the depressible latch is received in the opening;”

483. Claim element [39.8] is identical to claim element [28.1].

Accordingly, for at least the reasons set forth above with respect to claim element [28.1], it is my opinion that Scherer discloses the features of claim element [39.8]. *See* Section XI.G.

10. Element [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;”

484. Claim element [39.9] is identical to claim element [29.1].

Accordingly, for at least the reasons set forth above with respect to claim element [29.1], it is my opinion that Scherer discloses the features of claim element [39.9].

See Section XI.H.

11. Element [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;”

485. Claim element [39.10] is identical to claim element [30.1].

Accordingly, for at least the reasons set forth above with respect to claim element [30.1], it is my opinion that Scherer discloses the features of claim element [39.10].

See Section XI.I.

12. Element [39.11] – “wherein the front end portion of the elongate arm includes an edge defining a front end of the opening;”

486. Claim element [39.11] is identical to claim element [31.1].

Accordingly, for at least the reasons set forth above with respect to claim element [31.1], it is my opinion that Scherer discloses claim element [39.11]. *See* Section XI.J.

13. Element [39.12] – “wherein the depressible latch has an upper surface, the edge opposing the upper surface;”

487. Claim element [39.12] is identical to claim element [32.1].

Accordingly, for at least the reasons set forth above with respect to claim element [32.1], it is my opinion Scherer discloses claim element [39.12]. *See* Section XI.K.

14. Element [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.”

488. Claim element [39.13] is identical to claim element [33.1].

Accordingly, for at least the reasons set forth above with respect to claim element [33.1], it is my opinion that the combination of Scherer in view of Lin (described in Section XI.A) renders obvious claim element [39.13]. *See* Section XI.L.

489. In summary, it is my opinion that a POSITA would have been motivated to make a combination of Scherer in view of Lin that renders obvious each of the features of claim 39 of the '369 patent. *See* Section XI.A. As such, it is my opinion that Scherer in view of Lin renders obvious the entirety of claim 39 of the '369 patent.

Q. Claim 40

490. As previously stated, I note that the subject matter of claim 40 overlaps with that of claims 23 and 26. Specifically, the preamble of claim 40 through claim element [40.5] are identical to the preamble of claim 23 through

claim element [23.5], respectively. Further, claim element [40.6] includes the same additional features of claim 26. Therefore, it is my opinion that the preamble of claim 40 through claim element [40.6] is rendered obvious by Scherer in view of Lin for the reasons explained above. *See* Sections XI.A, XI.B.1-6, XI.E. (*i.e.*, all elements of claim 23, except [23.6], and dependent claim 26). The additional features of element [40.7] would have been obvious for the reasons I explain below.

1. Preamble – “An optical fiber connector comprising:”

491. The preamble of claim 40 is identical to the preamble of claim 23. Accordingly, for at least the reasons set forth above with respect to claim 23, it is my opinion that Scherer discloses the preamble of claim 40. *See* Section XI.B.1.

2. Element [40.1] – “a multi-fiber ferrule configured to terminate a plurality of optical fibers;”

492. Claim element [40.1] is identical to claim element [23.1]. Accordingly, for at least the reasons set forth above with respect to claim element [23.1], it is my opinion that a the combination of Scherer in view of Lin (described in Section XI.A) renders obvious claim element [40.1]. *See* Section XI.B.2.

3. Element [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;”

493. Claim element [40.2] is identical to claim element [23.2].

Accordingly, for at least the reasons set forth above with respect to claim element [23.2], it is my opinion that Scherer discloses claim element [40.2]. *See* Section XI.B.3.

4. **Element [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,”**

494. Claim element [40.3] is identical to claim element [23.3].

Accordingly, for at least the reasons set forth above with respect to claim element [23.3], it is my opinion that the combination of Scherer in view of Lin (described in Section XI.A) renders obvious claim element [40.3]. *See* Section XI.B.4.

5. **Element [40.4] – “a depressible latch above the top portion of the connector housing; and”**

495. Claim element [40.4] is identical to claim element [23.4].

Accordingly, for at least the reasons set forth above with respect to claim element [23.4], it is my opinion that Scherer discloses claim element [40.4]. *See* Section XI.B.5.

6. Element [40.5] – “an elongate arm connected to the connector housing above the top portion and configured to be pulled to actuate the depressible latch;”

496. Claim element [40.5] is identical to claim element [23.5].

Accordingly, for at least the reasons set forth above with respect to claim element [23.5], it is my opinion Scherer discloses claim element [40.5]. *See* Section XI.B.6.

7. Element [40.6] – “wherein the elongate arm comprises a front end portion and a rear end portion spaced apart along the longitudinal axis;”

497. Claim element [40.6] is identical to claim 26. Accordingly, for at least the reasons set forth above with respect to claim 26, it is my opinion that Scherer discloses claim element [40.6]. *See* Section XI.E.

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

498. For at least the reasons below, it is my opinion that Scherer discloses claim element [40.7]. A POSITA would have understood Scherer discloses a push/pull tab extending from the rear portion of the elongate arm. *See* EX1003, ¶54, FIG. 14.

