

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 IPR2024-00120
U.S. Patent No. 10,191,230 B2

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,191,230**

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PETITIONER'S EXHIBIT LIST

Exhibit Number	Description
1001	U.S. Patent No. 10,191,230 to Wong et al. (“’230 Patent”), including U.S. Patent No. 10,191,230’s Reexamination Certificate
1002	File History for U.S. Patent Application No. 15/884,327, issued as U.S. Patent No. 10,191,230
1003	File History for U.S. Patent Application No. 90/014,456 for reexamined U.S. Patent No. 10,191,230
1004	Declaration of William Singhose, Ph.D.
1005	<i>Intentionally Left Blank</i>
1006	<i>Curriculum Vitae</i> of William Singhose, Ph.D.
1007	U.S. Patent No. 9,684,130 to Veatch et al. (“Veatch”)
1008	U.S. Publication No. 2017/0343740 to Nguyen (“Nguyen”)
1009	PCT Publication No. WO 2017/127208 to Lee (“Lee”)
1010	U.S. Publication No. 2017/0363818 to Suzic (“Suzic”)
1011	U.S. Publication No. 2012/0177326 to Peng (“Peng”)
1012	U.S. Patent No. 8,061,906 to Nehler (“Nehler”)
1013	U.S. Patent No. 8,834,038 to Limbert (“Limbert”)
1014	Norton, “Machine Design: An Integrated Approach, Third Edition,” Pearson Education, Inc. 2006. (“Norton”)
1015	Kordz, “RJ45 CAT6 Field Termination Connector & Strain Relief,” Technical Data Sheet, accessed at https://futurereadysolutions.com/wp-content/uploads/ONE-RJ45-Connectors-Datasheet-190107.0.pdf
1016	U.S. Publication No. 2004/0043654 to Lee et al. (“Lee’654”)
1017	U.S. Publication No. 2013/0122745 to Soubh (“Soubh”)
1018	U.S. Patent No. 5,915,058 to Clairardin et al. (“Clairardin”)
1019	U.S. Patent No. 5,719,977 to Lampert et al. (“Lampert”)

Exhibit Number	Description
1020	Order Staying Case, <i>Senko Advanced Components, Inc. v. US Conec, Ltd.</i> , No. 1:23-cv-00083-JPM (D. Del.), July 6, 2023
1021	Google Data Centers Gallery, accessed at https://www.google.com/about/datacenters/gallery/
1022	“19-Inch Rack,” Lite-On, accessed at https://liteon-cips.com/products/racks/19-inch-rack/
1023	“Fiber Optic Rack Mount Enclosure, 3-Panel 1 RMS,” Computer Cable Store, accessed at https://www.computercablestore.com/fiber-optic-rack-mount-enclosure-3-panel-1-rms
1024	“What Is Optical Fiber Technology, and How Does It Work?,” NAI, accessed at https://www.nai-group.com/optical-fiber-technology-how-it-works/
1025	“Fiber Optic Adapter/Coupler Tutorial,” FS Community, accessed at https://community.fs.com/blog/fiber-optic-adaptercoupler-tutorial.html
1026	“HDI-45 Connector,” Wikipedia, accessed at https://en.wikipedia.org/wiki/HDI-45_connector

US Conec Ltd. (“Petitioner”) requests *inter partes* review, seeking cancellation of claims 1, 2, 6, 9, 11, and 26-34 of U.S. Patent No. 10,191,230 (“the ’230 patent”; EX1001) assigned to Senko Advanced Components, Inc. (“Senko”).

I. INTRODUCTION

The ’230 patent is directed to a reversible polarity fiber optic connector. The ’230 patent claims well-known features: optical ferrules, a housing partially surrounding the optical ferrules, a latch coupling formed on first and second exterior walls of the housing, and a removable latch for engaging either of the latch couplings to reverse the connector’s polarity. As demonstrated during Reexamination of the ’230 patent, all these features were known.

Senko obtained a Reexamination Certificate by adding to the claims a tangential feature about the connector’s housing that is not described in the specification. Senko salvaged the independent claims from the cited art by specifying that the exterior portion of the connector housing extends 360° about a space in which the optical ferrules are received.

But providing a fiber optic connector with a housing exterior that extends entirely around two optical ferrules was well known, as evidenced by Nehler. And replacing a multi-piece connector housing with a unitary housing was well within the level of ordinary skill, as taught by Nguyen. Thus, ’230 patent claims 1 and 9

should be canceled. The challenged dependent claims add only trivial elements that were also well-known.

The Petition, supported by Dr. Singhose's expert declaration, demonstrates that all challenged claims are unpatentable. EX1004, ¶¶35-593. Therefore, Petitioner respectfully requests that the Board institute review and find the claims unpatentable.

II. GROUNDS FOR STANDING (37 C.F.R. § 42.104(A))

Petitioner certifies that the '230 patent is available for IPR. Petitioner is not barred or estopped from requesting IPR. On January 24, 2023, Senko filed a complaint against Petitioner alleging infringement of the '230 patent. This Petition is filed within one year of service on Petitioner.

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

Ground	References	Claims Challenged
	<u>Veatch</u>	
1	Veatch, Nguyen, Soubh	1, 6, 9, 11, 27, 30, 32-34
2	Veatch, Nguyen, Soubh, Suzic	2, 26
3	Veatch, Nguyen, Soubh, Lee	28, 29
4	Veatch, Nguyen, Soubh, Peng	31

Ground	References	Claims Challenged
	<u>Nehler</u>	
5	Nehler, Limbert	1, 2, 9, 27, 32-34
6	Nehler, Limbert, Soubh	6, 11, 30
7	Nehler, Limbert, Soubh, Suzic	26
8	Nehler, Limbert, Lee	28, 29
9	Nehler, Limbert, Peng	31

The effective dates of these prior-art references are before January 30, 2017:

- **Veatch, U.S. Patent No. 9,684,130**, effectively filed May 1, 2012, §102(a)(2).
- **Nguyen, U.S. Patent App. Pub. No. 2017/0343740**, effectively filed May 27, 2016, §102(a)(2).
- **Soubh, U.S. Patent App. Pub. No. 2013/0122745**, published May 16, 2013, §102(a)(1).
- **Lee, WIPO Patent Publication No. 2017/127208**, effectively filed September 23, 2016, §102(a)(2).
- **Peng, U.S. Patent App. Pub. No. 2012/0177326**, published July 12, 2012, §102(a)(1).
- **Nehler, U.S. Patent No. 8,061,906**, issued November 22, 2011, §102(a)(1).
- **Limbert, U.S. Patent No. 8,834,038**, issued September 16, 2014, §102(a)(1).

IV. THE '230 PATENT

A. Alleged Invention

Senko claims to have invented a fiber optic connector that “allow[s] for a change in polarity of the duplex connector without twisting the fibers or performing any complex disassembly of the duplex connector.” EX1001, 6:17-21.

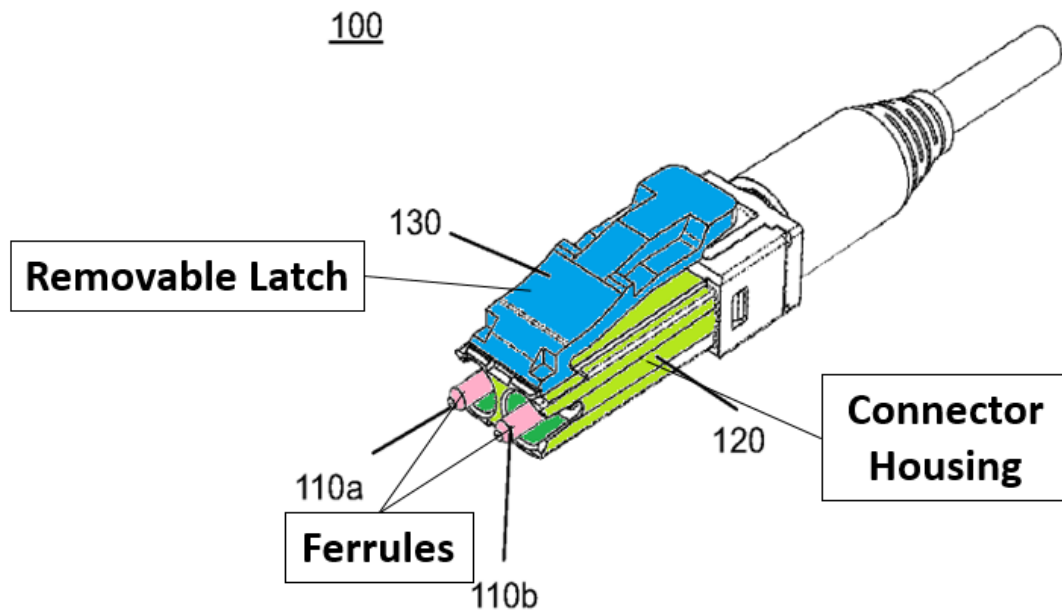
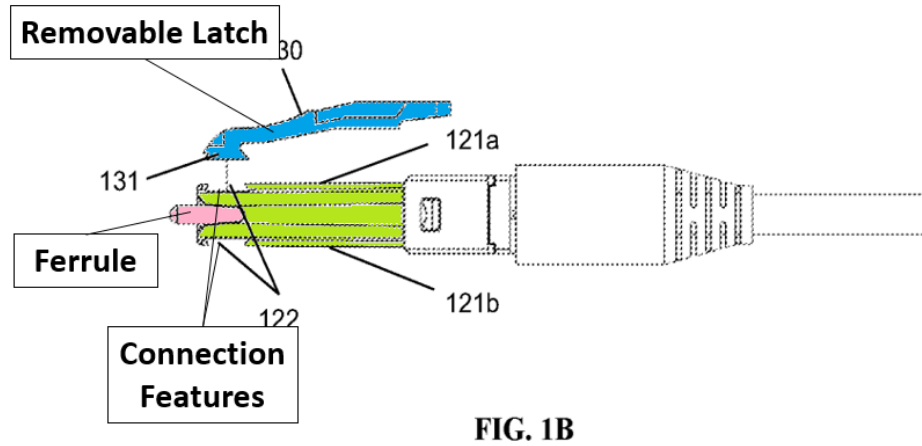


FIG. 1A

EX1001, FIG. 1A (annotated).

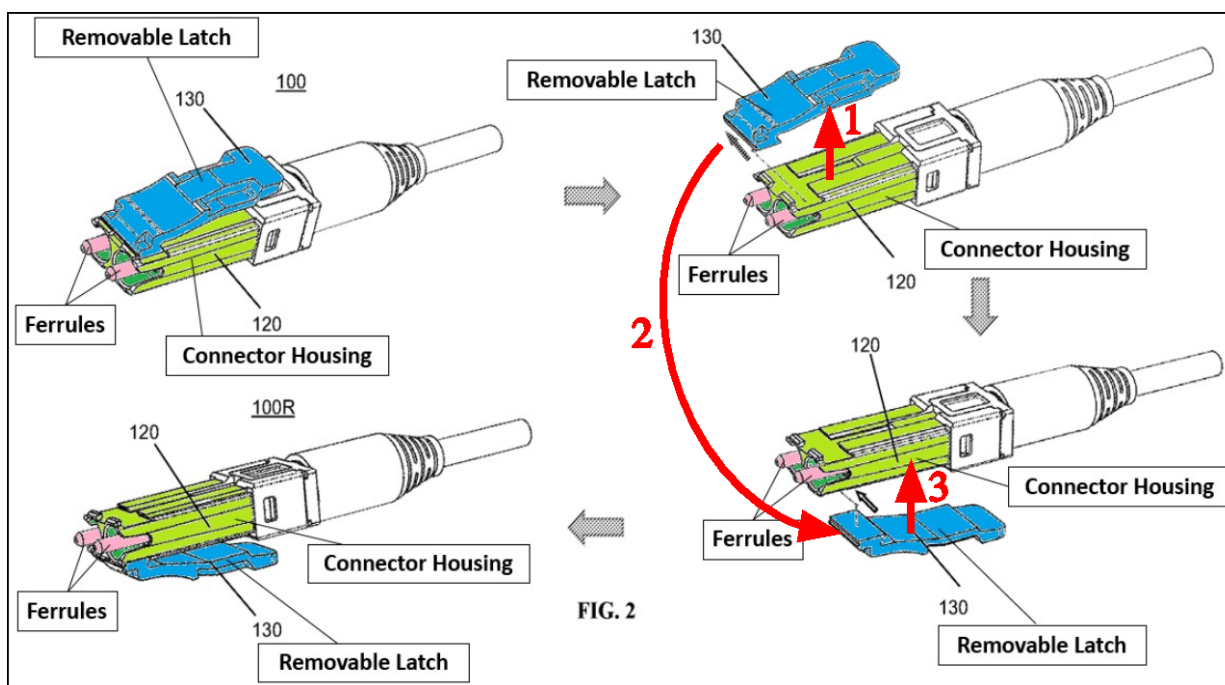
The '230 patent discloses optical connector embodiments that all include: (i) two optical ferrules; (ii) a connector housing at least partially surrounding the two optical ferrules; and (iii) a removable latch coupled to either a first exterior wall (e.g., wall 121a) or a second exterior wall (e.g., wall 121b) of the housing. EX1001,

6:22-37. The connector may include a remote release to actuate the latch without handling the housing. EX1001, 5:34-39, 8:2-4.



EX1001, FIG. 1B (annotated).

To facilitate assembly, the '230 patent discloses a latch coupling, such as a recess/groove, on the first and second walls of the housing. EX1001, 6:36-37. The removable latch includes a protrusion/projection to engage the house's latch coupling to secure the latch to the housing. EX1001, 6:38-42. The connector's polarity is reversed by removing the latch from one side of the housing and connecting it to the opposite side. EX1001, 6:62-7:2; EX1004, ¶¶51-57.



EX1001, FIG. 2 (annotated).

B. Prosecution History

The application that became the '230 patent underwent minimal prosecution. The Examiner issued a first-action Notice of Allowability. EX1002, 906-914.

Reexamination was requested in February 2020 and ordered in March 2020. EX1003, 1, 178. In June 2020, the Office issued a non-final office action, rejecting: (i) claims 1, 2, 6, and 9 as being anticipated by Limbert; and (ii) claims 1 and 2 as being anticipated by U.S. Publication No. 2016/0047993 to Hioki ("Hioki"), among other obviousness rejections. EX1003, 200-208.

In response, the patentee amended each independent claim to recite that the connector housing has "a longitudinal axis [and] compris[es] an exterior portion" that "extends 360° circumferentially with respect to the longitudinal axis about a

space in which each of the first and second optical ferrules are received.” EX1003, 227-232. The response also added new claims 26-34, which depended from claim 1. EX1003, 233-234.

In September 2020, the Office issued a final office action, indicating all claims as allowable and rejecting claim 29 for a formality. EX1003, 239-243. After the patentee filed an amendment addressing claim 29, the Office issued a NIRC in October 2020 and a Reexamination Certificate on November 16, 2020. EX1003, 262-266, 275-277.

V. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (POSITA) at the time of the earliest claimed filing date of the ’230 patent would have had a bachelor’s degree (B.S.) in degree in mechanical engineering, industrial engineering, or a closely related field and one year of experience working with connectors. EX1004, ¶¶5-17, 79-84.

VI. CLAIM CONSTRUCTION

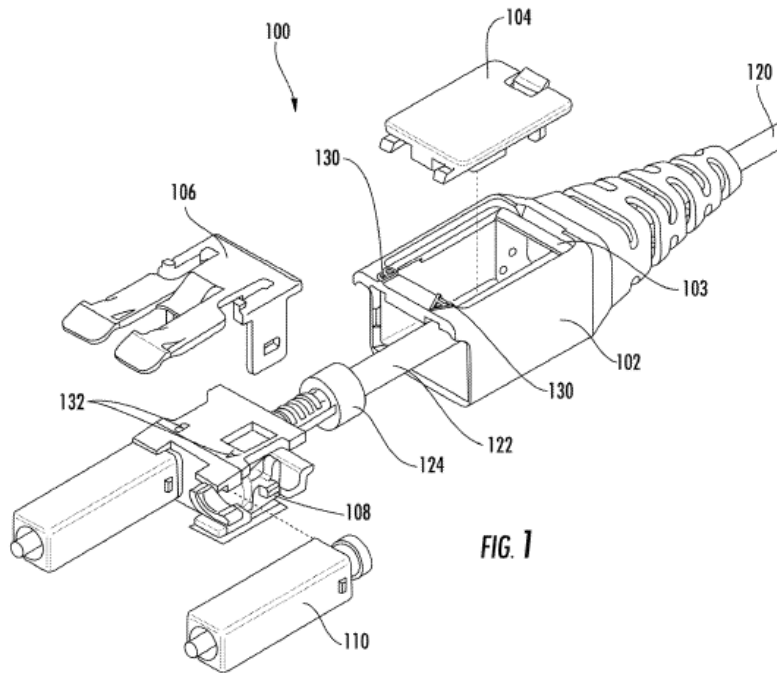
Without waiver, Petitioner does not believe any claim terms require specific construction and thus should receive their plain and ordinary meaning, in the context of the ’503 patent specification, under the *Phillips* standard. EX1004, ¶¶85-87.

VII. APPLIED REFERENCES

A. Veatch

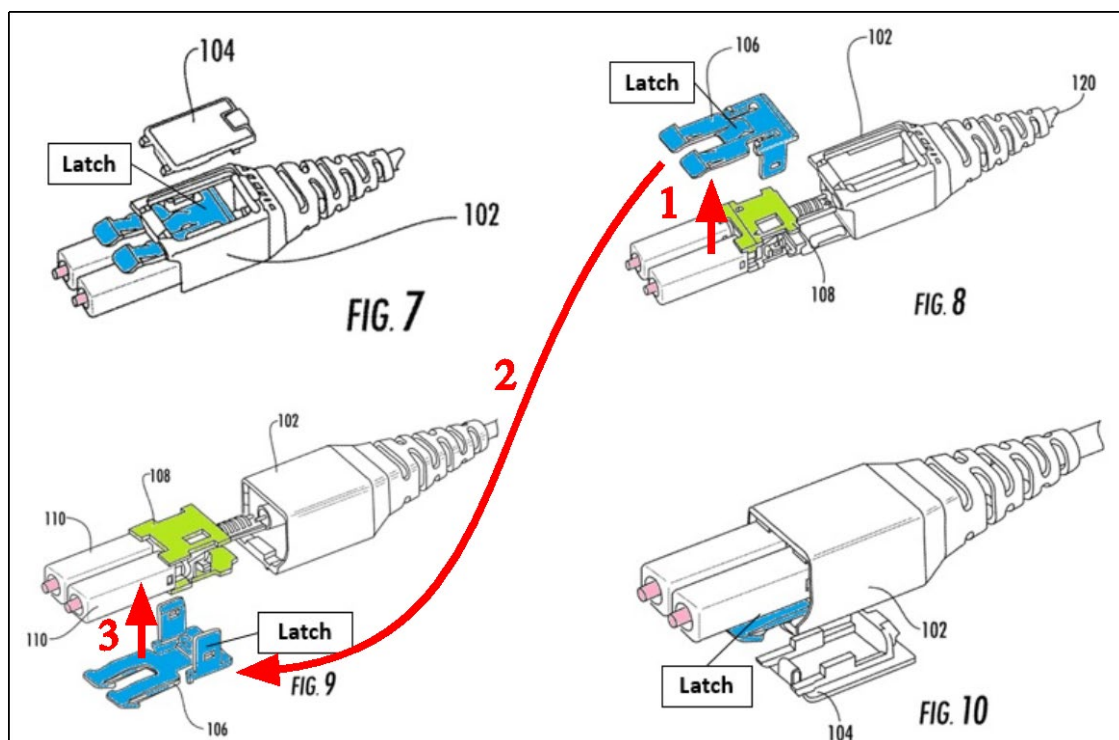
Veatch discloses a reversible polarity fiber optic connector 100 “including a boot 102, cover 104, latch 106, fiber holder 108, and connector bodies 110.” EX1007,

2:14-16. “A cable 120 runs through boot 102 and includes two optical fibers,” which terminate in connector bodies 110. EX1007, 2:19-23. Veatch’s “latch 106 is used to secure the connector 100 to an adapter.” EX1007, 2:23-25. Veatch’s boot 102 and cover 104 provide “push-pull activation” of latch 106. EX1007, 2:64–66.



EX1007, FIG. 1.

The polarity of Veatch’s connector 100 is reversed by: (1) removing cover 104 from boot 102 (Figure 7); (2) pulling boot 102 back along cable 120 (Figure 8), (3) relocating latch 106 “from a first side of the fiber holder 108 to a second side of the fiber holder 108” and rotating boot 102 (Figure 9); and (4) repositioning fiber holder 108 in boot 102 and snapping cover 104 back on boot 102 (Figure 10). EX1007, 3:8-36; EX1004, ¶¶88-94.



EX1007, FIGS. 7-10 (annotated).

B. Nguyen

Nguyen teaches that replacing dual body LC connectors 110, as shown in Figure 3A, with a single housing connector 604, as shown in Figure 6A, was well known, and doing so would reduce the pitch between the ferrules 602. EX1004, ¶¶95-100; EX1008, ¶¶28, 37.

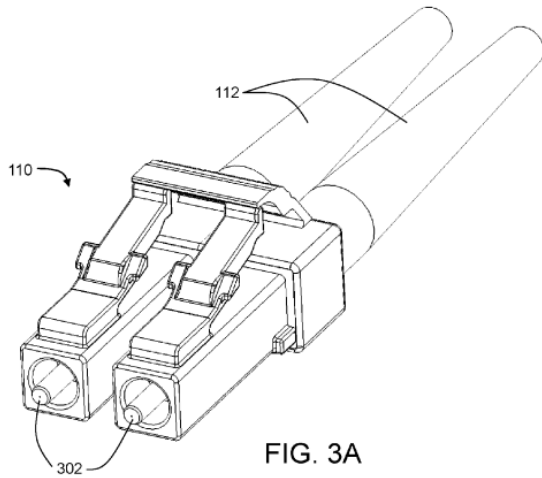


FIG. 3A

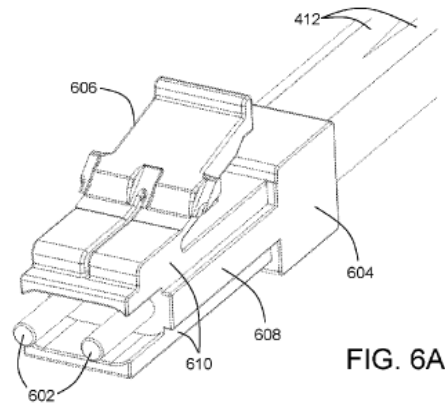


FIG. 6A

EX1008, FIGS. 3A and 6A.