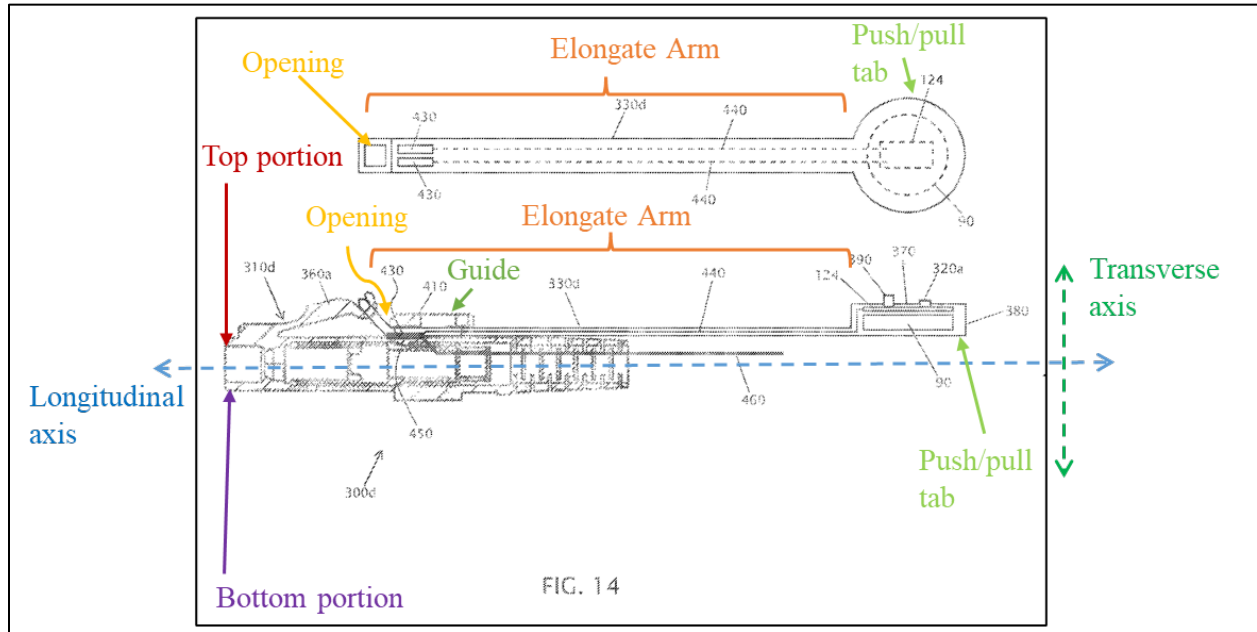
499. The '369 patent provides several examples of “push-pull tabs” throughout its description and figures. *See, e.g.*, EX1001, FIGS. 4-11 (showing examples of push-pull tabs 410-1110), 19A-D (push-pull tabs 1930, 1960), FIG. 31 (push-pull tab 2107), FIG. 44A (push-pull tab 3707), FIGS. 53-61 (disclosing various push-pull tabs); *see also generally* EX1001 (describing these embodiments

in the specification). The '369 patent further explains that “[a]s would be understood by one skilled in the art, the push-pull tab 410 enables removal of the connector from a receptacle without requiring additional tools.” EX1001, 7:35-38.

500. Therefore, I believe a POSITA would have understood an end portion of the elongate arm configured to be grasped (*e.g.*, pinched or held by a user’s fingers) for pushing and pulling the elongate arm would be a “push/pull tab” as recited in this claim. As the '369 patent itself discloses several different types of push/pull tabs, I do not believe that a POSITA would have understood the claimed push/pull tab to require any particular structure or configuration; rather, it simply must extend from the rear portion of the elongate arm and allow a user to push/pull the elongate arm.

501. Finally, I note that the '369 patent does not provide any further explanation regarding the push/pull tab “extending from the rear portion of the elongate arm.” *See generally* EX1001. Based on the examples of push-pull tabs provided in the specification, I believe that a POSITA would have understood the push-pull tab could be the very final protruding component (*e.g.*, as the labeling of Figures 19A-D of the '369 patent indicates) or could include a portion of the elongated structure (*e.g.*, as the labeling of Figures 53-61 of the '369 patent indicates). Scherer discloses a push-pull tab according to either definition.

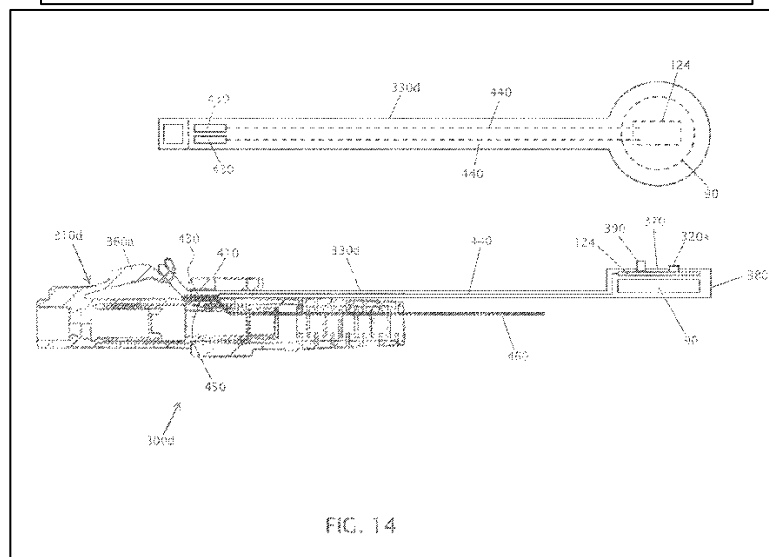
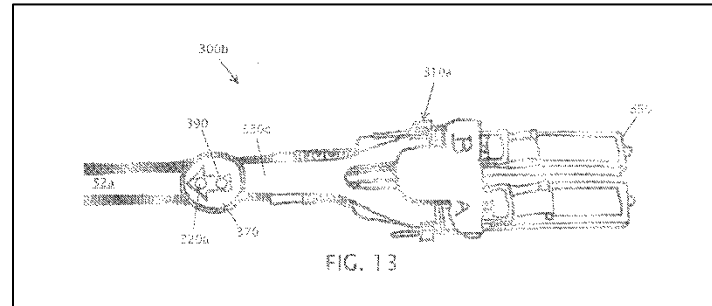
Specifically, Scherer's extender 330d terminates in a "push-pull tab" as claimed that extends from the rear end of the elongate arm (extender 330d).



EX1003, FIG. 14 (annotated).

502. Scherer also discloses that the extender 330d is configured to be pulled. EX1003, ¶¶51, 54, FIGS. 11-14. Scherer states that the cables 300a, 300b, 300c depicted in Figures 11-13 include connector hoods 310a, 310b, 310c, and that the hoods “each include[] an extender or remote release tab (330a, 330b, 330c) which improves the ease of releasing the respective connector... because the extender or remote release tab can simply be pulled by a user... to laterally compress the lever(s) (360).” EX1003, ¶51. The foregoing description of the function of the extenders 330a, 330b, 330c applies equally to the extender 330d of connector hood 310d both because all four extenders 330a, 330b, 330c, 330d are

illustrated as having the same structure and because 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, FIGS. 11-14. FIGS. 13 and 14 are reproduced below for comparison.



EX1003, FIGS. 13, 14.

503. Accordingly, it is my opinion that a POSITA would have understood that Scherer discloses the features of claim element [40.7].

504. In summary, it is my opinion that a POSITA would have been motivated to make a combination of Scherer in view of Lin (described in Section XI.A) that renders obvious each of the features of claim 40 of the '369 patent. As

such, it is my opinion that Scherer in view of Lin renders obvious the entirety of claim 40 of the '369 patent.

XII. GROUND 4: SCHERER IN VIEW OF LIN AND GNIADEK RENDER OBVIOUS CLAIMS 37 AND 38.

A. Motivation to Combine

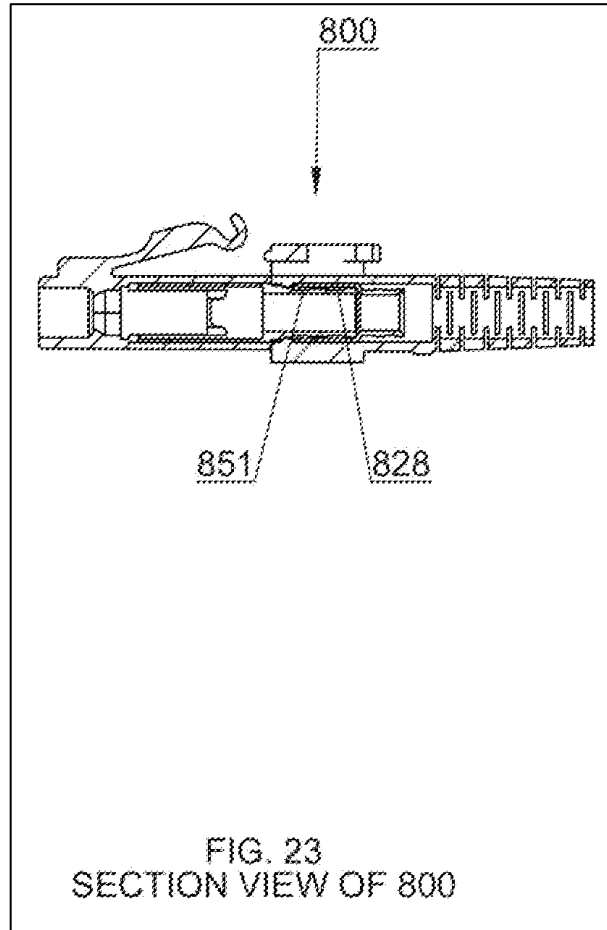
1. Scherer and Lin

505. The combination of Scherer and Lin renders obvious claim 36, from which claims 37 and 38 depend. Section IX.O. Specifically, Scherer discloses a connector body 400 and a boot 420 providing a front body and a back body, respectively, of a connector housing. *See* Section IX.O; EX1003, ¶54, FIG. 14.

506. Patent Owner may allege that Scherer and 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 in the prior art, as demonstrated by Gniadek which was incorporated by reference into Scherer.

2. Gniadek

507. Gniadek discloses an optical fiber connector assembly including a connector 816 and a boot 840. *See* Section VII.C; EX1010, 16:20-30 and 17:2-11. The connector 816 includes a trap 828, and the boot 840 includes a protruding member 851 configured to be received in the trap 828 to connect the boot 840 to the connector 816. EX1010, 17:2-11.



EX1010, FIG. 23.

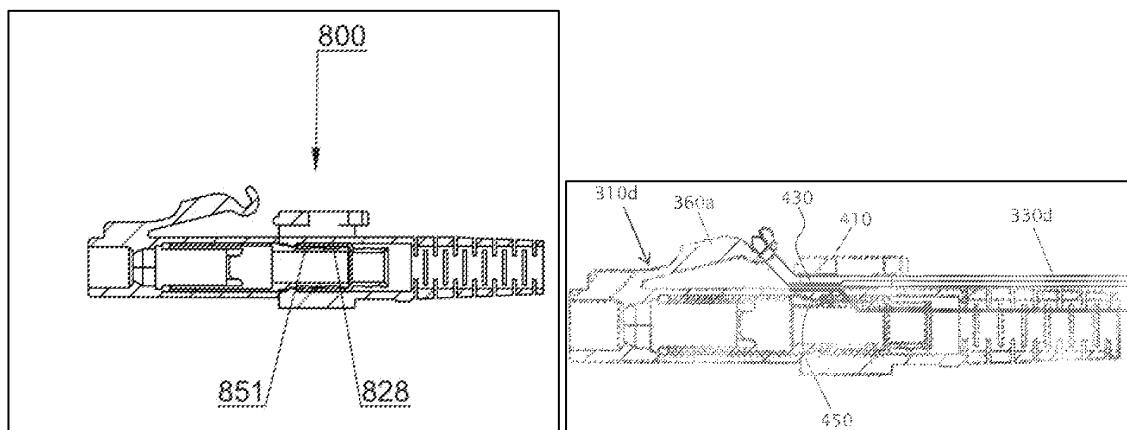
3. Reasons to Combine

508. 552. 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.