C. Soubh

Soubh discloses a cable connector 114 with a removable latch 118 to “physically secure the cable connector 114 ... to a respective board-mount connector.” EX1017, ¶¶38, 49. Soubh describes removably coupling latch 118 to the top wall of connector 114 by sliding the latch’s guides 178 through slots 180 on the connector’s top wall. EX1017, ¶60; EX1004, ¶¶101-107.

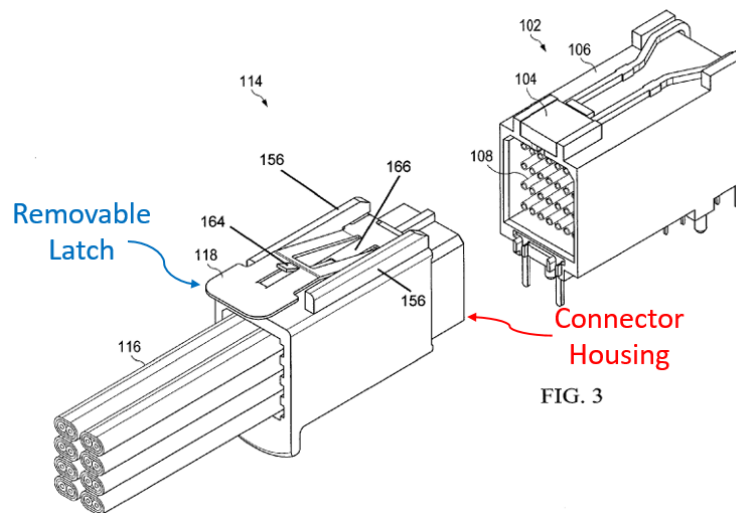


FIG. 3

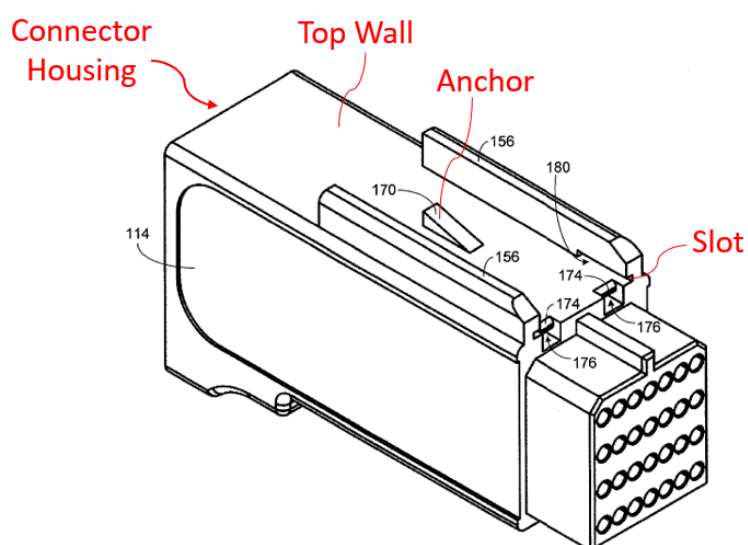
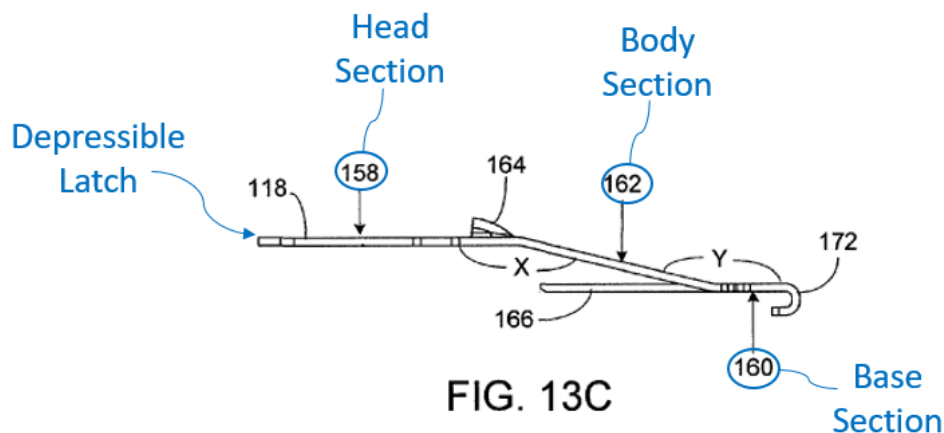


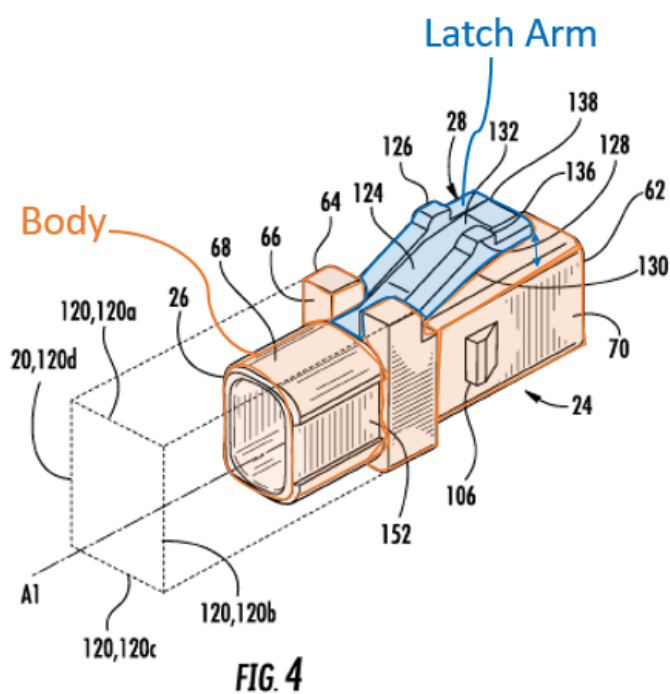
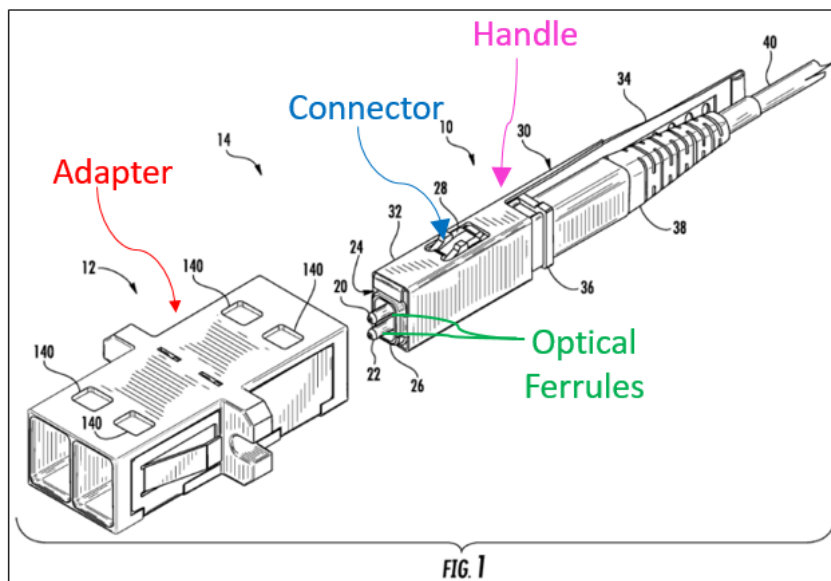
FIG. 15

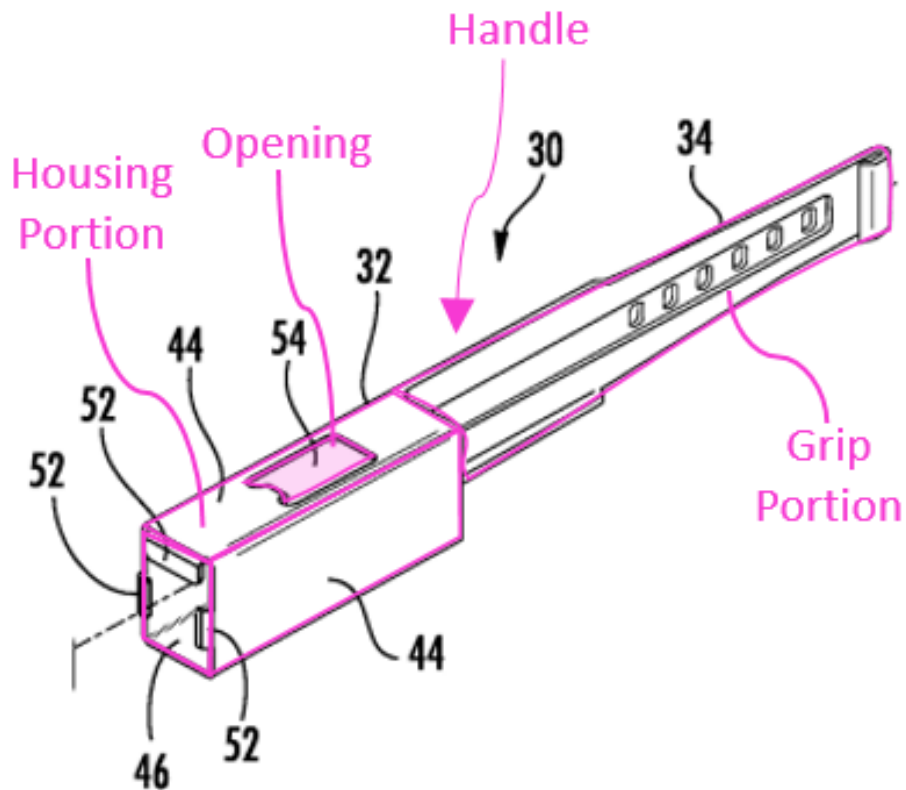
EX1017, FIGS. 3, 13C, and 15 (annotated).

D. Lee

Lee describes an elongated handle 30 to release a fiber optic connector 10 from an adapter 12. EX1009, ¶29. Lee's connector 10 includes an inner connector body 24, optical ferrules 20, 22 extending from a front end of body 24, and a latch arm 28 protruding from a top of body 24. EX1009, ¶30. Lee's latch arm 28 secures connector 10 to an adapter 12. EX1009, ¶63. Lee's handle 30 includes a housing

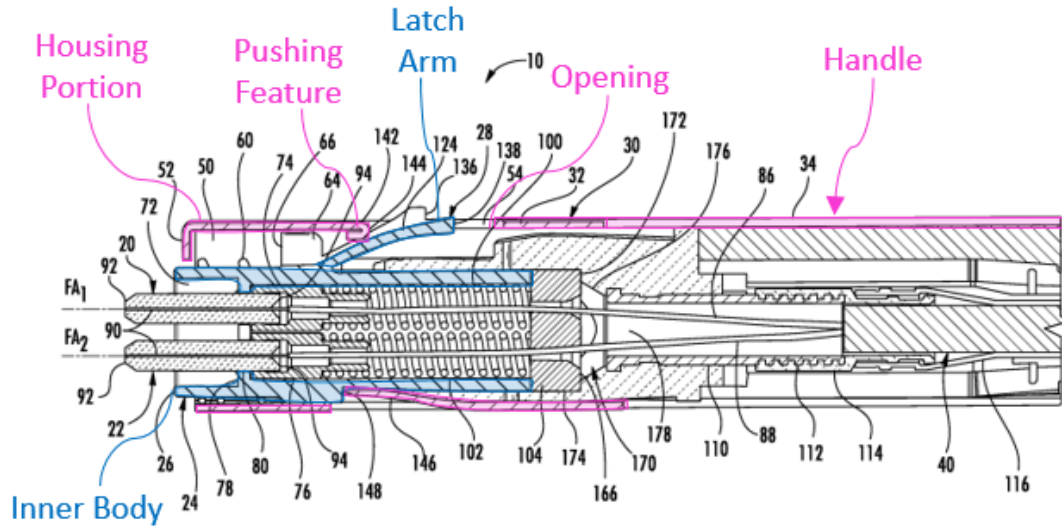
portion 32 receiving body 24 and “a grip portion 34 extending rearwardly from the housing portion 32.” EX1009, ¶30.





EX1009, FIGS. 1, 4, 2 (annotated-partial).

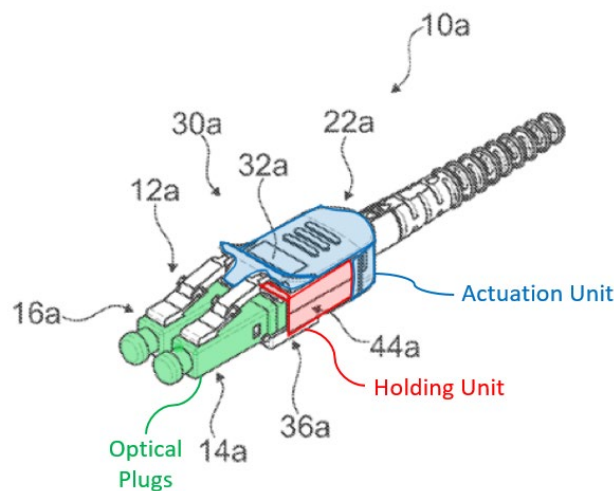
When “connector 10 is assembled,” latch arm 28 extends through an opening 54 of housing portion 32. EX1009, ¶47. Lee’s housing portion 32 includes a pushing feature 142 located adjacent to opening 54 to engage latch arm 28. *Id.* When grip portion 34 is pulled backward, pushing feature 142 depresses latch arm 28, thereby releasing connector 10 from adapter 12. *Id.*; EX1004, ¶¶108-116.



EX1009, FIG. 3 (annotated).

E. Suzic

Suzic describes a duplex LC connector 10 comprising a holding unit 44a (housing), optical ferrule plugs 14a/16a received in holding unit 44a, and an actuation unit 22a securing holding unit 44a and plug elements 14a/16a in an “assembled state.” EX1010, ¶¶27-41.



EX1010, FIG. 1.

Suzic teaches removably securing actuation unit 22 to holding unit 44a via a “dovetail connection” such that a connector 54a of holding unit 44a is slidably received in a corresponding dovetail connection 50a/52a of actuation unit 22.

EX1010, ¶¶41-43; EX1004, ¶¶117-122.

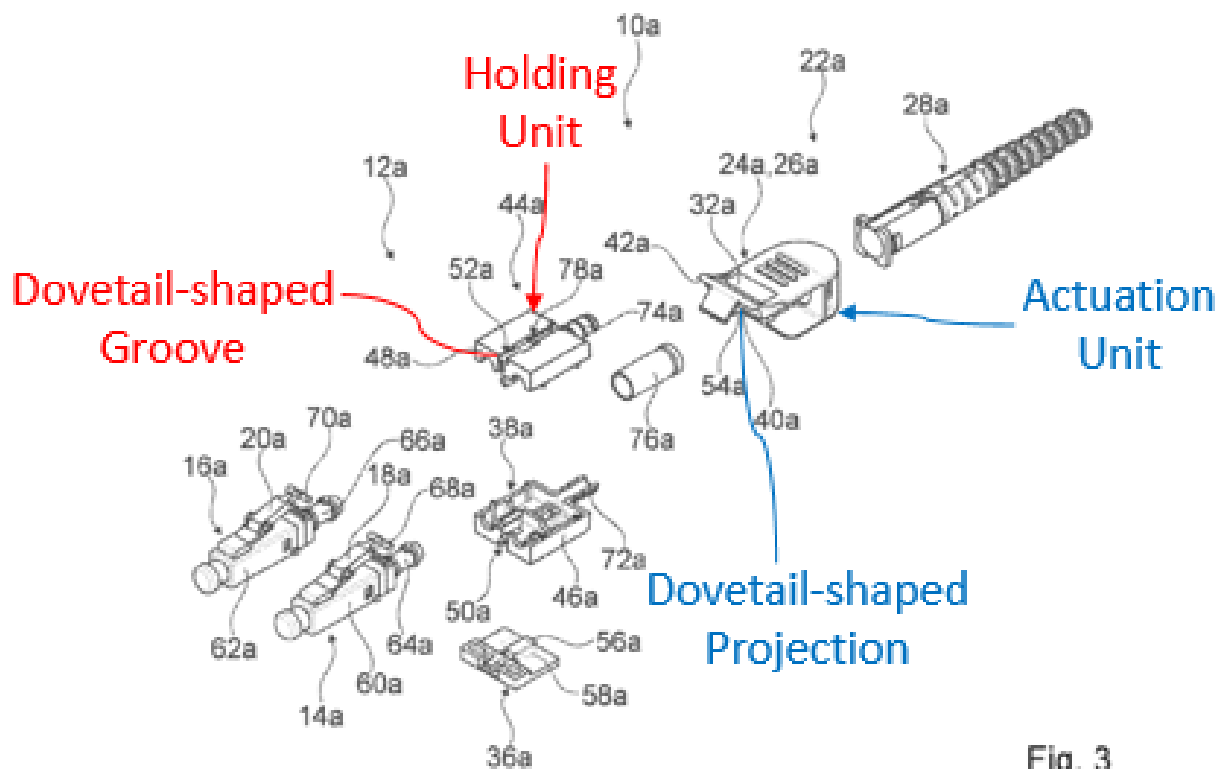
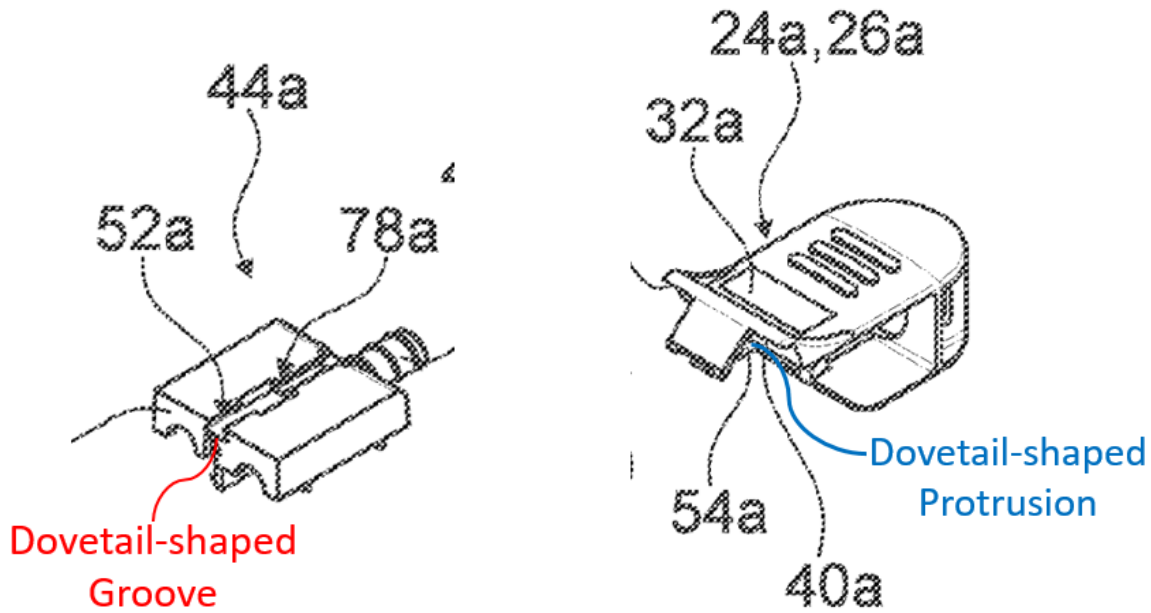


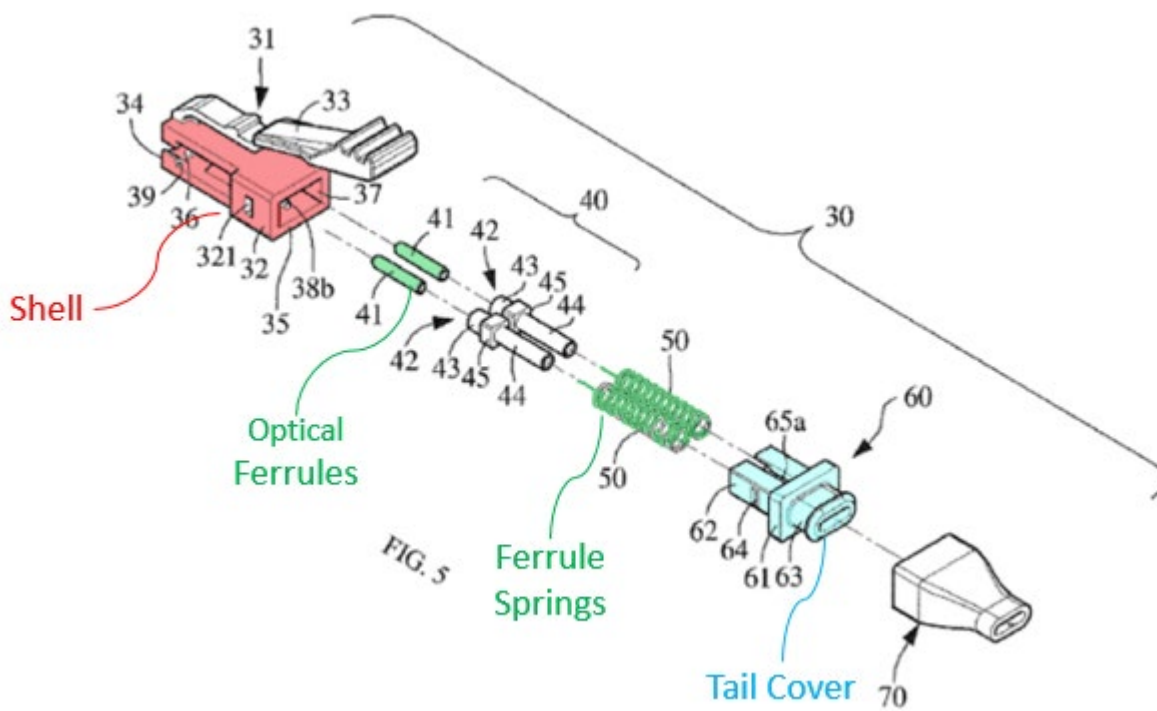
Fig. 3



EX1010, FIG. 3 (annotated-partial).