509. A POSITA would have found this modification obvious because Scherer 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. 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. Pat. No. 8,465,317.” EX1003, ¶51. Scherer specifically compares Figure 14 to Gniadek. EX1003, ¶54.

510. 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-Lin’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.



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

B. Claim 37

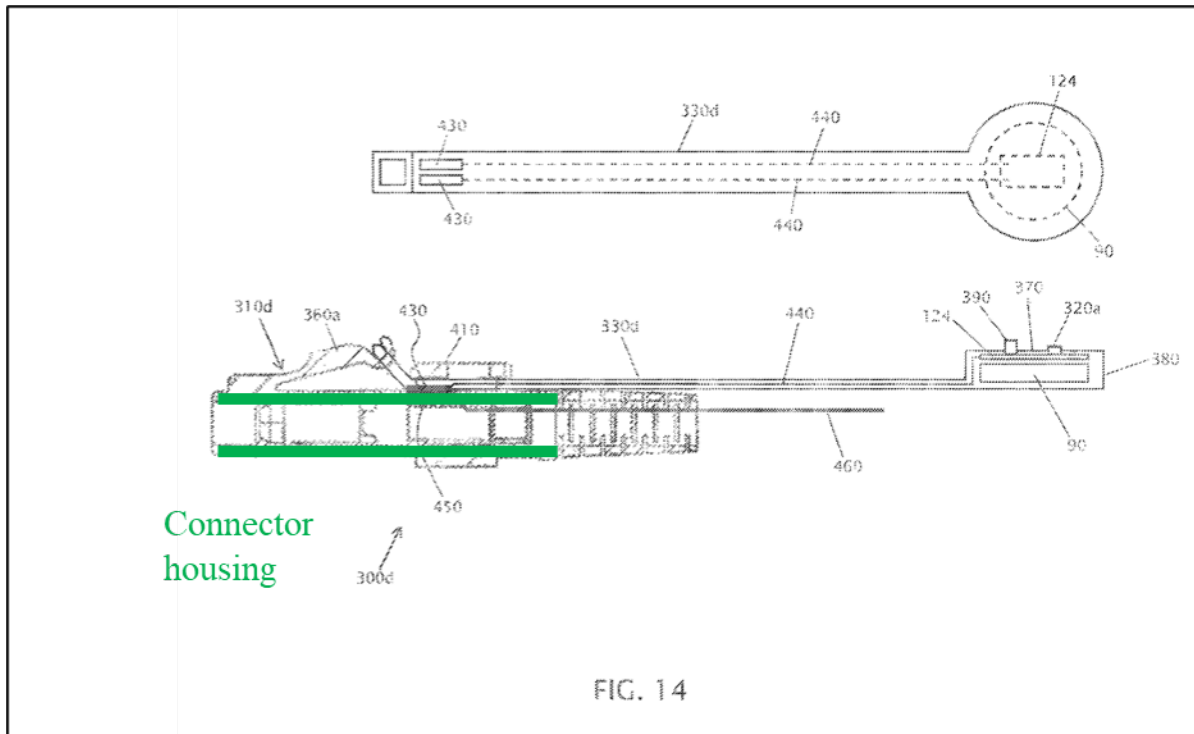
1. Preamble – “The optical fiber connector as set forth in claim 36, wherein”

511. Claim 37 depends upon claim 23, claims 26-34, and claim 36, and for at least the reasons discussed above in reference to claim 23, claims 26-34, and claim 36, the combination of Scherer and Lin renders obvious claim 23, claims 26-34, and claim 36. *See* Sections XI.B, IX.E-M, XI.O. Additionally, for at least the reasons below, it is my opinion that the combination of Scherer in view of Lin further in view of Gniadek renders obvious claim 37 of the '369 patent.

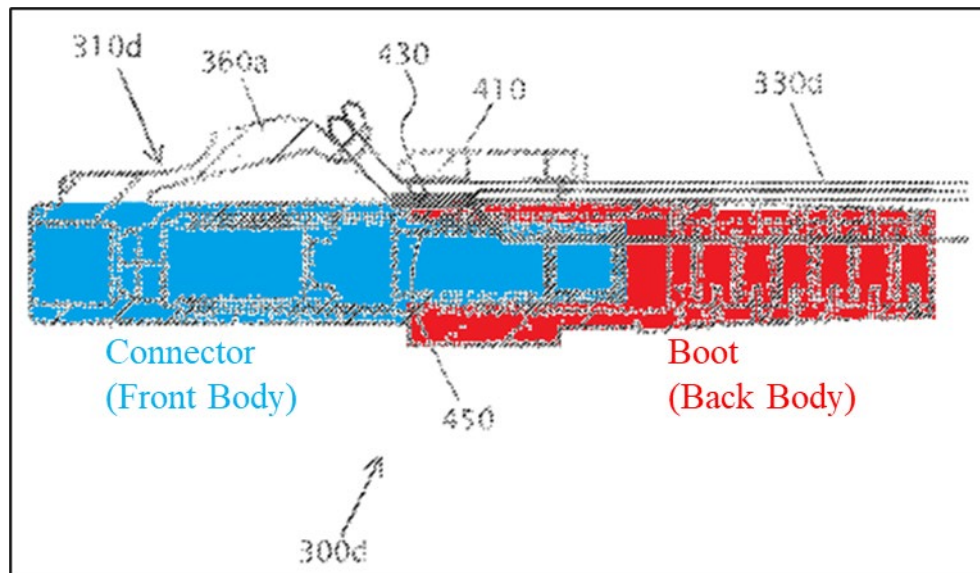
2. Element [37.1] – “the front body includes a recess and the back body includes a protrusion received in the recess to connect the back body to the front body.”