F. Peng

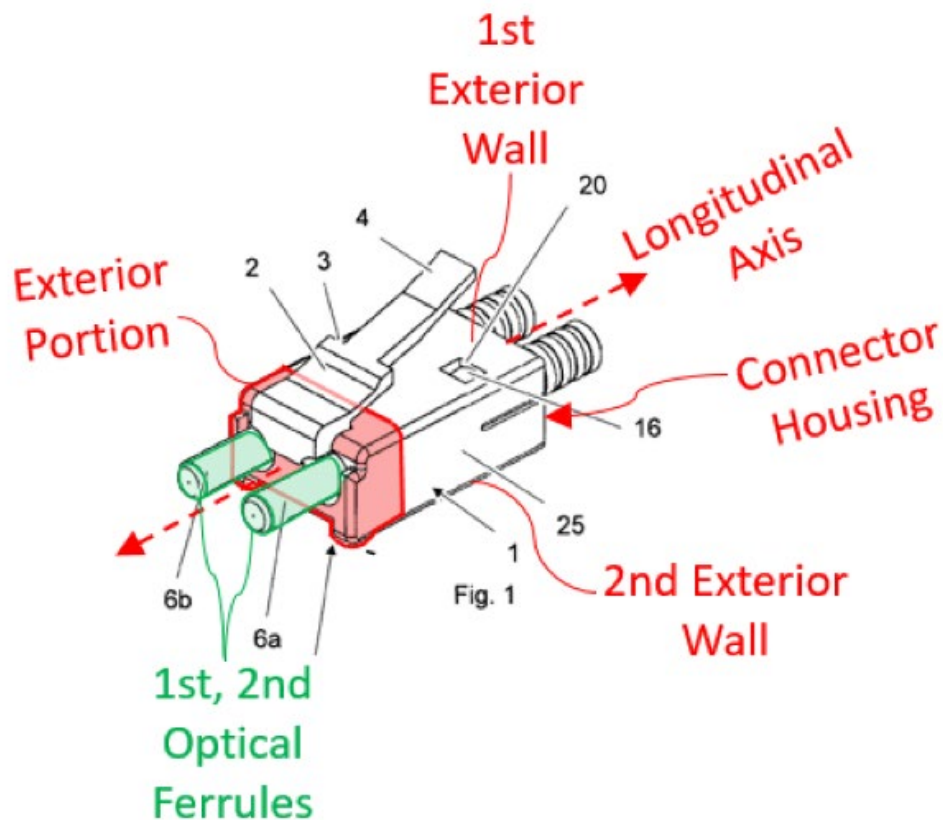
Peng describes a duplex optical fiber connector housing 30 formed from a shell 31 and a tail cover 60. EX1011, ¶¶28-30, 34. Peng's shell 31 contains two ferrules 41 and springs 50. EX1011, ¶¶28-30. Coupled to the back of shell 31, Peng's tail cover 60 includes a tube portion 62 projecting into shell 31 to abut springs 50, thereby biasing ferrules 41 forward. EX1011, ¶34; EX1004, ¶¶123-128.

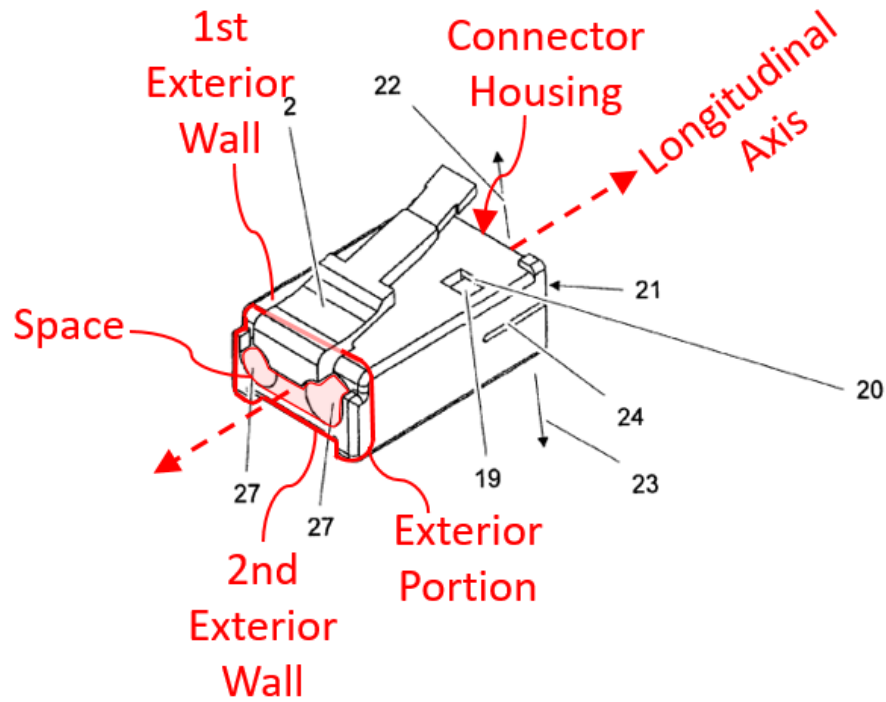
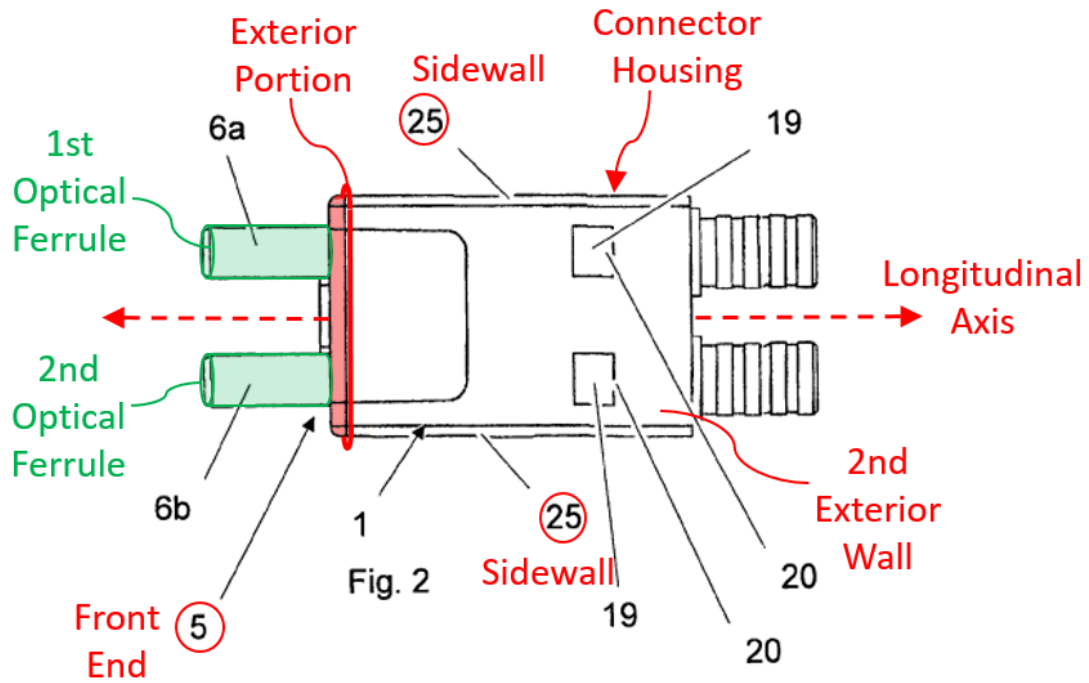


EX1011, FIGS. 3 and 5 (annotated).

G. Nehler

Nehler describes an optical fiber connector housing 1 containing two optical ferrules 6a/6b projecting from “one end 5 of the connector housing 1.” EX1012, 3:1-10. The exterior portion of Nehler’s connector housing 1 extends around optical ferrules 6a/6b and includes a first exterior wall positioned above optical ferrules 6a/6b and a second exterior wall positioned beneath optical ferrules 6a and 6b. EX1012, FIG. 1. Nehler’s connector housing 1 includes an “integral” locking device 2 to secure housing 1 to an adapter. EX1012, 3:3-8; EX1004, ¶¶129-134.

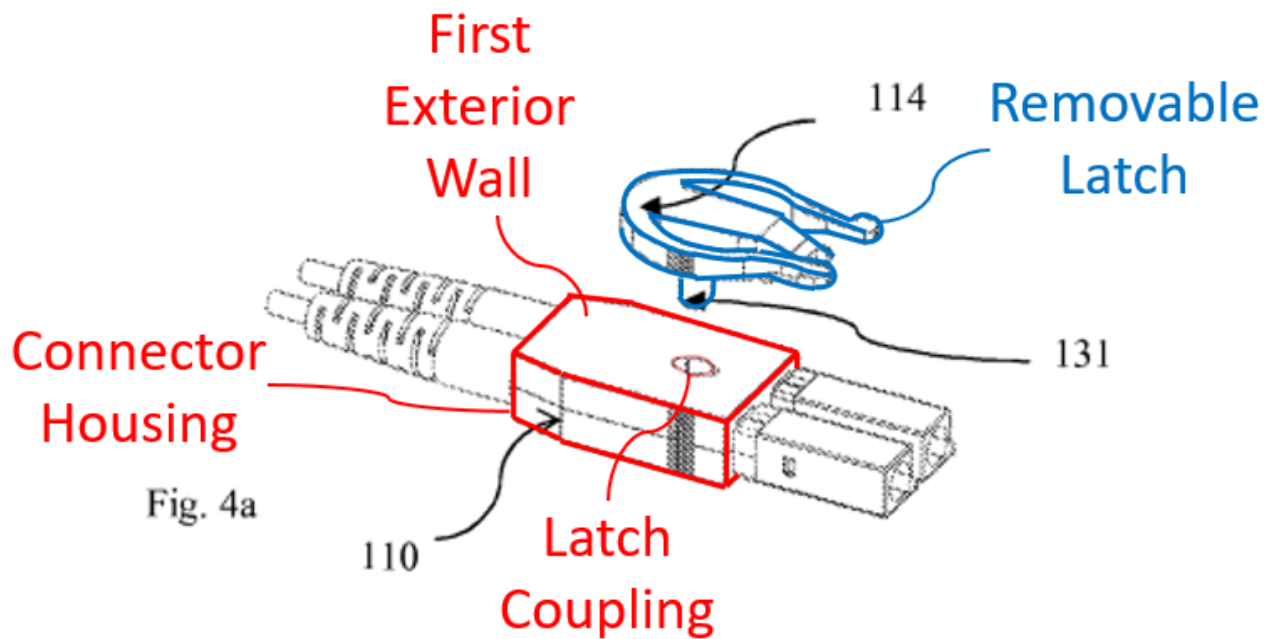


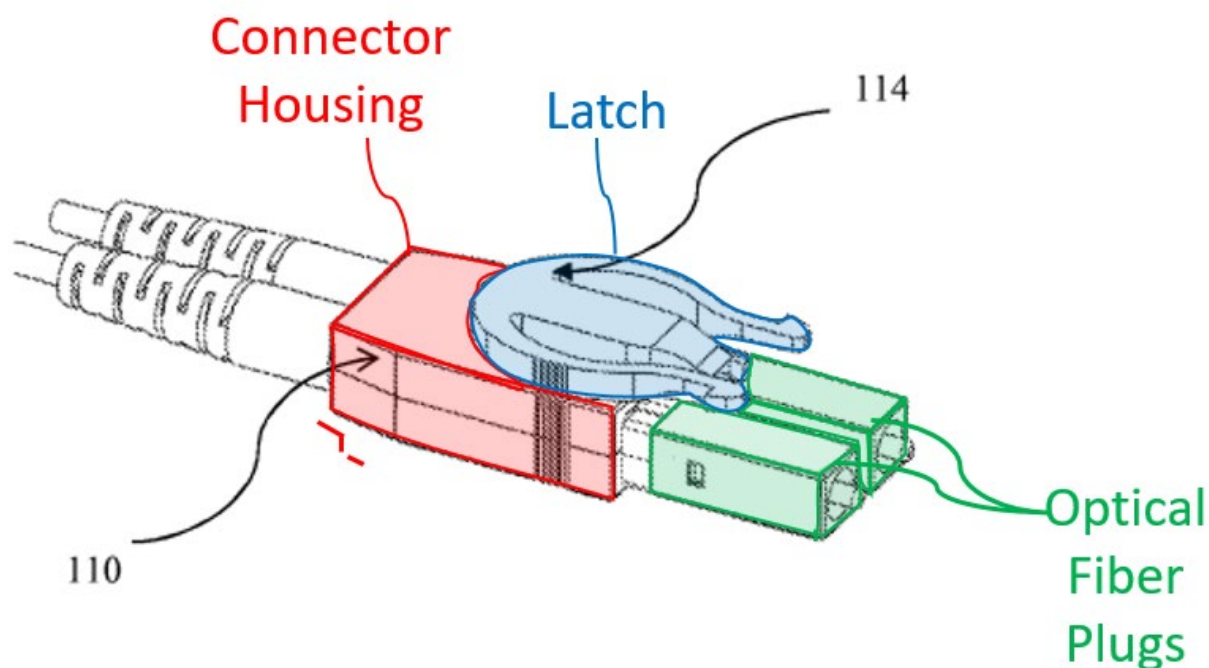


EX1012, FIGS. 1-3 (annotated).

H. Limbert

Limbert describes a fiber optic connector including a connector body 110, two optical fibers received in connector body 110, and a latch mechanism 114 to secure the connector to an adaptor 11. EX1013, 4:38-41, 4:67-5:2. Limbert's "latch mechanism 114 is configured to be releasably mountable on each of two opposing faces of the connector" to adjust the polarity of the connector. EX1013, 5:28-31; EX1004, ¶¶135-139.





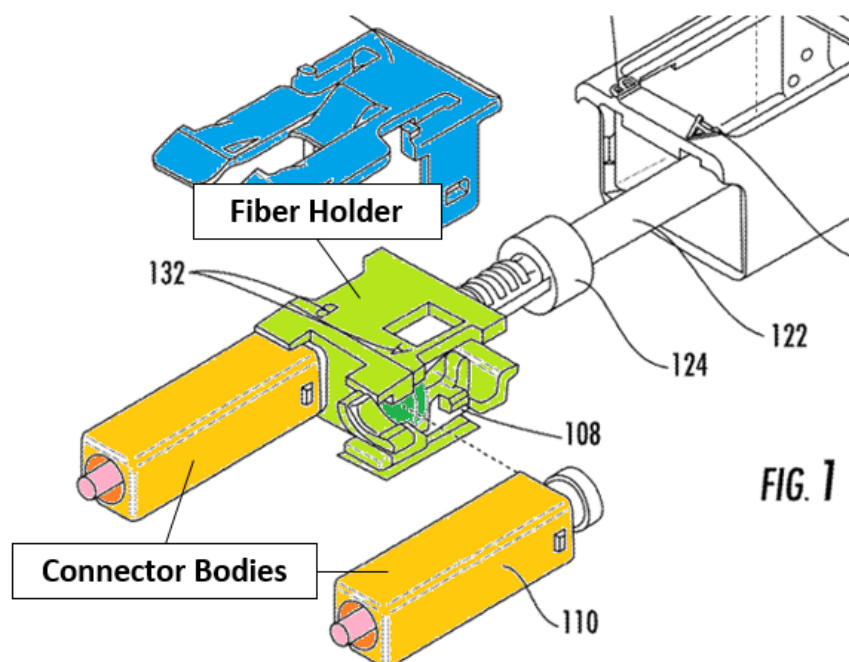
EX1013, FIGS. 4a-b (annotated).

VIII. VEATCH IN VIEW OF NGUYEN IN VIEW OF SOUBH RENDERS OBVIOUS CLAIMS 1, 6, 9, 11, 27, 30, AND 32-34.

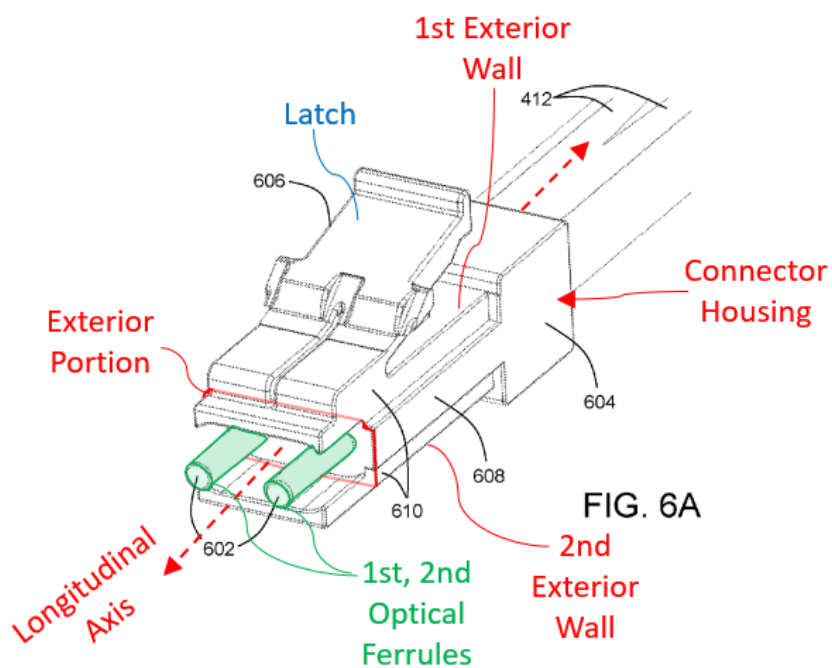
A. Motivation to Combine Nguyen with Veatch

A POSITA would have found it obvious to combine Veatch and Nguyen to arrive at the claims addressed below prior to the '230 patent filing date. Particularly, a POSITA would have been motivated to replace Veatch's three-piece housing—bodies 110 and fiber holder 108—with a single-piece housing, as taught by Nguyen, to reduce the connector's footprint and the number of parts. EX1004, ¶¶141-148.

First, Veatch and Nguyen are both directed to duplex fiber optic LC connectors, and thus, are analogous art to the '230 patent. EX1007, 2:6-13; EX1008, ¶2; EX1004, ¶149.



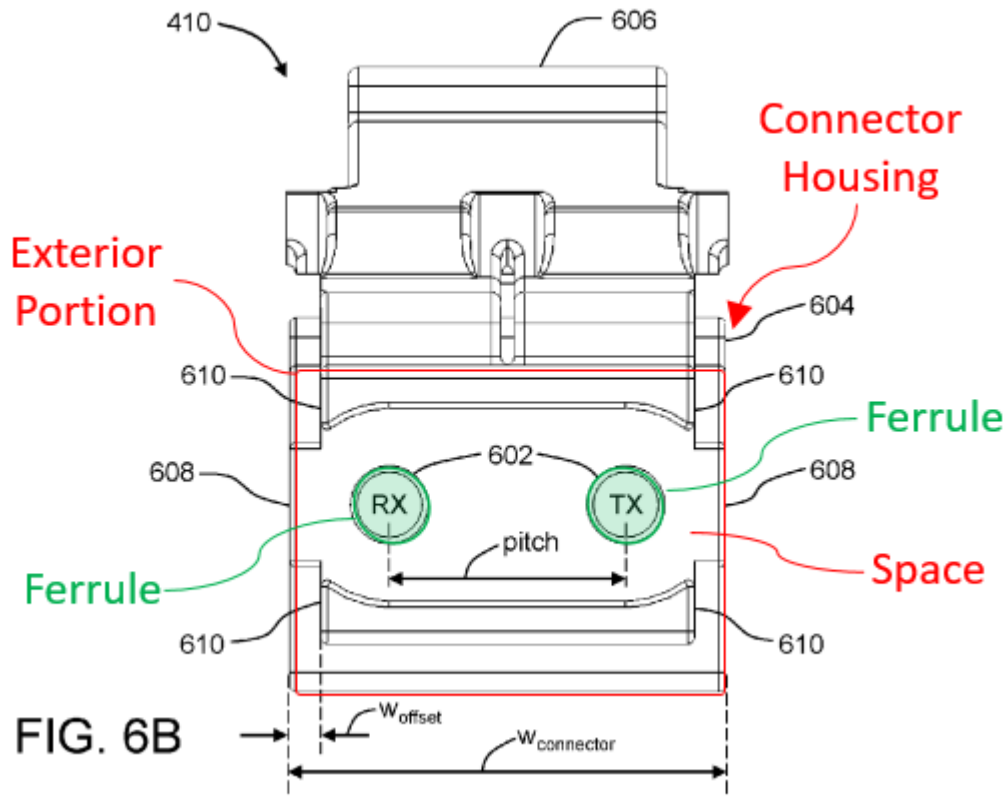
EX1007, FIG. 1 (annotated).



EX1008, FIG. 6A (annotated).

Second, Nguyen discloses altering the housing configuration from dual connector bodies 110 (Figure 3) to a single housing 604 (Figure 6) to reduce the pitch between the ferrules from “about 6.25 mm” down to “about 3.8 mm.”

EX1008, ¶¶28, 37. Recognizing that Veatch’s connector is intended for high-density placement, a POSITA would have been motivated to reduce the pitch between Veatch’s ferrules, as taught by Nguyen, to reduce housing footprint. EX1004, ¶¶150-152; EX1007, 1:7–18; EX1008, ¶44.



EX1008, FIG. 6B (annotated).

Third, combining the teachings of Nguyen’s unitary housing with Veatch avoids the possibility of twisting the separate connectors 110, and thus, further

accomplishes Veatch's goal—reversing polarity without damaging the fiber.

EX1004, ¶153; EX1007, 2:9–13.

Lastly, integrating multiple parts into one piece is a well-known design strategy for reducing the product size and simplifying assembly. EX1004, ¶154. These benefits would have been realized in combining Nguyen with Veatch.

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in combining the teachings of Nguyen's unitary housing with Veatch's connector, because doing so is a substitution of one known housing configuration (unitary housing) for another (dual connector bodies) to obtain predictable result of providing a push-pull LC fiber connector. EX1004, ¶¶155-156. Indeed, Nguyen explicitly teaches this modification is within the level of ordinary skill. EX1004, ¶156.

Furthermore, a POSITA would have included coupling surfaces on the exterior walls of Veatch's modified housing to engage with Veatch's latch 106 such that Veatch's latch is still removably coupled to the top and bottom walls of the housing. EX1004, ¶157. Adding coupling surfaces (openings, notches, protrusions, grooves) to a similarly-shaped unitary housing was well within the level of ordinary skill. *Id.* Thus, combining Nguyen's unitary housing with Veatch would maintain Veatch's operability to reverse polarity. EX1004, ¶¶157-158.

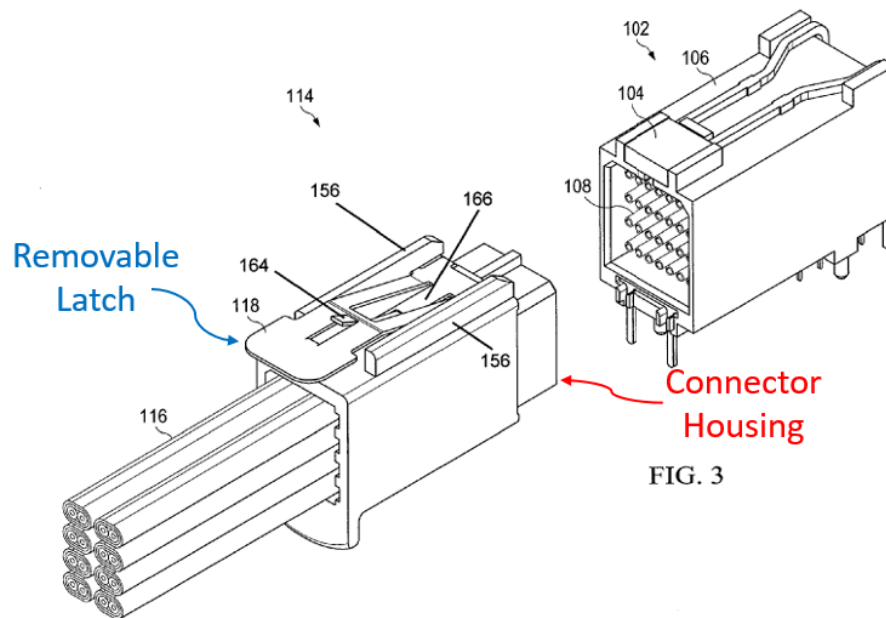
C. Motivation to Combine Soubh with Veatch-Nguyen

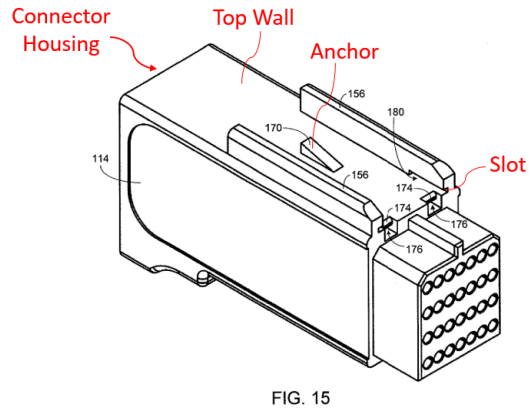
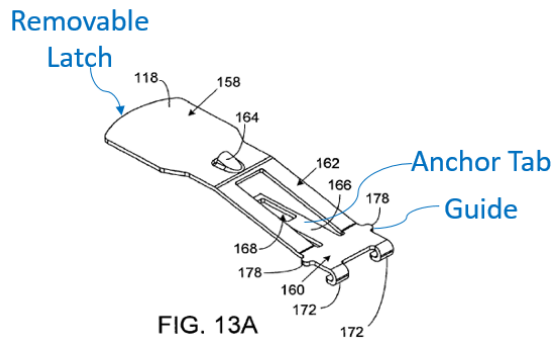
A POSITA would have found it obvious to combine Soubh with Veatch-Nguyen to arrive at claims. EX1004, ¶¶159-188.

1. Combining Soubh's latch coupling interface with Veatch-Nguyen

A POSITA would have been motivated to combine Soubh's latch coupling interface with Veatch's housing, as modified by Nguyen, to allow Veatch's latch 106 to be removably coupled by translational movement with less manipulation. EX1004, ¶159.

Veatch, Nguyen, and Soubh are all analogous to the '230 patent—connectors for fiber optic/electrical cables. EX1004, ¶¶160-162; EX1007, 2:6-13; EX1008, ¶2; EX1017, ¶12.





EX1017, FIGS. 3, 13A, and 15 (annotated).

Soubh describes a latch 118 coupled to the top wall of connector 114 to “help physically secure the cable connector 114 ... to a respective board-mount connector 102.” EX1017, ¶49. Soubh’s latch 118 is removably coupled to connector 114 by sliding the latch’s base section 160 horizontally along the connector’s top wall. *Id.* In doing so, the latch’s guides 178 are received in the connector’s slots 180, and the latch’s anchor tab 166 catches the connector’s anchor 170, thereby securing latch 118 to connector 114. EX1017, ¶57. Thus, Soubh’s latch coupling arrangement requires only one snap-fit connection per installation. EX1004, ¶¶163-166.

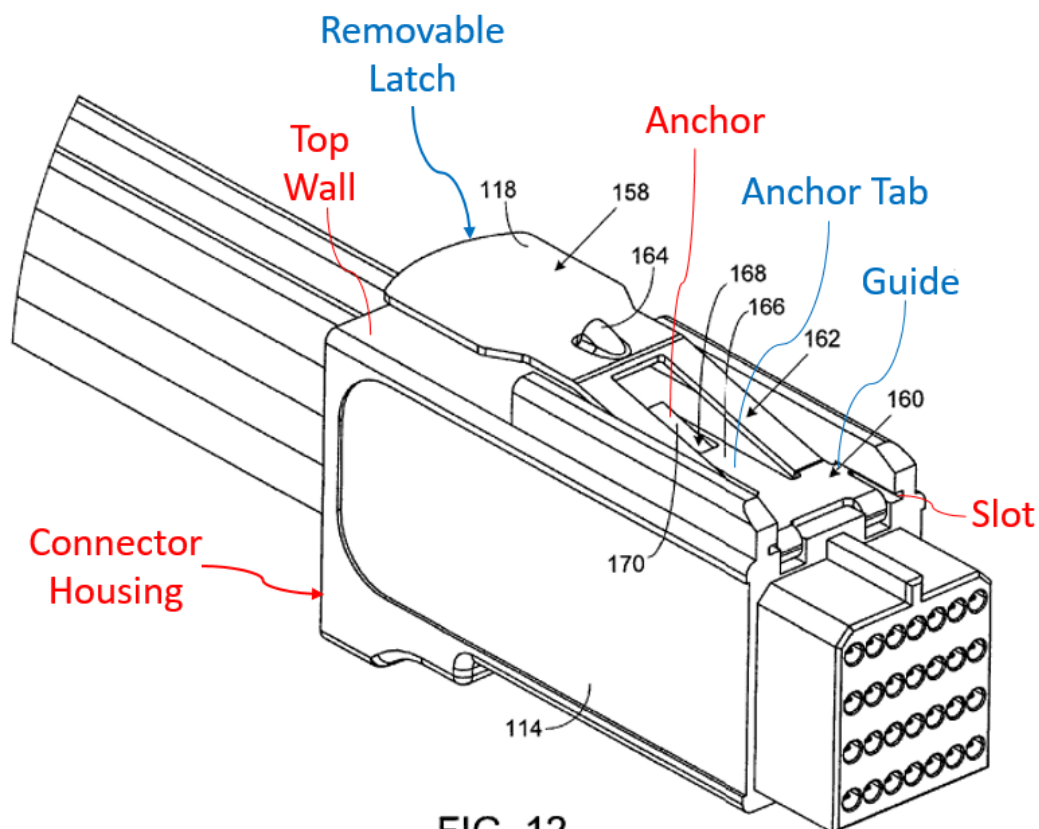
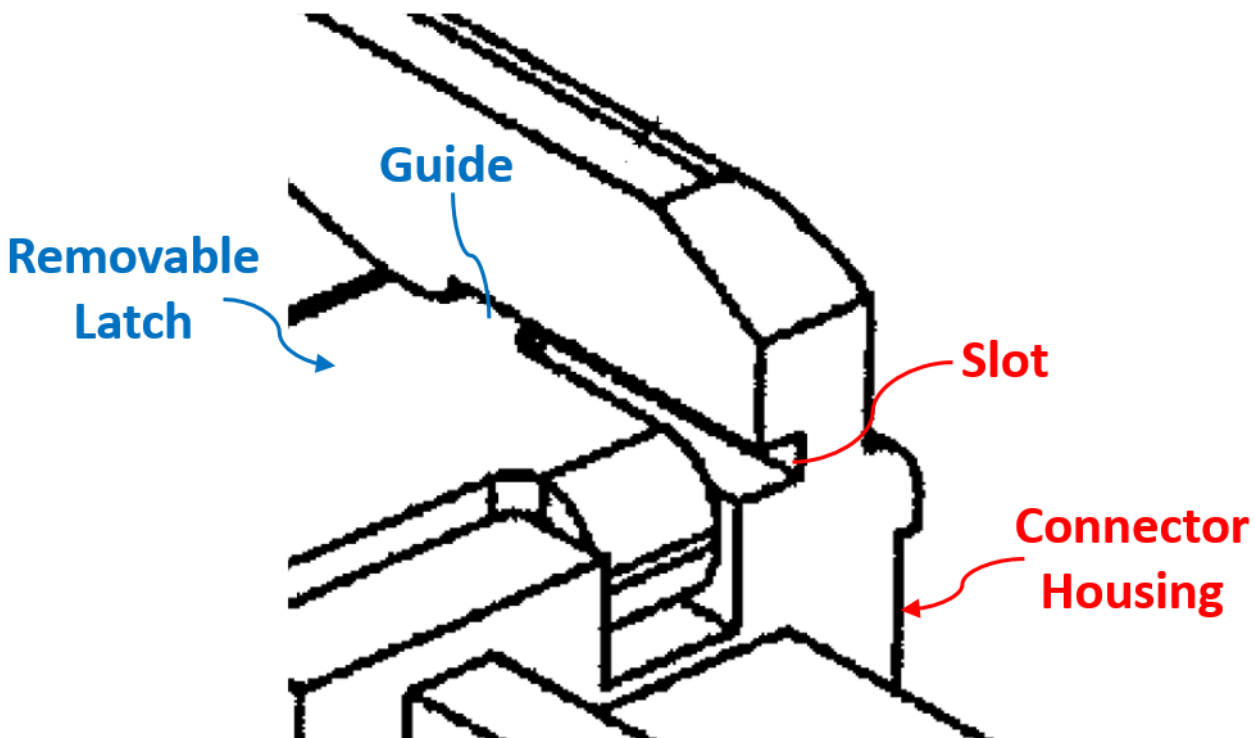
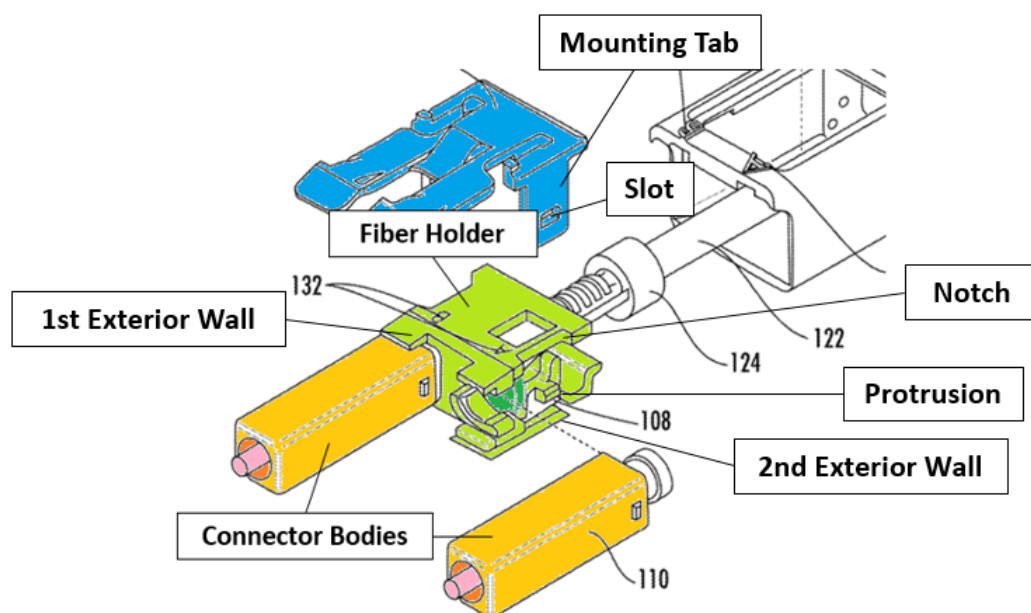


FIG. 12



EX1017, FIG. 12 (annotated-partial).

In contrast, Veatch's latch 106 is secured to fiber holder 108 by *two* snap-fit connections. EX1004, ¶164. During each latch installation, the user must manipulate *two* spatially-separated mounting tabs 154 over protrusions located on opposite sides of Veatch's fiber holder, while keeping the mounting tabs aligned with the fiber holder's notches. EX1007, 2:61–63, FIG. 1. A POSITA would have recognized that snapping Veatch's two mounting tabs over opposite sides of Veatch's fiber holder is inconvenient and more complicated to manufacture compared to Soubh's single snap-fit coupling arrangement. EX1004, ¶165. Soubh's coupling arrangement allows latch 118 to be removably coupled to connector 114 with less manipulation than Veatch's coupling arrangement. EX1004, ¶167.



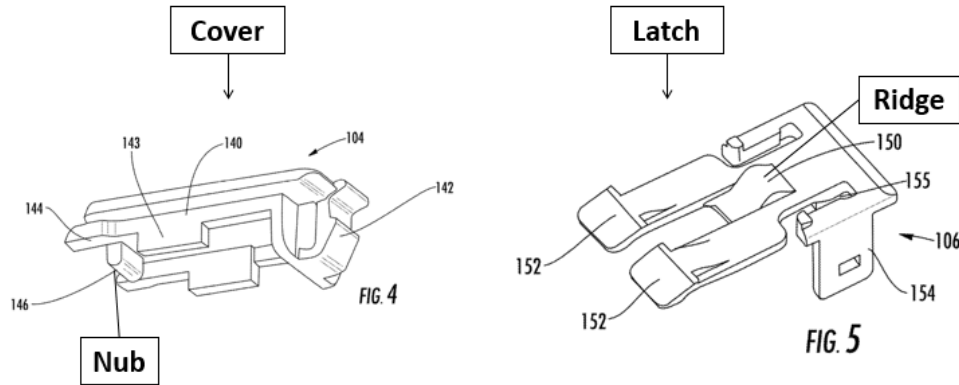
EX1007, FIG. 1 (annotated-partial).

Recognizing that Soubh's latch coupling arrangement requires only one snap-fit connection per installation, a POSITA would have been motivated to replace Veatch's latch tabs and housing notches with guides, slots and an anchor, as taught by Soubh. EX1004, ¶167. Doing so would allow Veatch's latch slide horizontally along the top wall or bottom wall of Veatch's housing to form a snap-fit connection, simplifying the assembly process. EX1004, ¶¶167-168. Combining Soubh's latch coupling arrangement would have also obviated the mounting tabs on Veatch's latch and the side protrusions of Veatch's fiber holder, thereby streamlining production and assembly. EX1004, ¶169.

2. Combining Soubh's Rearward-Extending Latch with Veatch-Nguyen

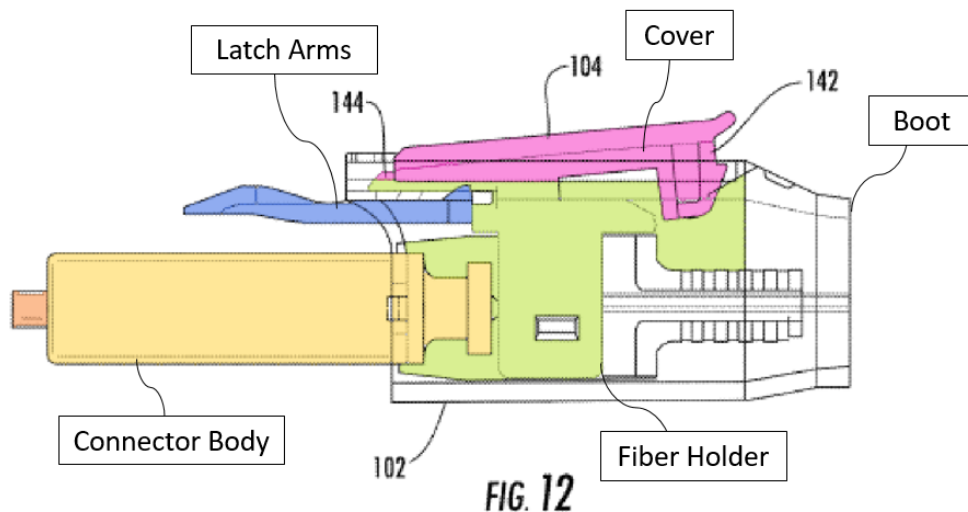
A POSITA would have been motivated to modify Veatch's latch 106 to extend rearward, as taught by Soubh, to reduce the total number of connector parts, thereby simplifying the connector assembly. EX1004, ¶170.

Veatch's "[l]atch 106 includes resilient arms 152" to "engage mating structure on an LC adapter." EX1007, 2:54-56. Veatch's latch further includes a ridge 150 to actuate deflection of arms 152. *Id.*



EX1007, FIGS. 4 and 5 (annotated).

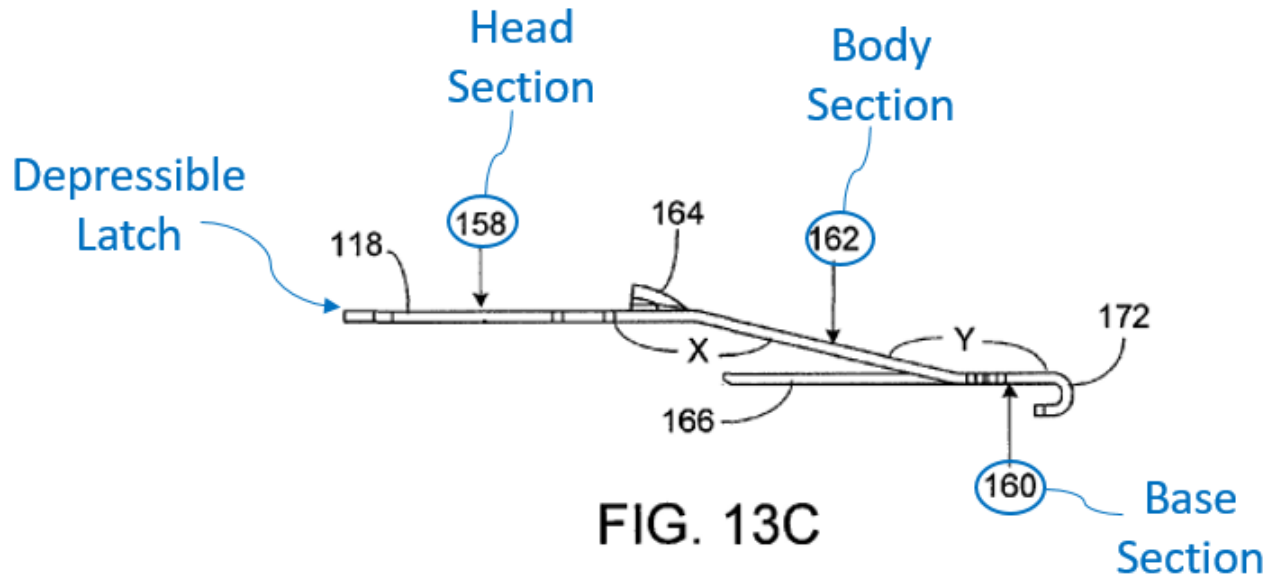
Veatch's connector relies on *both* boot 102 and cover 104 “to provide the push-pull activation of latch 106.” EX1007, 2:64–66. When “boot 102 is pushed forward” to mate connector 100 to the adapter, a downward-projecting nub 146 of cover 104 moves “forward of ridge 150.” EX1007, 2:65–3:1. When “boot 102 is pulled back,” the cover’s nub 146 “ride[s] on ridge 150,” thereby deflecting the latch’s arms and releasing connector 100 from the adapter. EX1007, 3:2-6.



EX1007, FIG. 12 (annotated).

While Veatch's arms 152 correspond to recited "depressible latch" of claim 27, Veatch's arms 152 extend forward, rather than rearward, as recited in claim 27. EX1007, 2:56-58; EX1004, ¶¶171-176. But providing a rearward-extending latch that is removably coupled to the connector housing was well known, as evidenced by Soubh. EX1004, ¶176.