512. It is my opinion that Gniadek discloses the additional features of claim 37, and it would have been obvious to further modify the combination of Scherer and Lin in view of Gniadek to have these features.

513. As noted above, the portion of Scherer's connector hood 310d that defines a connector housing comprises a front body and a back body. *See* Section XI.O; EX1003, ¶¶35, 54, FIG. 14.



EX1003, Fig. 14 (annotated).



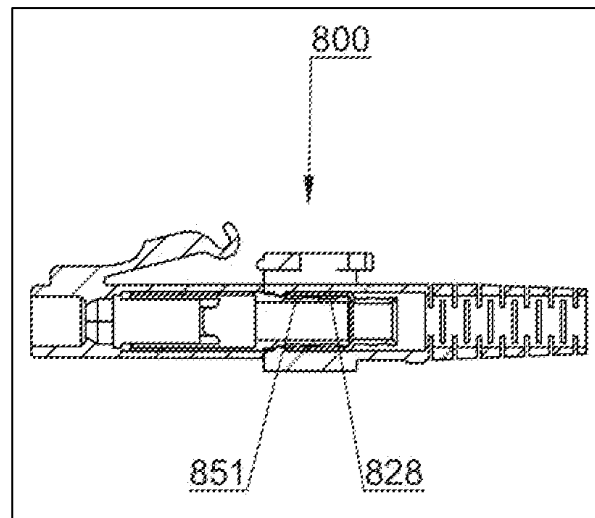
EX1003, FIG. 14 (excerpt, annotated).

514. Patent Owner may contend that Scherer and Lin do not expressly disclose wherein the back body includes a protrusion that is received in a recess

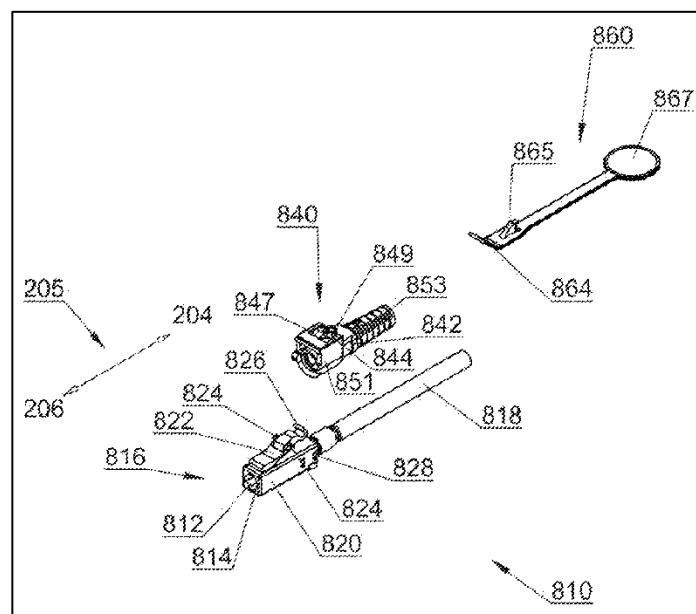
defined in the front body to connect the back body to the front body. However, such features were well known as demonstrated in Gniadek.

515. Gniadek discloses, in relevant part, a “push-pull cable assembly 800” that resembles Scherer’s connector hoods, particularly connector hood 310d.

EX1010, 16:15-17, FIGS. 21-24.



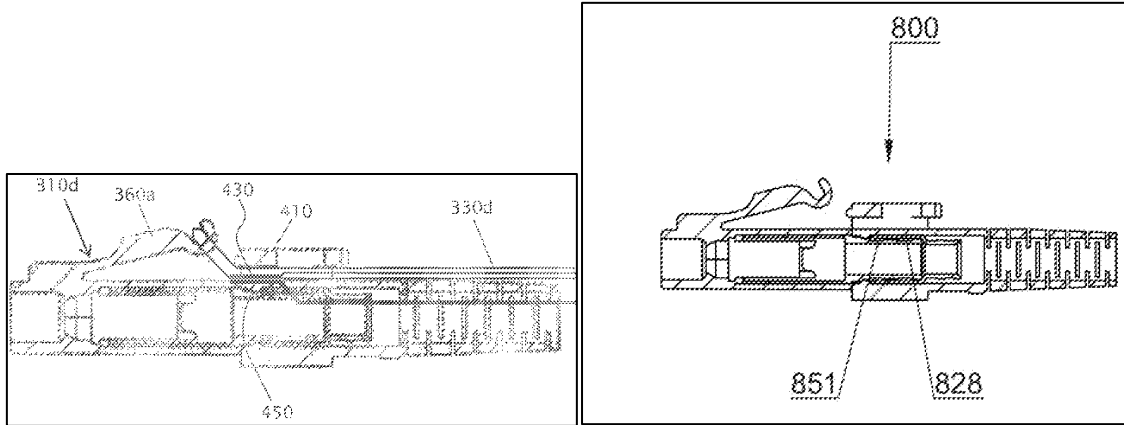
EX1010, FIG. 23.



EX1010, FIG. 22.