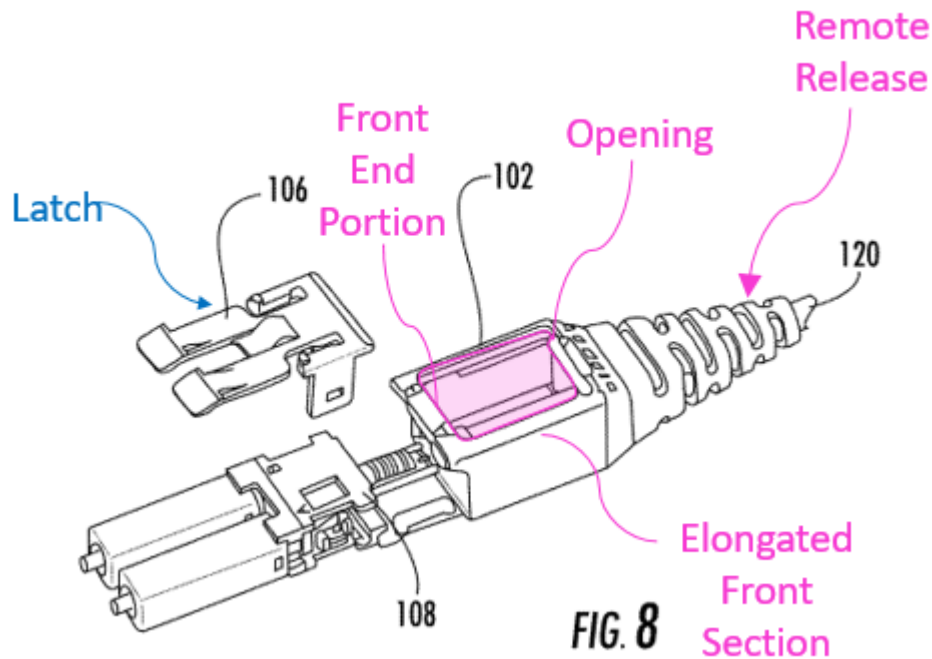
Soubh's latch 118 includes three sections: a base section 160 that "rests" on connector 114, a head section 158 that is "elevated relative to the" top wall of connector 114, and a body section 162 that extends rearward from base section 160 to head section 158. EX1017, ¶53. "Depressing the head section 158" of Soubh's latch "allows the cable connector 114 to be unplugged." EX1017, ¶62.



EX1017, FIG. 13C (annotated).

A POSITA would have been motivated to combine Soubh's rearward-extending latch with Veatch, as modified by Nguyen, to reduce the total number of

parts. EX1004, ¶¶177-178. Extending Veatch's latch arms rearward through the top opening of Veatch's boot 102 would allow a front end portion of Veatch's boot 102 to depress the latch arms—a well-known arrangement for actuating a connector's latch. EX1004, ¶¶178-179; EX1009, ¶¶42-66. Doing so would thus obviate the need for Veatch's cover 104 to actuate the latch arms. EX1004, ¶179.



EX1007, FIG. 8 (annotated).

A POSITA would have been motivated to reorient Veatch's latch arms rearward, as taught by Soubh, to eliminate cover 104 and the steps needed to assemble cover 104 with boot 102. EX1004, ¶170.

D. Reasonable Expectation of Success

1. Combining Soubh's Latch Coupling Interface with Veatch and Nguyen

A POSITA would have had a reasonable expectation of success in combining Soubh's guides/slots/anchor with Veatch-Nguyen because Veatch's latch 106 would still perform as originally intended—releasably engage the adapter—after being slidably coupled to the upper and lower walls of the housing. EX1004, ¶180. And a POSITA would have understood that the arrangement and dimensions of the housing's coupling surface can be tuned to secure Veatch's latch at a particular location along the housing. *Id.* When replacing Veatch's tabs/notches with Soubh's guides/slots, a POSITA would have understood to add an anchor to Veatch's modified housing and configure the base of Veatch's modified latch with an opening for catching the anchor. *Id.* Doing so would allow Veatch's modified latch be removably coupled to the modified housing with just one snap-fit connection. *Id.*, ¶181.

All these modifications would have simply been a substitution of one known coupling interface (Soubh's guides/slots) for another (Veatch's tabs/notches/anchor), yielding predictable result of securing the latch to the housing with less manipulation. *Id.*, ¶¶181-182.

2. Combining Soubh's Rearward Extending Latch with Veatch-Nguyen

A POSITA would have had a reasonable expectation of success in combining Soubh's rearward-extending latch arms with Veatch-Nguyen because the principle operation of Veatch's latch—releasably engaging the adapter while being removably coupled to the housing's top and bottom walls—remains unchanged. EX1004, ¶¶183-184. Extending Veatch's latch arms rearward to extend through the top opening of boot 102 and configure the front portion of Veatch's boot 102 to deflect the latch arms would have been well within the level of ordinary skill. EX1004, ¶¶184-185; EX1009, ¶¶42-66. A POSITA would have understood that the rearward-extending latch arm would restrict backward movement Veatch's boot relative to the modified connector housing until the latch arm is actuated downward. EX1004, ¶¶184-186.

All these modifications would have been a substitution of one known latch arrangement (rearward-extending) for another (forward-extending), yielding the predictable result of releasably securing the connector to the adapter. EX1004, ¶183.

E. Claim 1

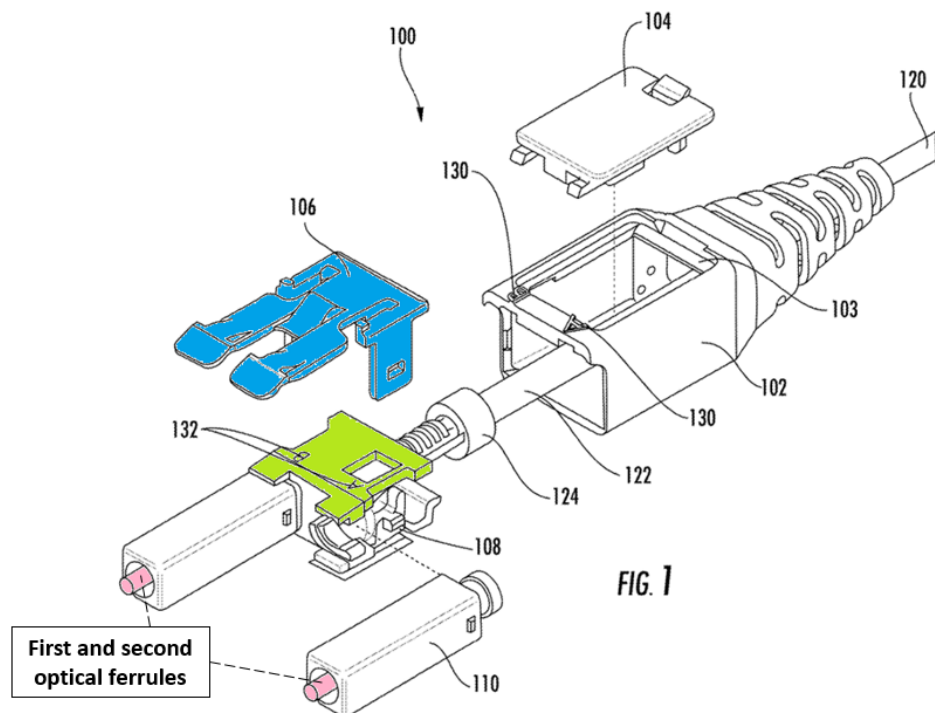
The Veatch-Nguyen-Soubh combination renders obvious claim 1. EX1004, ¶187.

1. [1.P]

The preamble should not be considered limiting. But, if found limiting, Veatch discloses a reversible polarity fiber optic connector in the form a “push-pull LC duplex fiber connector” that “includes a separate latch clip that enables the polarity to be changed.” EX1007, Title, 2:6-13; EX1004, ¶¶188-189. Thus, Veatch discloses [1.P].

2. [1.1]

Veatch discloses first and second optical ferrules held in connector bodies 110. EX1007, FIGS. 1, 11, 2:23-24, 10:4-5; EX1004, ¶¶190-193. Thus, Veatch discloses [1.1].



EX1007, FIG. 1 (annotated).

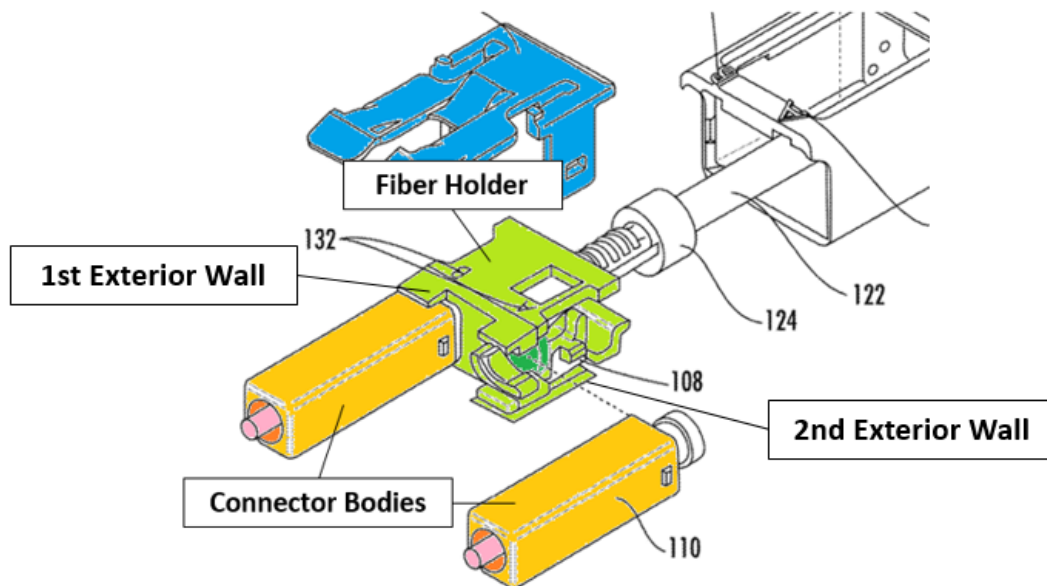
3. [1.2]

(a) **Veatch**

Veatch discloses “a connector housing having a longitudinal axis and comprising an exterior portion at least partially surrounding the first and second optical ferrules” in the form of fiber holder 108 holding connector bodies 110.

EX1007, 2:14-23, 3:37-45, FIGS. 1-3, 11. Veatch’s fiber holder 108 includes “a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules,” as annotated.

EX1004, ¶¶194-196.

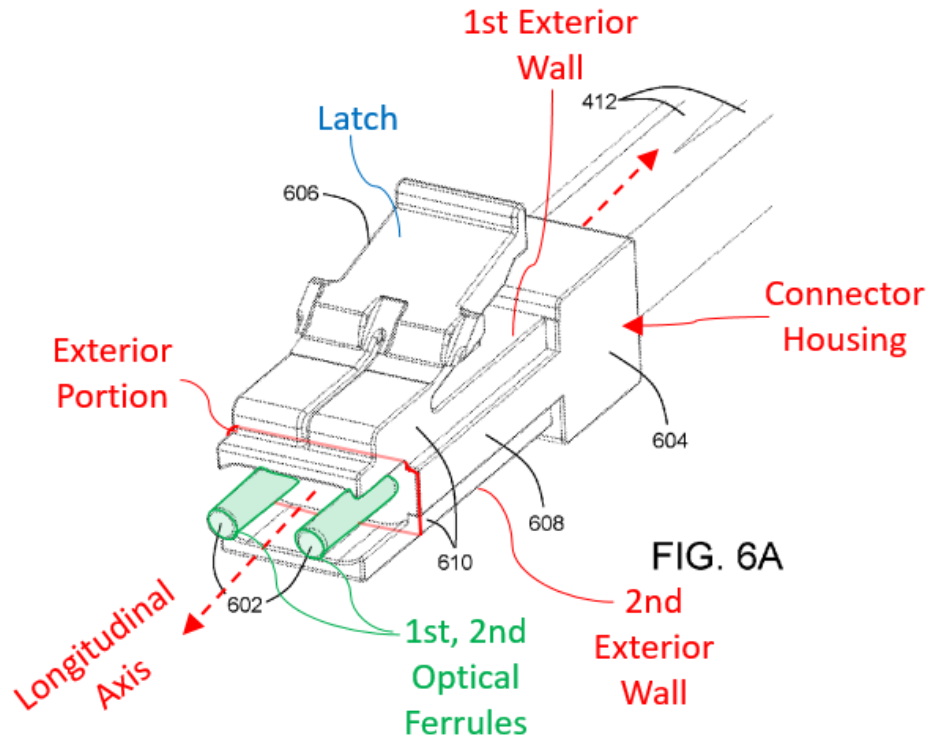


EX1007, FIG. 1 (annotated-partial).

Senko may argue that Veatch’s fiber holder 108 does not extend 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received.

(b) Nguyen

But Nguyen discloses a connector housing having an “exterior portion extend[ing] 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received” in the form of housing 604 (Figure 6A). EX1004, ¶197. The exterior portion of Nguyen’s housing 604 includes a first exterior wall positioned above ferrules 602 and a second exterior wall positioned beneath ferrules 602, as annotated. EX1008, ¶40, FIGS. 6A-B. The exterior portion of Nguyen’s housing 604 further includes “two opposing sidewalls 610” with raised keys 608 to “accommodate the coil springs” and ferrules 602. EX1008, ¶40; EX1004, ¶¶198-203.



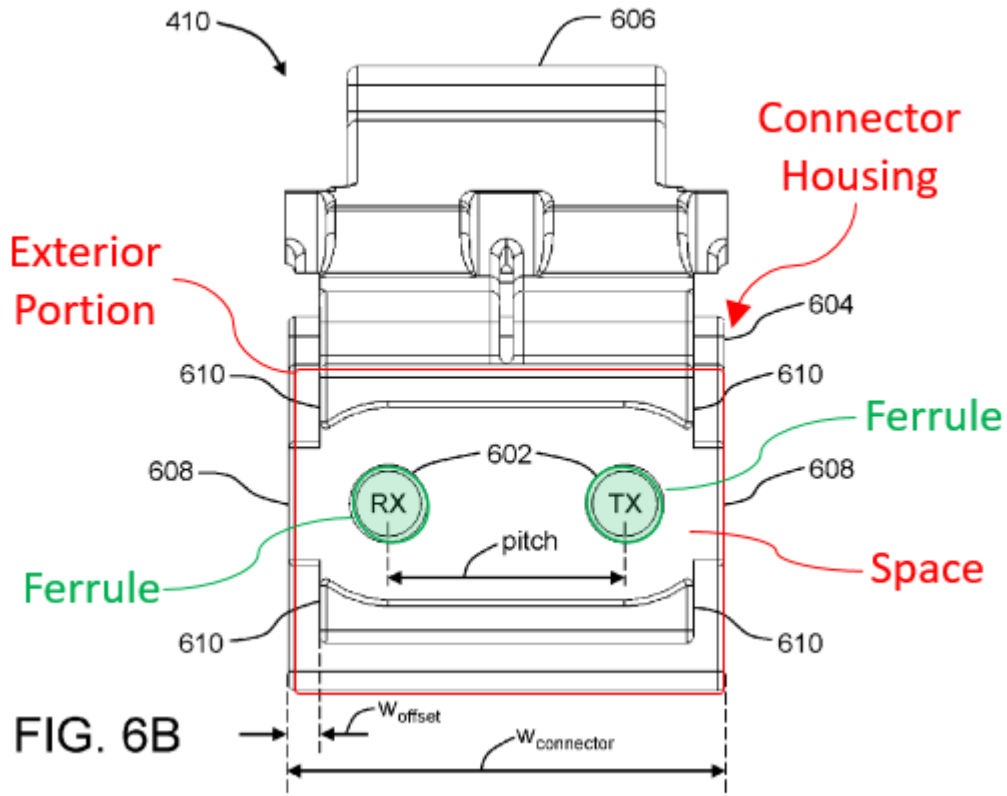


FIG. 6B

EX1008, FIGS. 6A-B (annotated).

(c) Motivation to Combine (MTC)

A POSITA would have been motivated to replace Veatch's fiber holder 108 and connectors 110 with a single housing, as taught by Nguyen, to provide a connector with fewer parts and reduced footprint, and would have had a reasonable expectation of success in doing so. §VIII.A; EX1004, ¶¶204-205.

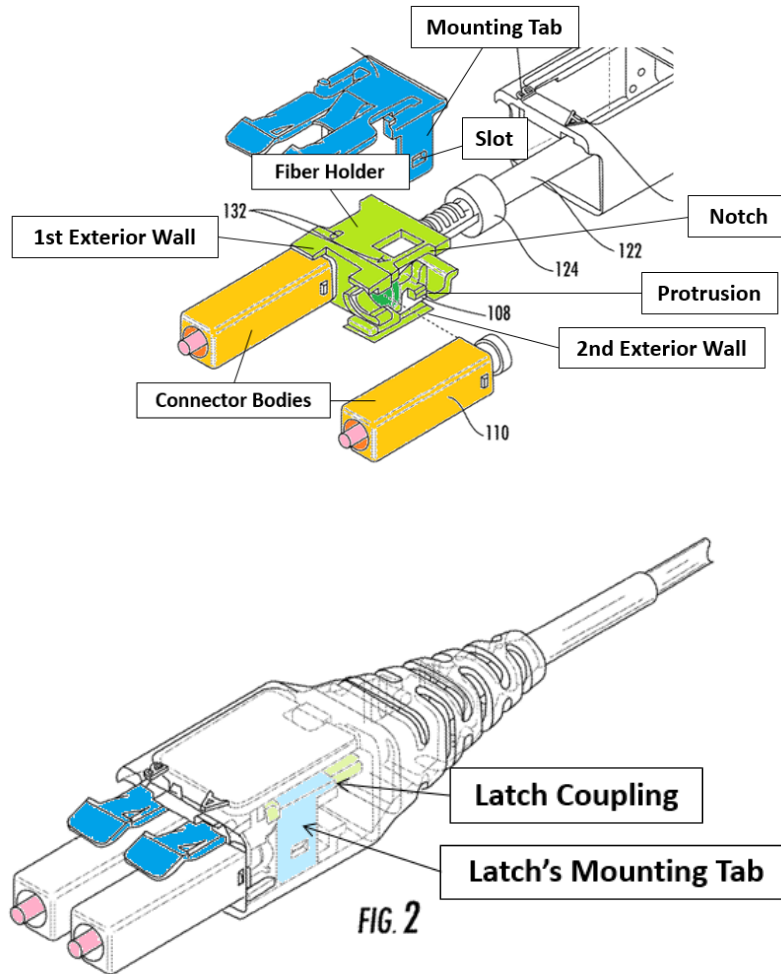
Thus, the Veatch-Nguyen combination renders [1.2] obvious.

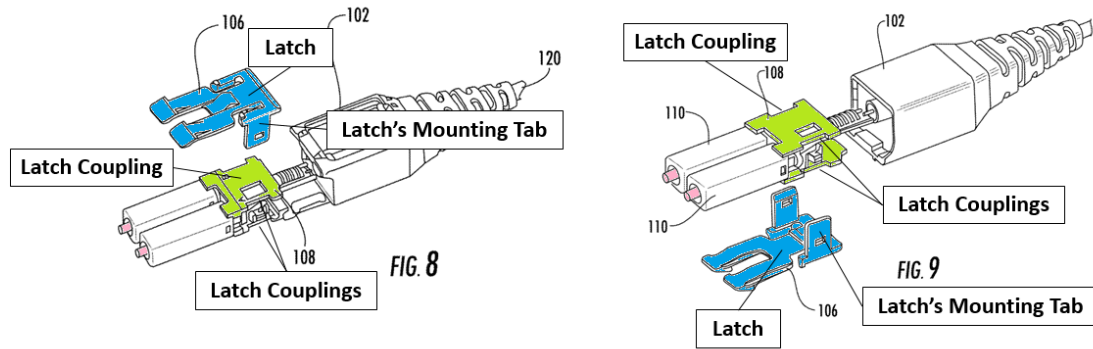
4. [1.3]

(a) Veatch-Nguyen

Veatch discloses the recited "latch couplings" in the form of notches on the fiber holder's top and bottom walls and protrusions on the fiber's holder's sides.

EX1007, 2:61-63, FIGS. 1, 6-9. This arrangement allows latch 106 to be selectively coupled to the fiber holder's top wall or bottom wall by inserting the latch's mounting tabs 154 through the fiber holder's slots and snapping tabs 154 onto the fiber holder's protrusions. EX1004, ¶¶206-208.



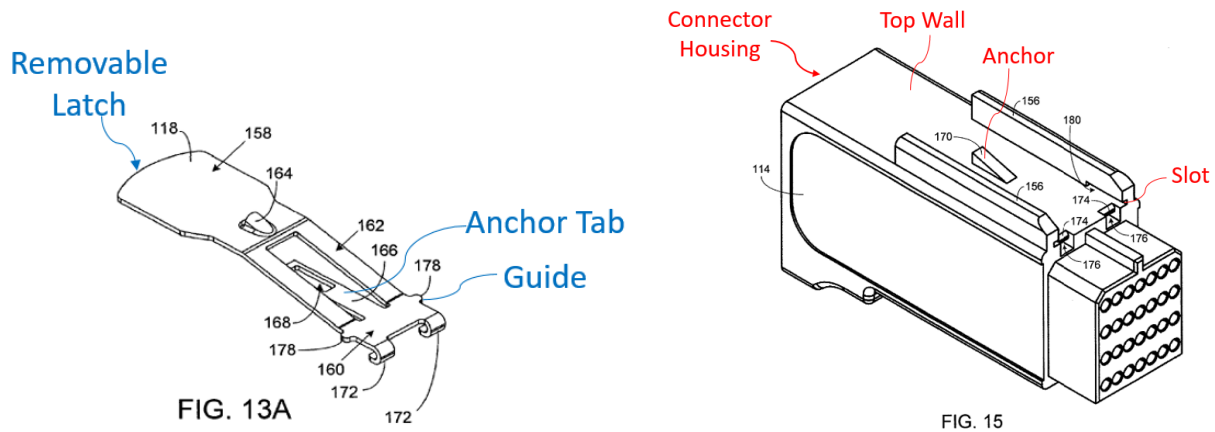
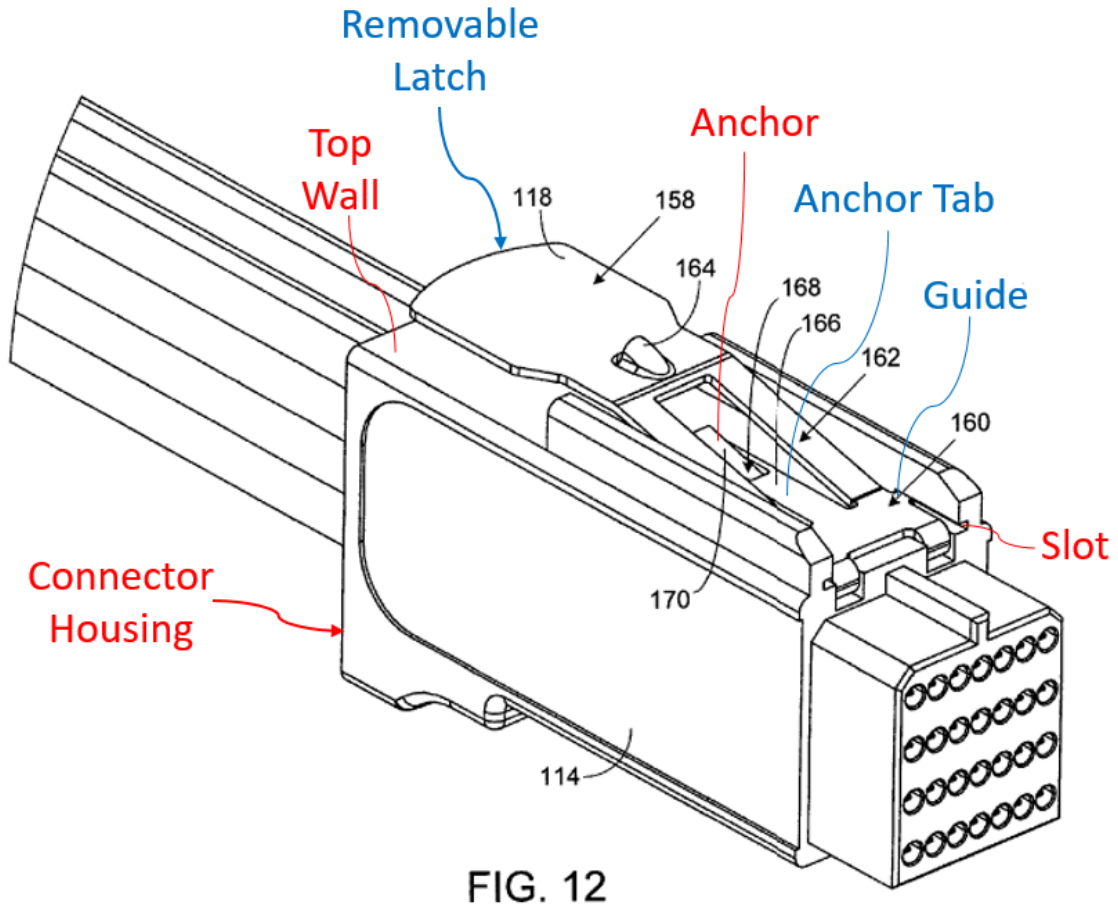


EX1007, FIGS. 1-2, 8-9 (annotated).

Senko may argue that a part of Veatch's latch couplings is positioned on the fiber holder's sides, not the top and bottom walls, of the housing, as modified by Nguyen.

(b) Soubh

Soubh discloses the recited "latch coupling" on a connector housing's top wall in the form of slots 180/anchor 170 formed on the top wall of connector 114. EX1004, ¶209. Soubh's connector 114 includes an anchor 170 protruding from the housing's top wall that engages the latch's anchor tab 166 to "secure the latch 118 in place." EX1017, ¶56. Soubh's connector 114 also includes slots 180 defined in the housing's top wall that slidably receive the latch's guides 178 to facilitate placing the latch's anchor tab 66 over the housing's anchor 170. EX1017, ¶60; EX1004, ¶209.



EX1017, FIGS. 12, 13A, and 15 (annotated).

(c) MTC

A POSITA would have been motivated to combine the teachings of Soubh's anchor/slots with Veatch's housing, as modified by Nguyen, to slidably couple

Veatch's latch 106 to the housing. §VIII.C.1; EX1004, ¶210. In doing so, a POSITA would have sought to provide *latch couplings on both the upper and bottom walls* of Veatch's modified housing because Veatch discloses mounting latch 106 to the fiber holder's top and bottom walls to provide polarity adjustment. EX1004, ¶¶210-211.

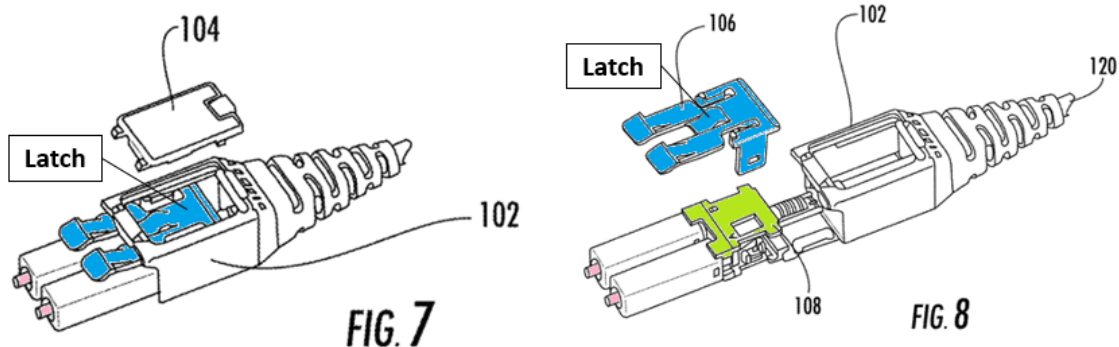
Thus, the Veatch-Nguyen-Soubh combination renders [1.3] obvious.

5. [1.4]

(a) Veatch-Nguyen

Veatch discloses the recited “removable latch” in the form of latch 106 positioned on either the top wall or bottom wall of fiber holder 108, as modified by Nguyen and Soubh. EX1007, 3:13-16, FIGS. 2, 7-10; EX1004, ¶¶212-216.

Mounting tabs 154 of Veatch's latch 106 engage “first and second exterior wall latch couplings” by engaging the notches on the top and bottom walls of fiber holder 108. EX1004, ¶216.



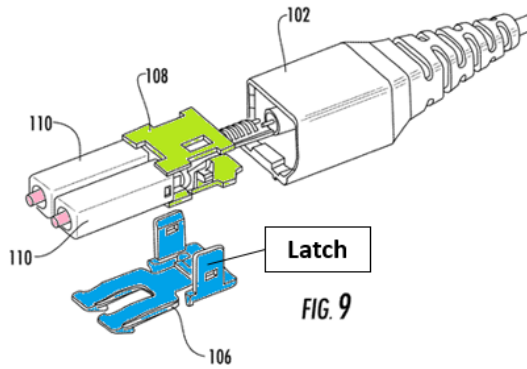


FIG. 9

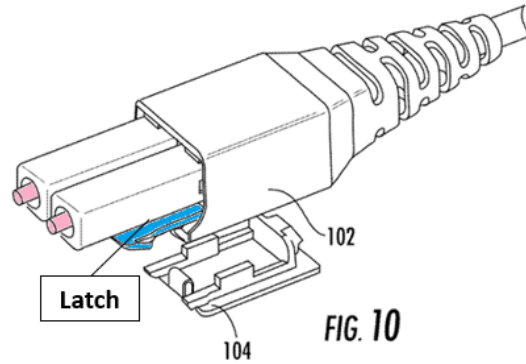


FIG. 10

EX1007, FIGS. 7-10 (annotated).

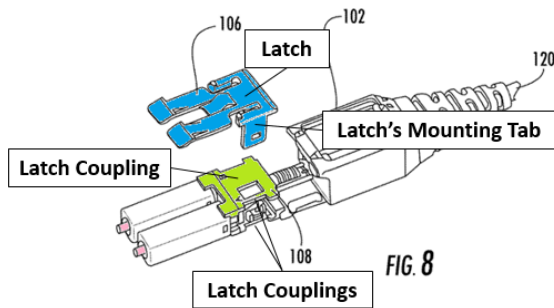


FIG. 8

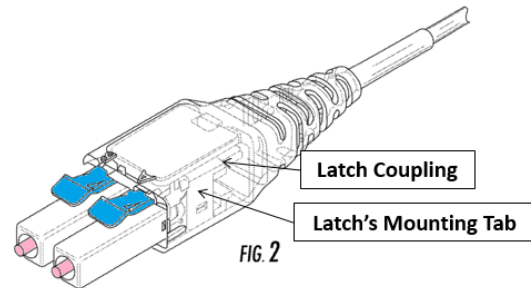


FIG. 2

EX1007, FIGS. 8 and 2 (annotated).

Senko may argue that Veatch's mounting tabs 154 engage latch couplings on the sides of fiber holder 108, not on the top and bottom walls of the housing, as modified by Nguyen.

(b) Soubh

Soubh discloses a removable latch that engages a latch coupling on the connector housing's top wall in the form of latch 114 with guides 178 being slidably received in slots 180 on the top wall of connector 114. EX1017, ¶62; EX1004, ¶218.

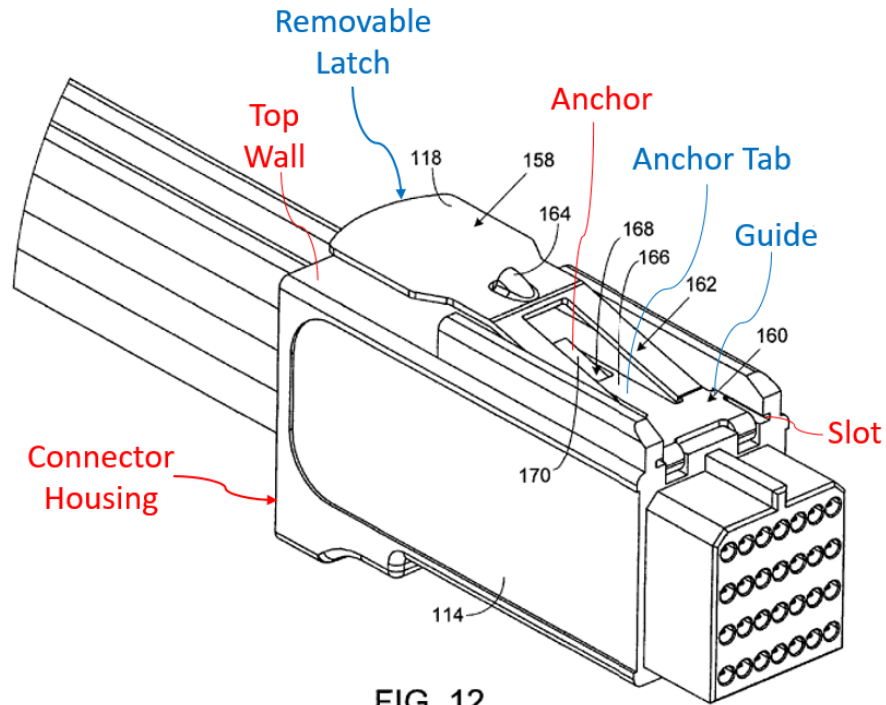


FIG. 12

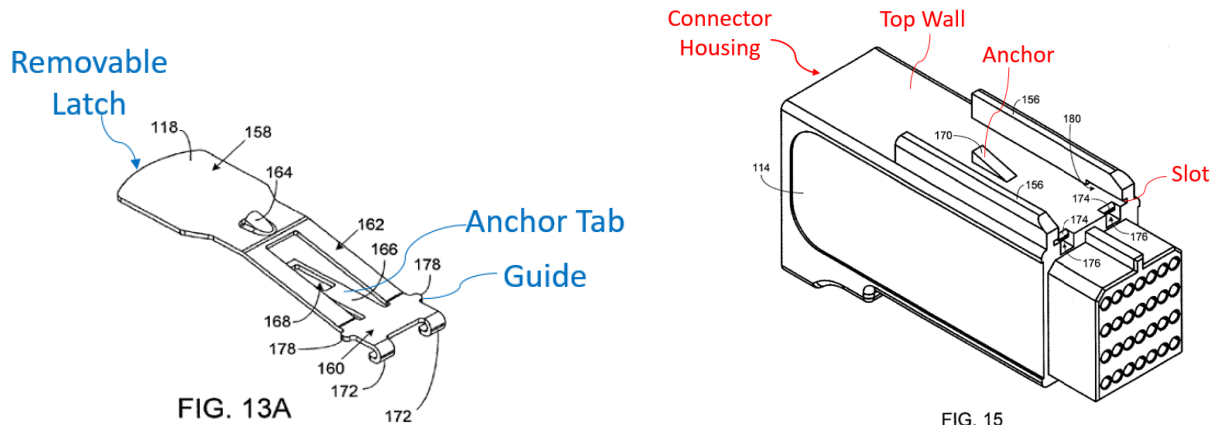


FIG. 13A

FIG. 15

EX1017, FIGS. 12, 13A, and 15 (annotated).

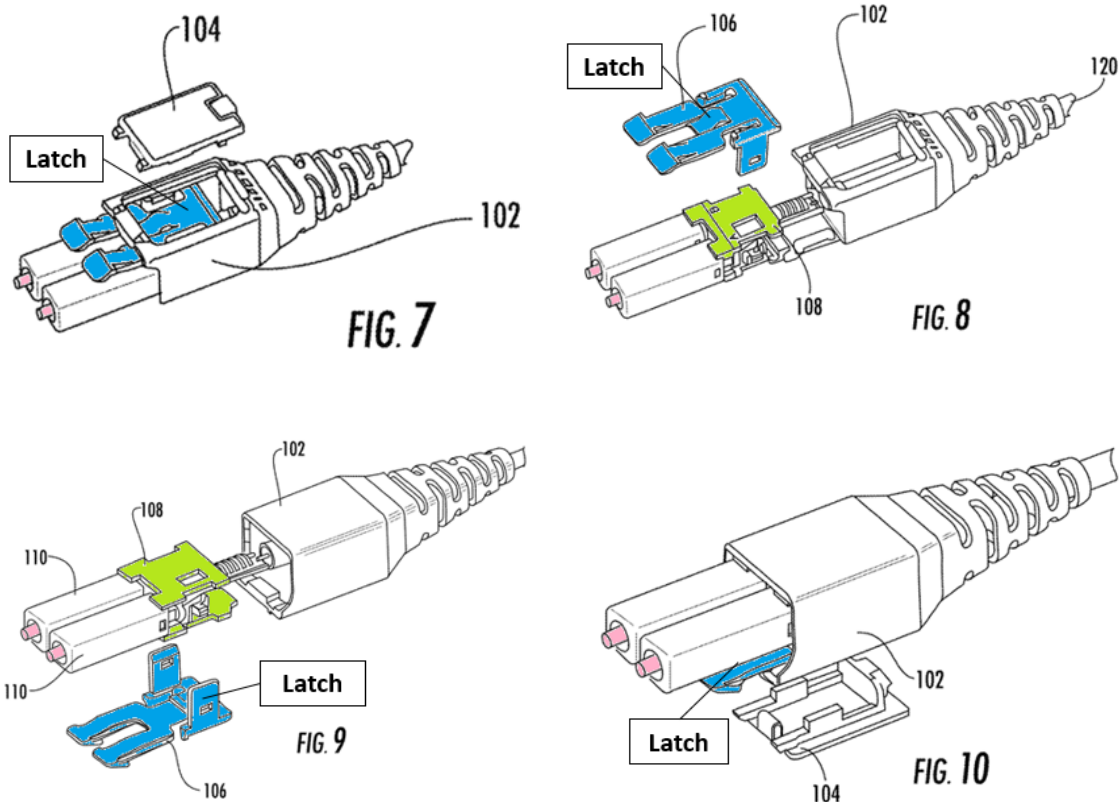
(c) MTC

A POSITA would have been motivated to make Veatch's latch 106 slidably coupled to the housing's top and bottom walls, as modified by Nguyen and Soubh, to secure the latch with less manipulation. §VIII.C.1; EX1004, ¶¶219-220.

Thus, the Veatch-Nguyen-Soubh combination renders [1.4] obvious.

6. [1.5]

Veatch discloses [1.5] in the form of its latch 106 being coupled to the top wall of fiber holder 108 to yield a first polarity (Figure 7) and being coupled to the bottom wall of fiber holder 108 to yield a second polarity (Figure 10). EX1004, ¶221; EX1007, 3:8-36, FIGS. 7-10. Once the Veatch-Nguyen-Soubh combination is made, a POSITA would have understood that Veatch's latch 106 would have been removably coupled to the top and bottom walls of a connector housing, as recited in claim 1. EX1004, ¶¶222-224.



EX1007, FIGS. 7-10 (annotated).

Thus, the Veatch-Nguyen-Soubh renders [1.5] obvious. EX1004, ¶¶225-226.

Accordingly, the Veatch-Nguyen-Soubh combination renders obvious each limitation of claim 1.

F. Claim 6

1. [6.1]

(a) Veatch-Nguyen-Soubh

The Veatch-Nguyen-Soubh combination discloses latch couplings on the first and second exterior walls of a connector housing. §VIII.E.4. Senko may argue that the Veatch-Nguyen combination does not disclose a latch coupling including a groove.

(b) Soubh

Soubh discloses latch couplings including a groove in the form of slots 180 defined in the top wall of the connector 114. EX1017, ¶60. Soubh's latch guides 178 are "fitted into and slid[e] along one or more slots 180 formed in the ridges 156 of the cable connector 114 ... to limit the movement of the latch 118." EX1017, ¶60; EX1004, ¶¶228-230.

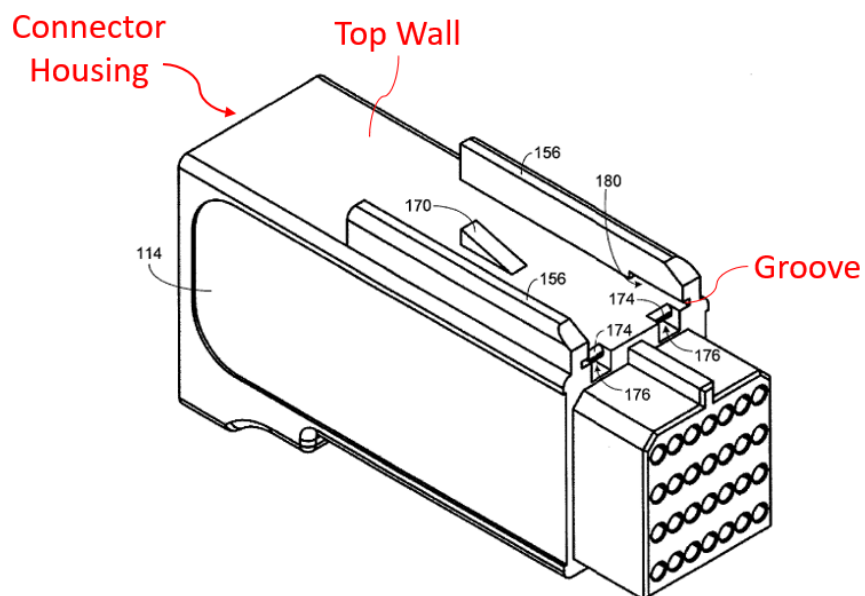


FIG. 15

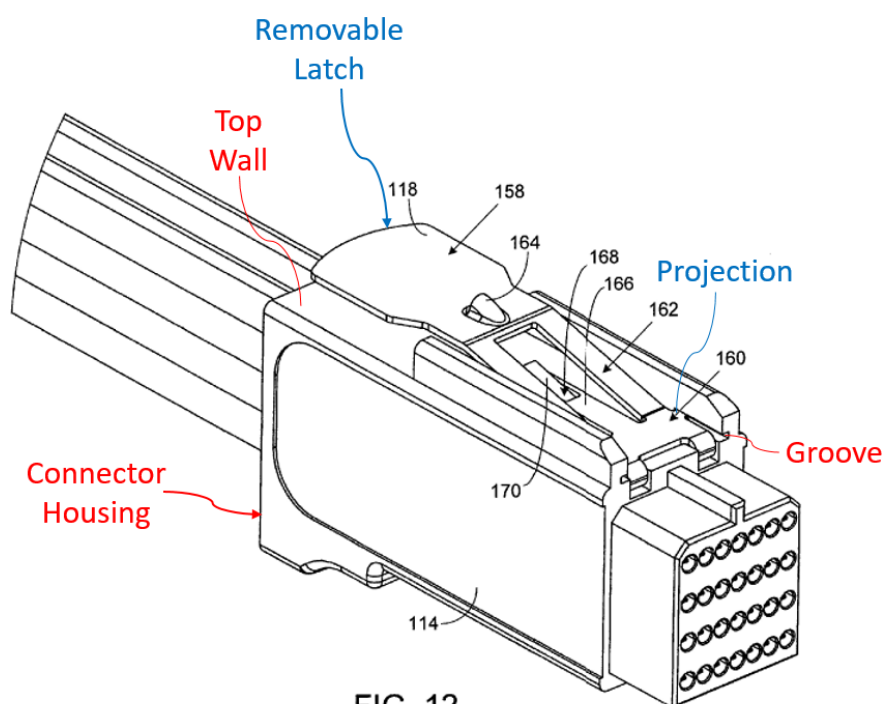
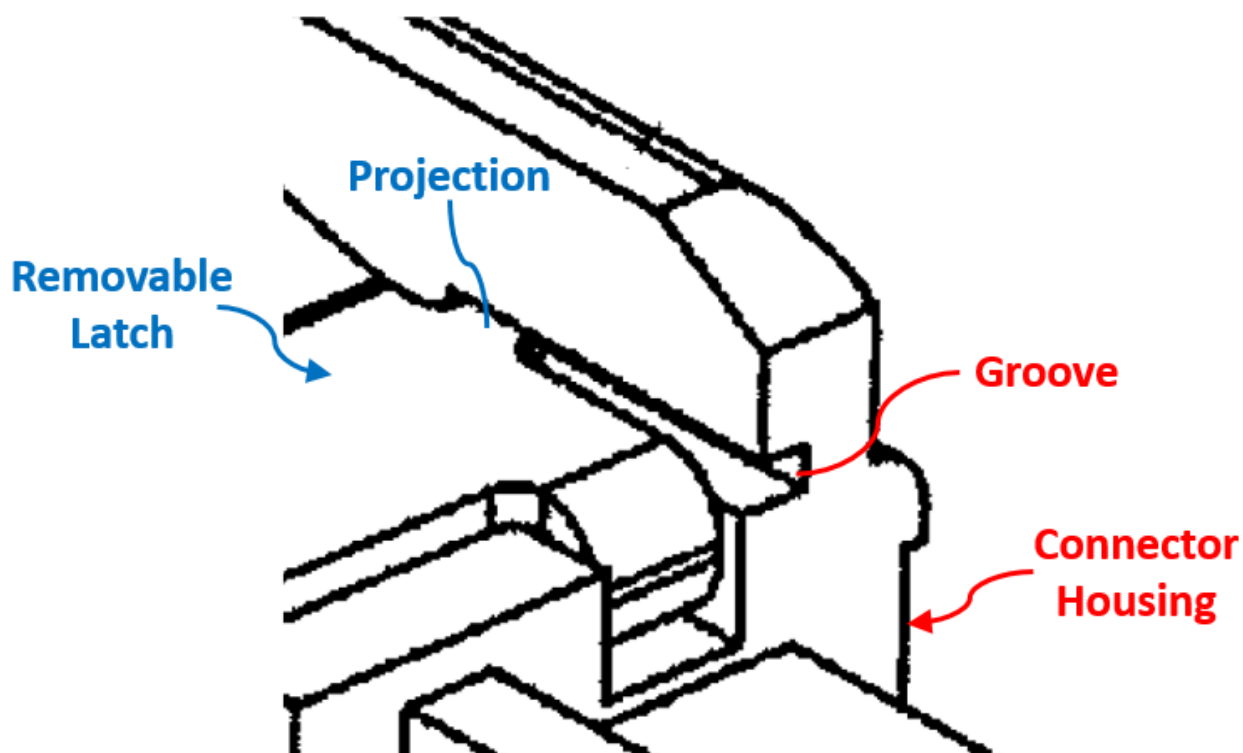


FIG. 12



EX1017, FIGS. 15 and 12 (annotated-partial).