516. Gniadek states that “the cable assembly 810 generally includes a latching connector 816, a transmission medium 812, a jacket 818, and a trap 828,” while “[t]he boot 840 can generally include and is attached to a strain relief 842, a passageway 844, a stop space 847, a restoring member 849, a protruding member 851, and a flexible membrane 853.” EX1010, 16:18-20, 16:34-37. “The protruding member 851 is configured to cooperate with the trap 828 to restrict the movement of the boot 840 along the coupling axis,” EX1010, 17:9-11, so the trap 828 acts as a recess in a front body (cable assembly 810) while the protruding member 851 acts as a protrusion of a back body (boot 840) configured to be received in the trap 828 to connect the cable assembly 810 and the boot 840.

517. A POSITA would have found it obvious to modify Scherer’s connector hood 310d to include Gniadek’s protruding member 851 and trap 828 respectively in the front body and back body of the connector housing provided by Scherer’s connector hood 310d, and would have expected to find success in doing so, from Scherer’s multiple references to Gniadek and the similarity of Scherer’s Figure 14 to Gniadek’s Figure 23.



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

518. Accordingly, I believe Gniadek discloses the additional features of claim element [37.1]. Additionally, the features of claim element [37.1] disclosed by Gniadek would be preserved in the modification of Scherer in view of Lin further in view of Gniadek. Thus, it is my opinion that a POSITA would therefore have found claim 37 is rendered obvious over Scherer in view of Lin and Gniadek.

C. Claim 38

1. Preamble – “The optical fiber connector as set forth in claim 37, further comprising”

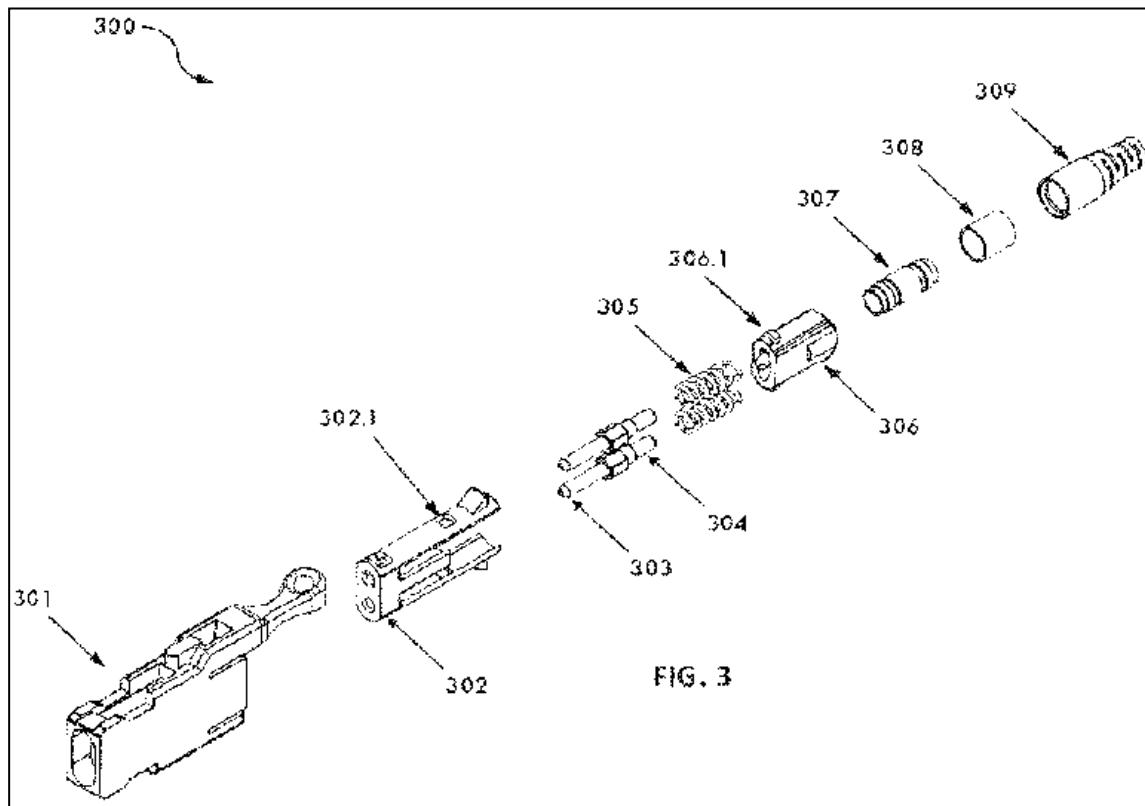
519. Claim 38 depends upon claim 23, claims 26-34 and claims 36-37, and for at least the reasons discussed above in reference to claim 23, claims 26-34, and claims 36-37, the combination of Scherer and Lin renders obvious claim 23, claims 26-34, and claim 36. *See* Sections XI.B, XI.E-M, XI.O. Further, the combination of Scherer in view of Lin and Gniadek renders obvious claim 37. *See* Section XII.B. Additionally, for at least the reasons below, it is my opinion that the combination

of Scherer in view of Lin further in view of Gniadek renders obvious claim 38 of the '369 patent.

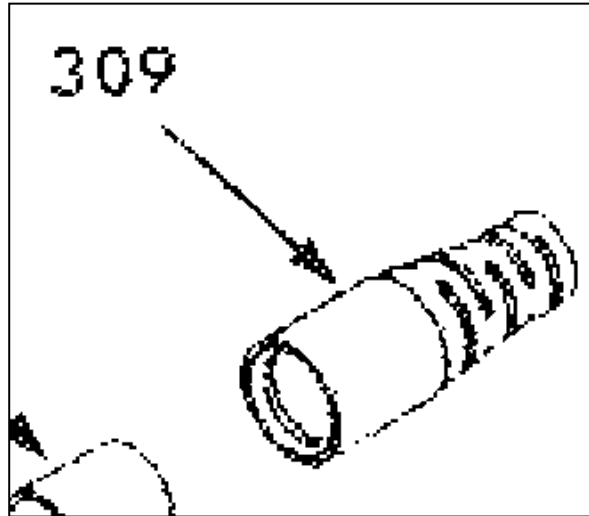
2. Element [38.1] – “a single cable boot extending rearward from the connector housing.”

520. In my opinion, Scherer discloses the additional features of claim 38.

521. I note that the '369 patent does not explicitly define the term “boot,” although it does refer to a “boot 309” in Figure 3. EX1001, 6:64–7:5, and states that “[a] receptacle can hold on or more connector inner bodies forming a single boot for all of the optical fibers of the inner bodies.” EX1001, Abstract.



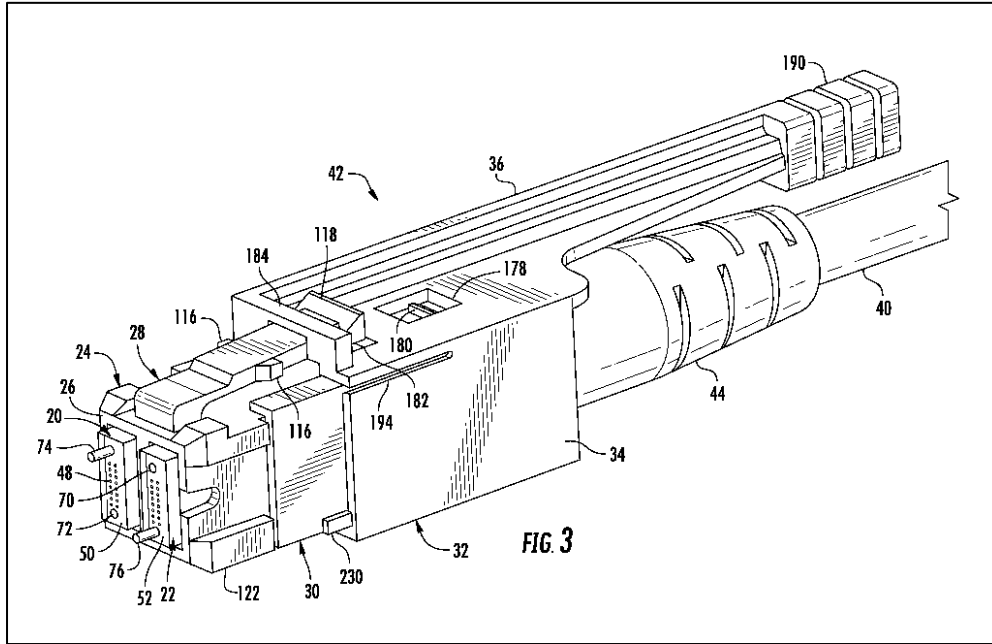
EX1001, FIG. 3.



EX1001, FIG. 3 (excerpt).

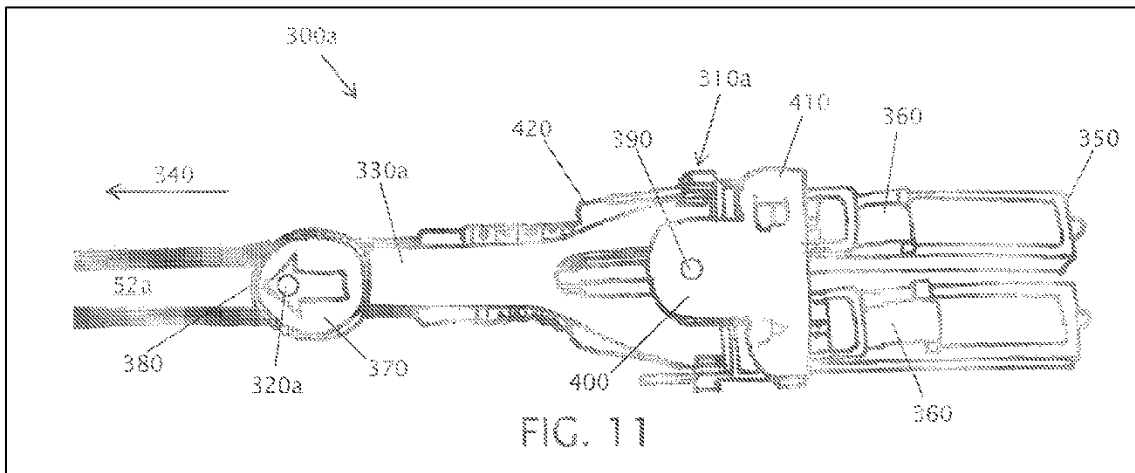
522. In my opinion, a POSITA would have recognized the boots illustrated in the '369 patent, including the boot 309 shown above, as a strain relieving cover for the cable where the cable enters the connector. It is further my opinion that such a strain relieving cover is what a POSITA would understand the word “boot” to refer to in the field of optical fiber connectors, and that such an element is therefore within the plain and ordinary meaning of the term “boot.”

523. Merely as further corroborating evidence, Lin uses the term “boot 44” to refer to a similar element. EX1005, ¶¶27, 35, 46, 49, FIG. 3.



EX1005, FIG. 3.