(c) MTC

Once the Veatch-Nguyen-Soubh combination is made, a POSITA would have sought to replace the notches of Veatch's modified housing with grooves to allow Veatch's latch to be slidably coupled to either one of the housing's upper and lower walls with less manipulation. EX1004, ¶¶231-232.

Thus, the Veatch-Nguyen-Soubh combination renders [6.A] obvious.

2. [6.2]

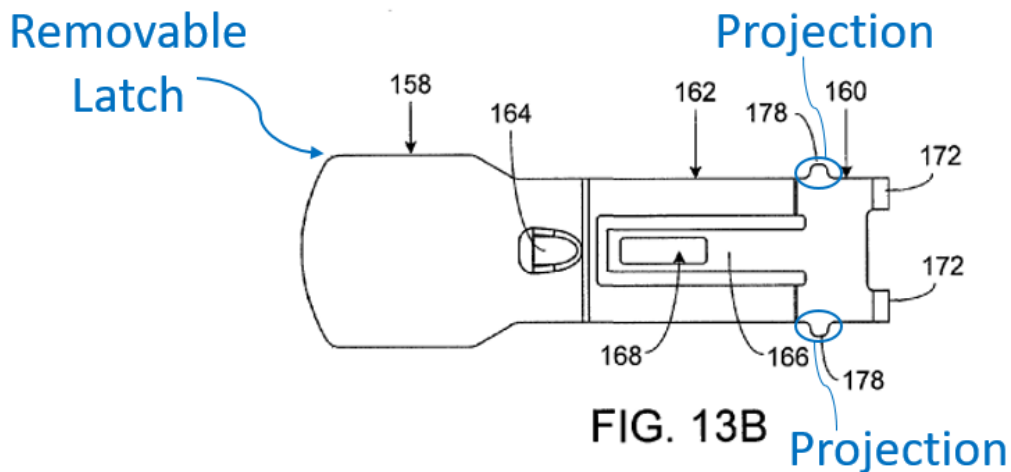
(a) Veatch-Nguyen

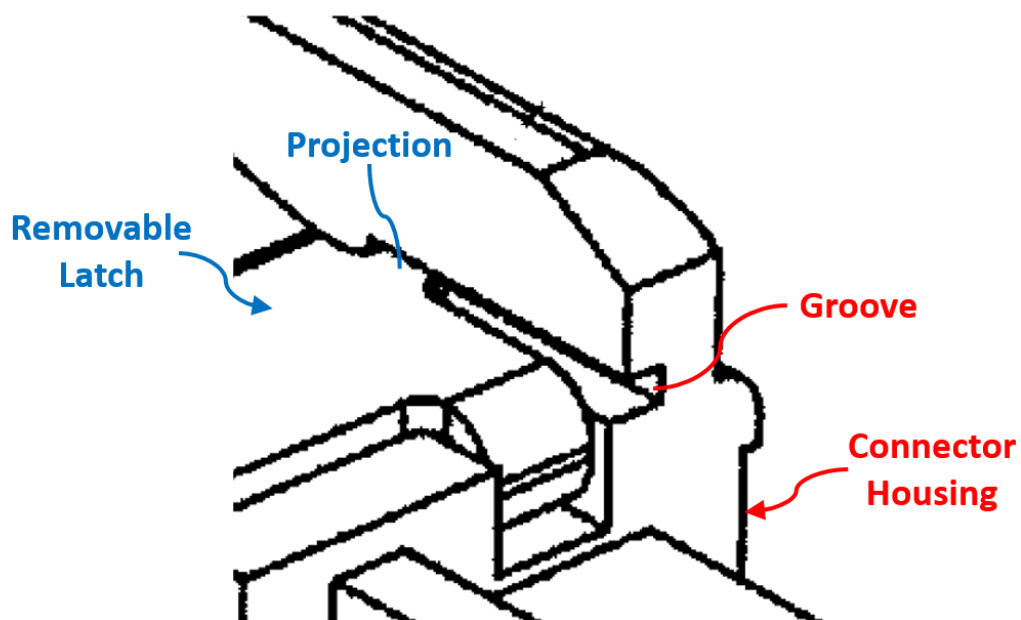
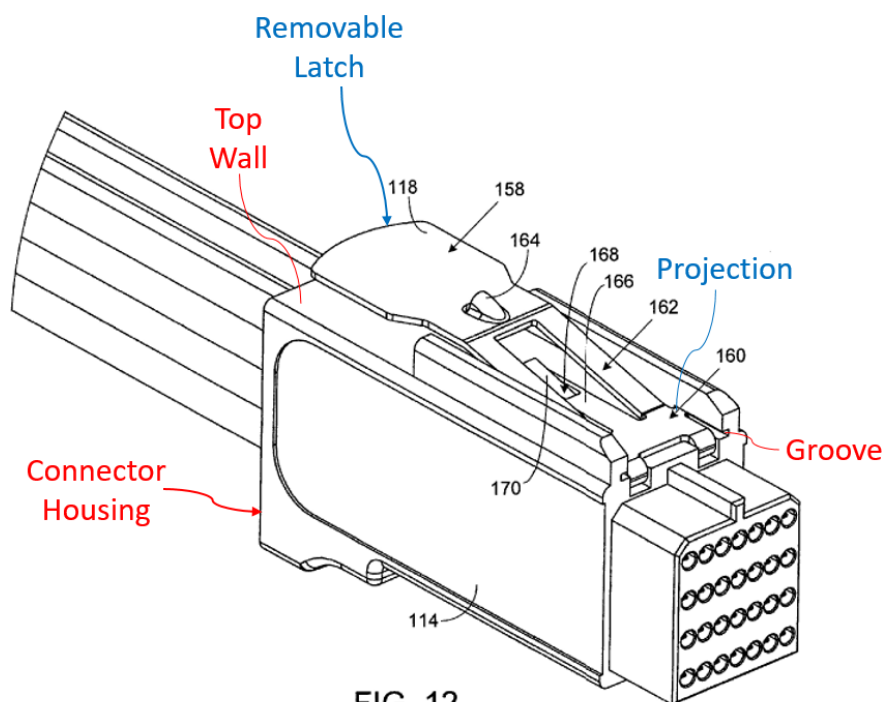
The Veatch-Nguyen-Soubh combination discloses a removable latch for engaging latch couplings on either of the housing's first and second exterior walls.

§VIII.E.5. Senko may argue that Veatch-Nguyen does not disclose the recited “projection” of [6.2]. EX1004, ¶223.

(b) Soubh

Once the Veatch-Nguyen-Soubh combination is made, Soubh discloses a projection, in the form of guides 178 of latch 118, for coupling with the grooves (slots 180) on the housing’s first exterior wall to yield the first polarity and on the housing’s second exterior wall to yield the second polarity. EX1004, ¶¶234-235; EX1017, ¶60.





EX1017, FIGS. 13B and 12 (annotated-partial).

(c) MTC

A POSITA would have sought to replace Veatch's mounting tabs with a projection slidably coupled to the connector's housing, as taught by Soubh, to secure the latch with less manipulation. §VIII.C.1; EX1004, ¶¶236-237.

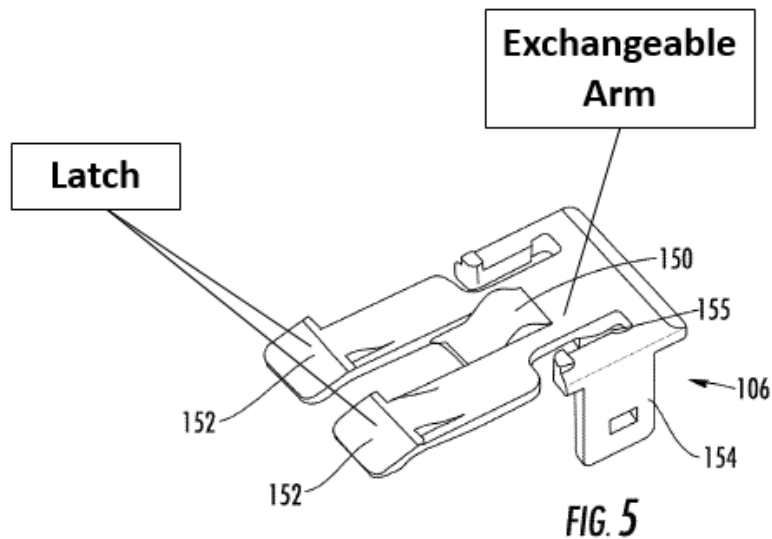
Thus, the Veatch-Nguyen-Soubh combination renders [6.2] obvious.

G. Claim 9

1. [9.P]

The preamble should not be considered limiting. But, if found limiting, Veatch discloses a reversible polarity fiber optic connector. §VIII.E.1; EX1007, 2:6-13; EX1004, ¶¶238-241.

The preamble of claim 9 is similar to [1.P] but further recites “with exchangeable arms for changing connector type.” EX1001, 14:65–66. To the extent this language is limiting, Veatch renders obvious the “exchangeable arms.” EX1004, ¶240. Figure 5 shows Veatch's discloses an exchangeable arm having a latch-configuration in the form of latch 106. EX1007, 2:64-3:16. To change connector type, a POSITA would have found it obvious to provide Veatch's exchangeable arm with a recess-configuration for connecting to a corresponding latch of an adapter receptacle, as a mere reversal of parts. EX1004, ¶240.



EX1007, FIG. 5 (annotated).

Thus, Veatch renders obvious [9.P].

2. [9.1]

Elements [9.1]/[1.1] are identical. EX1001, Reexamination Cert., 1:23, 1:48.

Veatch discloses “first and second optical ferrules.” §VIII.E.2; EX1004, ¶242.

3. [9.2]

Elements [9.2]/[1.2] are patentably indistinct. EX1001, Reexamination Cert., 1:24-1:33, 1:49-57. The Veatch-Nguyen combination renders [9.2] obvious.

§VIII.E.3; EX1004, ¶¶243-246.

4. [9.3]

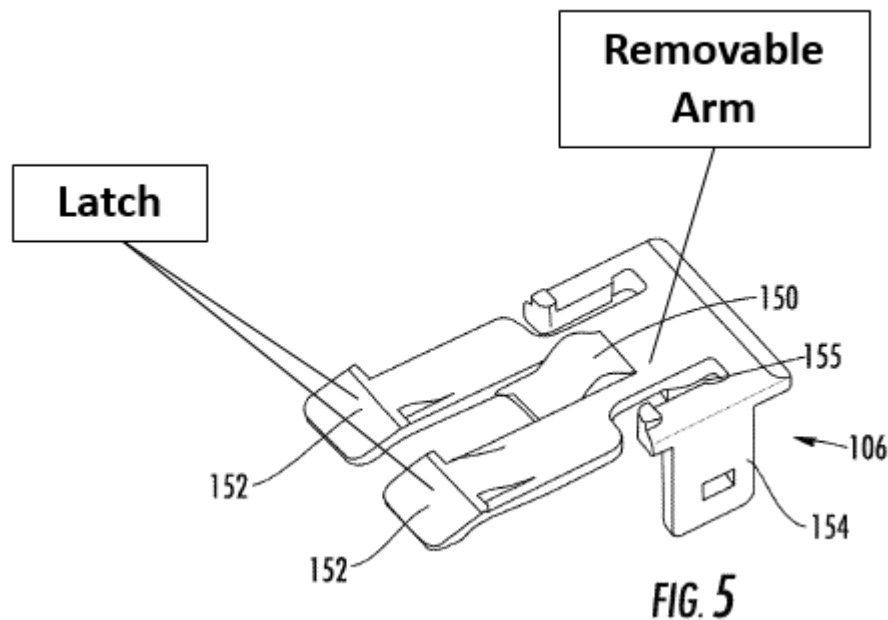
Elements [9.3]/[1.3] are patentably indistinct. EX1001, Reexamination Cert., 1:34-35, 1:58-61. The Veatch-Nguyen-Soubh combination renders [9.3] obvious.

§VIII.E.4; EX1004, ¶¶247-249.

5. [9.4]

Elements [9.4]/[1.4] are similar, except that [1.4] recites “a removable latch,” while [9.4] recites “a removable arm ... includ[es] either a latch or a latch recess.” EX1001, Reexamination Cert., 1:36-38, 1:62-65.

Once the Veatch-Nguyen-Soubh combination is made, Veatch discloses “a removable arm ... including ... a latch” in the form of a removable arm being slidably coupled to the top and bottom walls of Veatch’s modified housing and including a latch in the form of arms 152. §VIII.E.5; EX1004, ¶¶250-254.



EX1007, FIG. 5 (annotated).

Thus, the Veatch-Nguyen- Soubh combination renders [9.4] obvious.

6. [9.5]

Elements [9.5]/[1.5] are patentably indistinct. EX1001, Reexamination Cert., 1:39-45, 1:66-2:5. The Veatch-Nguyen-Soubh combination renders [9.5] obvious. §VIII.E.6; EX1004, ¶¶255-256.

Accordingly, the Veatch-Nguyen-Soubh combination renders obvious claim 9.

H. Claim 11

1. [11.1]

A POSITA would have considered the “receiving track in the coupling surface” of claim 11 to be equivalent to the “groove” of claim 6. EX1004, ¶258; EX1001, 7:60-67, 8:37-45. When Veatch, Nguyen, and Soubh are combined, Soubh discloses the recited “receiving track” in the form of slots 180. §VIII.F.1; EX1004, ¶¶259-260.

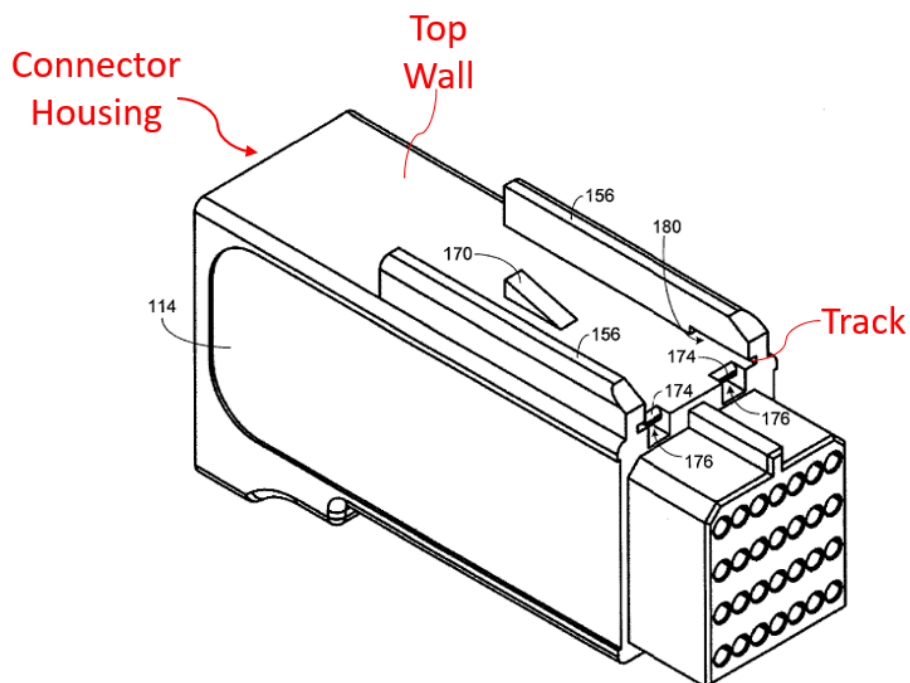


FIG. 15

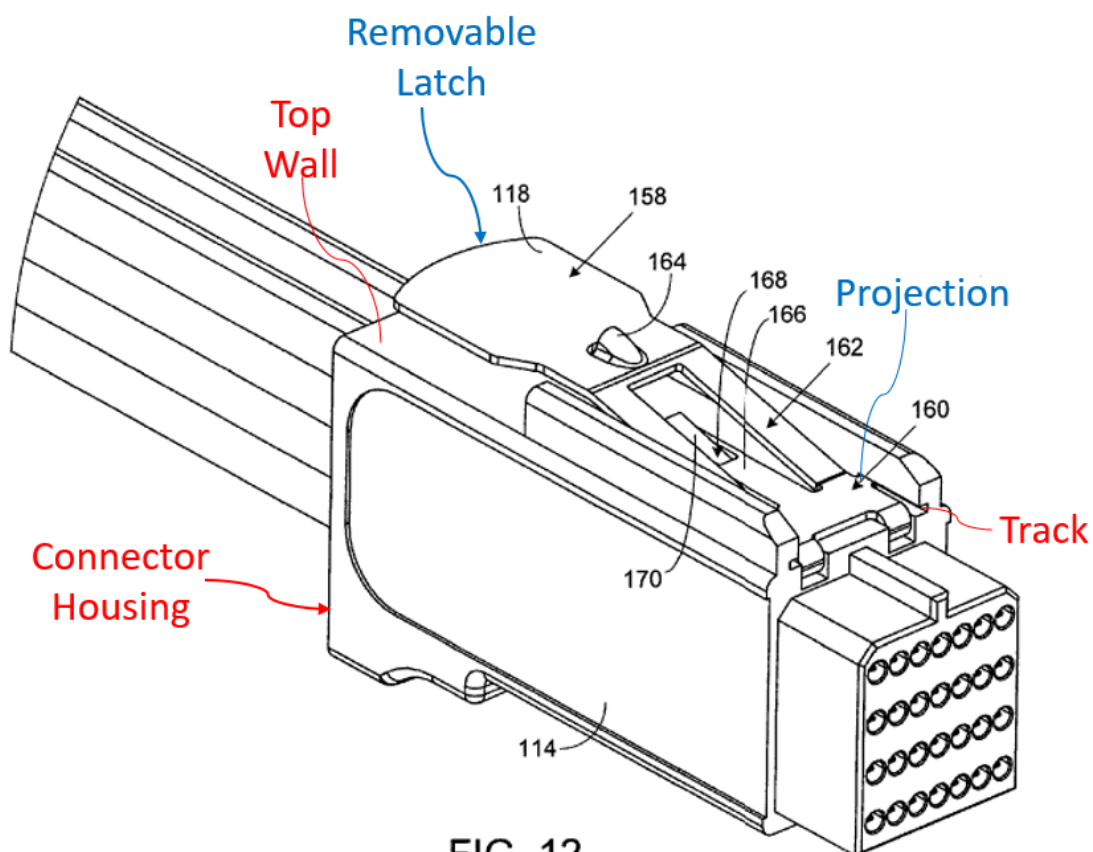
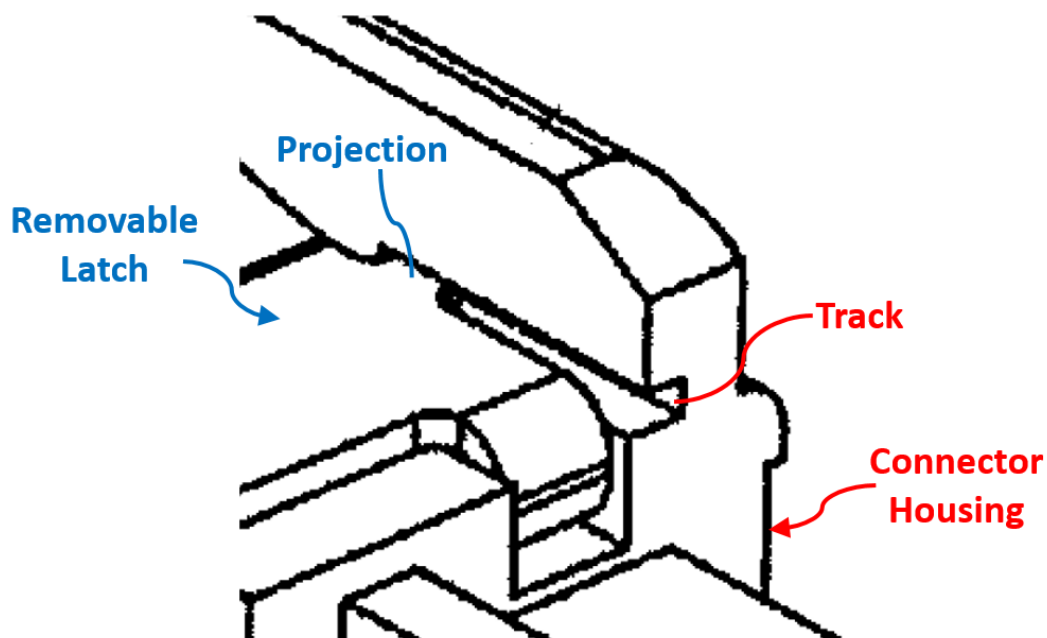