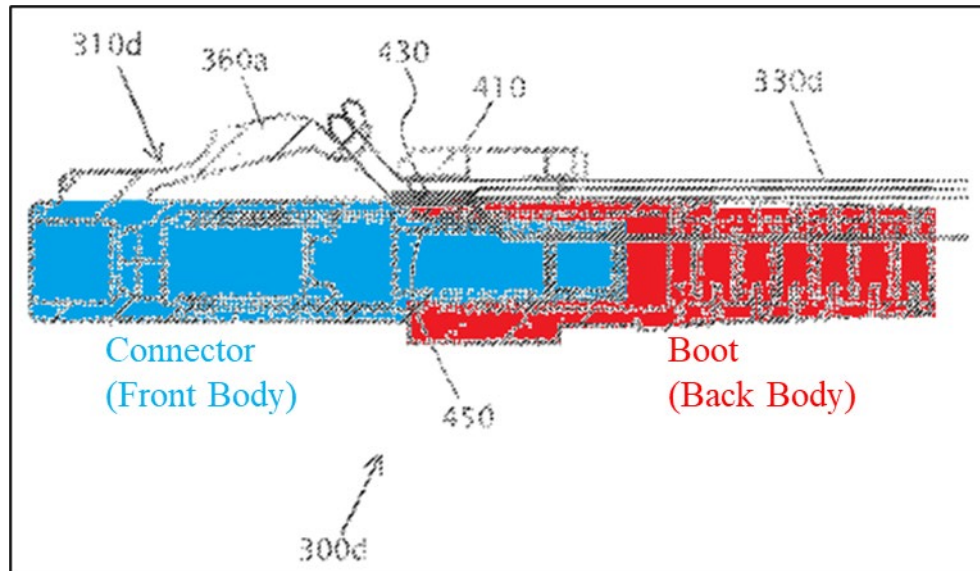
524. Scherer similarly uses the term “boot” to refer to elements that include similar strain relieving covers. EX1003, ¶51, FIG. 11. For example, Scherer states that the cable 300a of Figure 11 has a boot 420. EX1003, ¶51.



EX1003, FIG. 11.

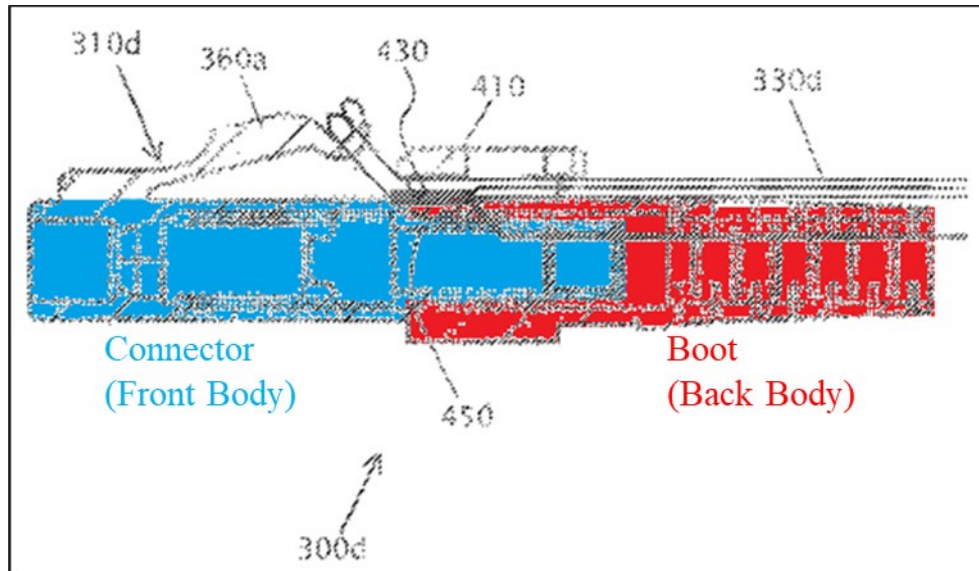
525. As shown above, the boot 420 includes a strain relieving cover for the transmission line 52a. The portion of Scherer's connector hood 310d that a

POSITA would have recognized as being the “boot” according to Scherer’s terminology (this portion is highlighted red in a copy of a portion of Figure 14 below, *see* Section XI.P) is similarly depicted as including a strain relieving feature.



EX1003, FIG. 14 (excerpt, annotated).

526. For those reasons, in my opinion, Scherer’s connector hood 310d includes a strain relieving cover that is a “boot” according to the plain and ordinary meaning of that term, which aligns with the usage of “boot” in both the ’369 patent and Lin. That strain relieving cover is integrally formed with the portion of the hood 310d that defines the back body of the connector housing identified above in Section IX.O. Thus, in my opinion, Scherer discloses a boot integrally formed with the back body of its connector housing.



EX1003, FIG. 14 (excerpt, annotated).

527. In view of the foregoing, I believe a POSITA would have understood that Scherer discloses a single cable boot extending rearward from the connector housing.

528. Accordingly, I believe that Scherer discloses the additional features of claim element [38.1]. Additionally, the features of claim element [38.1] disclosed by Scherer would be preserved in the modification of Scherer in view of Lin further in view of Gniadek. Thus, it is my opinion that a POSITA would therefore have found that claim 38 is rendered obvious over Scherer in view of Lin and Gniadek.

XIII. CONCLUSION

529. For at least the reasons set forth above, I am of the opinion the Challenged Claims would have been anticipated or obvious to a POSITA at the time of invention of the '369 patent based at least on the discussed prior art.

I understand that this Declaration is to be filed as evidence in a contested IPR proceeding before the Patent Trial and Appeal Board. I acknowledge that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

I hereby declare under penalty of perjury that the foregoing is true and correct, that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and may jeopardize the validity of the application or any patent issuing thereon. If called to testify as to the truth of the matters stated herein, I could and would testify competently.

Date: January 5, 2024 James F. Brennan III
James F. Brennan III, Ph.D.