FIG. 12

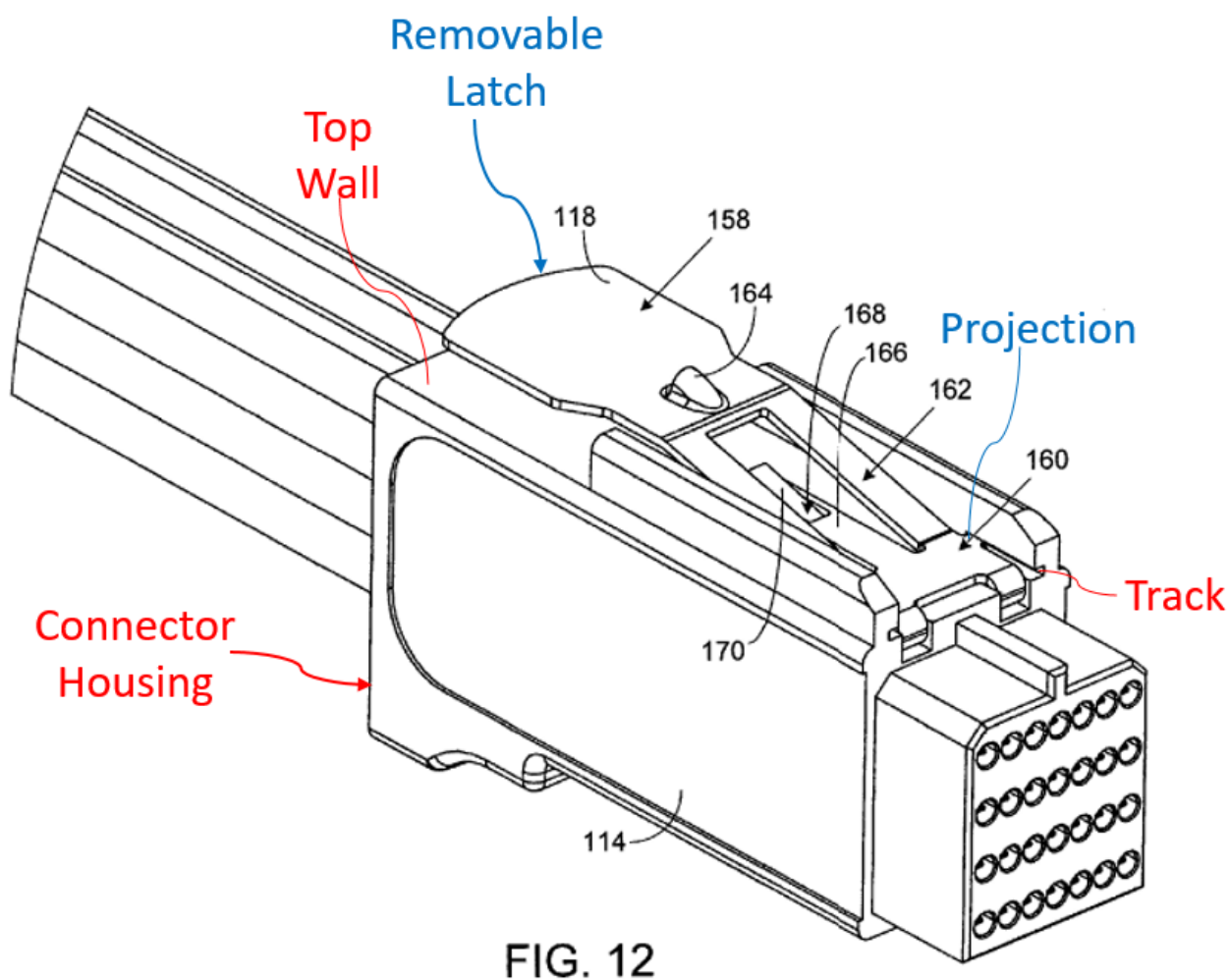
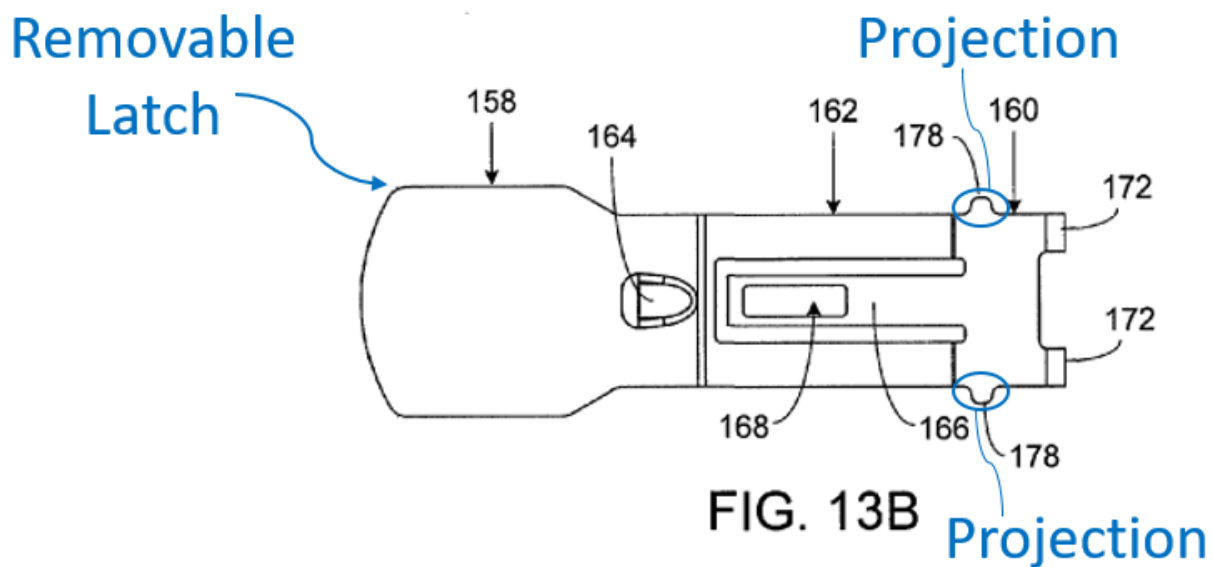


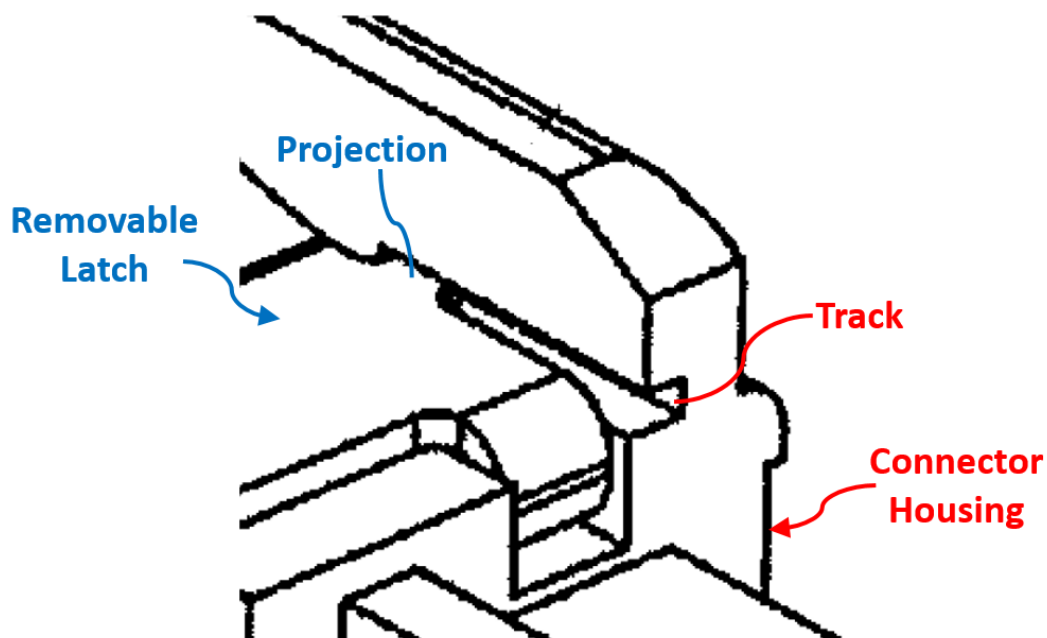
EX1017, FIGS. 15 and 12 (annotated-partial).

A POSITA would have been motivated to combine the teachings of Soubh with Veatch-Nguyen. §VIII.C.1. Thus, the Veatch-Nguyen-Soubh combination renders [11.1] obvious.

2. [11.2]

A POSITA would have considered the “projection” of the “removable arm” of claim 11 to be equivalent to the “projection” of claim 6. EX1004, ¶261; EX1001, 7:60-67, 8:37-45. When Veatch, Nguyen, and Soubh are combined, Soubh discloses the recited “projection” in the form of guides 178. §VIII.F.2; EX1004, ¶¶262-263.





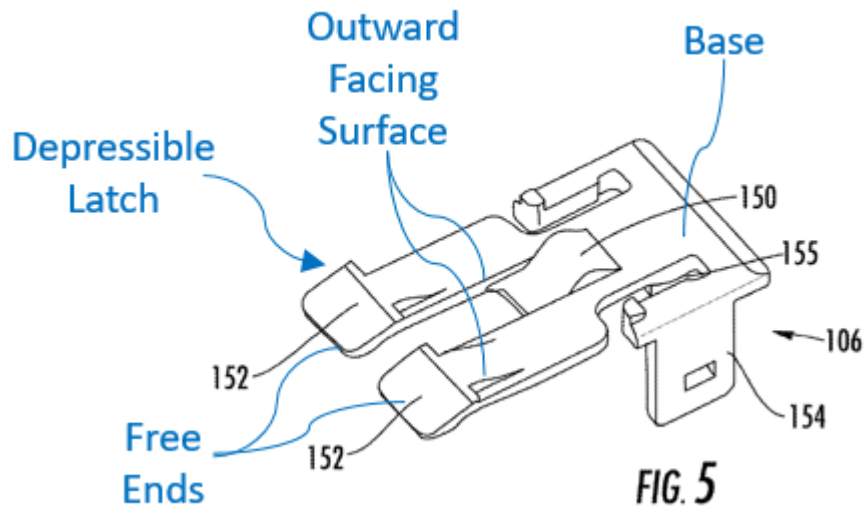
EX1017, FIGS. 13B and 12 (annotated-partial).

A POSITA would have been motivated to combine the teachings of Soubh with Veatch-Nguyen. §VIII.C.1. Thus, the Veatch-Nguyen-Soubh combination renders [11.2] obvious.

I. Claim 27

1. [27.1]

Veatch discloses a latch comprising a base portion EX1007, FIG. 5. Veatch's latch 106 comprises a depressible latch in the form of resilient arms 152 that extend from a base portion of latch 106. EX1007, 2:54-56. Veatch's arms 152 "deflect" when the latch's ridge 150 is deflected by the cover's nub 146. EX1007, 2:56-61; EX1004, ¶¶265-267.



EX1007, FIG. 5 (annotated).

Thus, Veatch discloses [27.1].

2. [27.2]

(a) Veatch

Veatch's latch arms 152 include a free end, an end portion connected to the base portion, and an outward facing longitudinal surface. EX1007, FIG. 5; EX1004, ¶268. Because Veatch's latch arms 152 extend forward, Senko may argue that Veatch does not disclose a depressible latch having a *front* end portion connected to the base portion and a free *rear* end portion, as recited in claim 27.

(b) Soubh

When Veatch, Nguyen, and Soubh are combined, Soubh discloses a depressible latch (latch 118) having a front end portion connected to the base portion (base section 160 and anchor 166), a free rear end portion (head section 158) spaced apart from the front end portion along the axis and being raised relative to

the front end portion, and an outward facing longitudinal surface (body section 162) extending along the axis from the front end portion to the free rear end portion (head section 158) as shown below. §VIII.C.2; EX1004, ¶¶269-273; EX1017, ¶53.

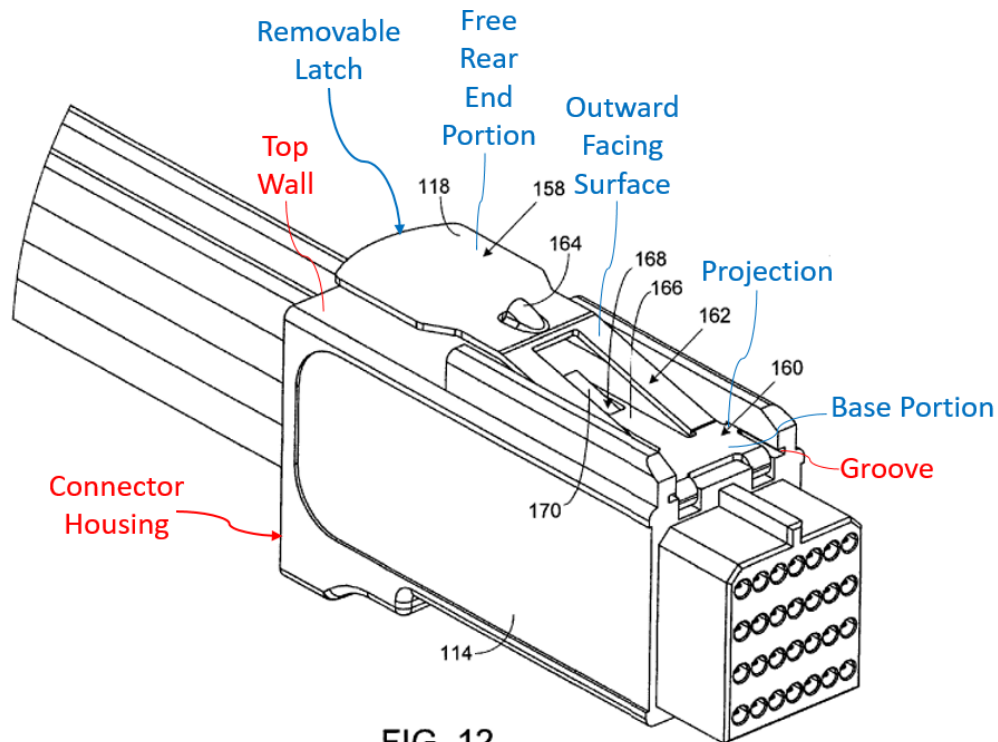
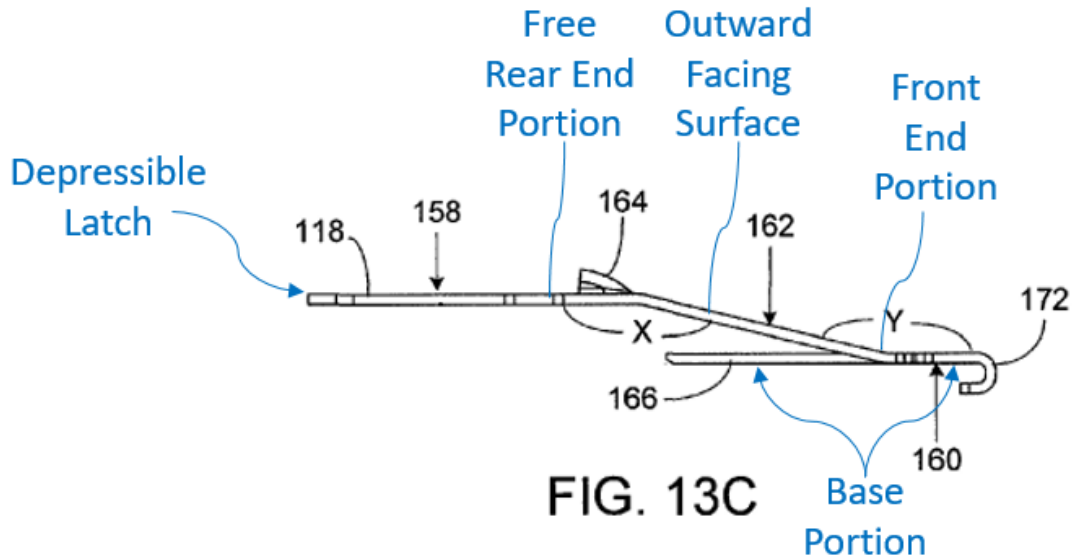


FIG. 12
EX1017, FIGS. 13C and 12 (annotated).

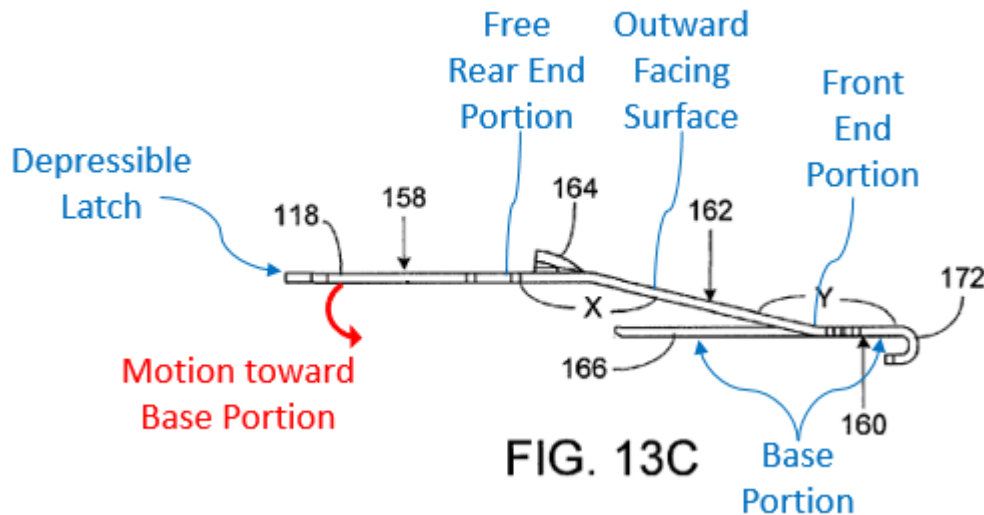
(c) MTC

A POSITA would have sought to extend Veatch's latch arms rearward, as taught by Soubh, to allow Veatch's boot 102 to deflect the latch arms, without cover 104. §VIII.C.2; EX1004, ¶¶274-275.

Thus, the Veatch-Nguyen-Soubh combination renders [27.2] obvious.

3. [27.3]

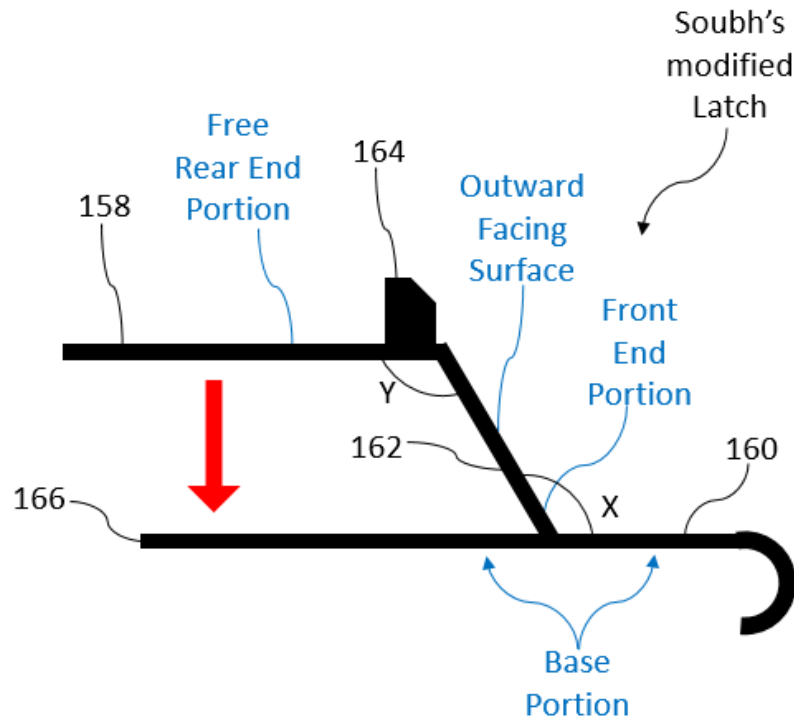
When Veatch, Nguyen, and Soubh are combined, Soubh discloses a free rear end portion (Soubh's head section 158) that can be depressed toward the base portion (Soubh's base section 160 and anchor 166) at least in a vertical direction, as recited in claim 27. EX1004, ¶276; EX1017, ¶¶55, 62.



EX1017, FIG. 13C (annotated).

A POSITA would have also found it obvious to bend the angles of Soubh's latch body section 162 with respect to base/head sections 158/160 or extend the latch's anchor 166 further rearward to further stabilize the latch in the Veatch-

Nguyen-Soubh combination. EX1004, ¶277. Doing so would locate the latch's base portion directly beneath the latch's free end portion, as shown below, thereby allowing the free end portion be depressed downward directly toward the base portion. EX1004, ¶¶277-278.



EX1004, ¶277: Soubh's Modified Latch.

Thus, the Veatch-Nguyen-Soubh combination renders obvious [27.3].

J. Claim 30

1. Veatch-Nguyen-Soubh

When the Veatch-Nguyen-Soubh combination is made, Soubh discloses that a "latch coupling includes a groove" and that a "removable latch comprises a protrusion on the base portion configured to be inserted into the groove." §VIII.F; EX1004, ¶279.

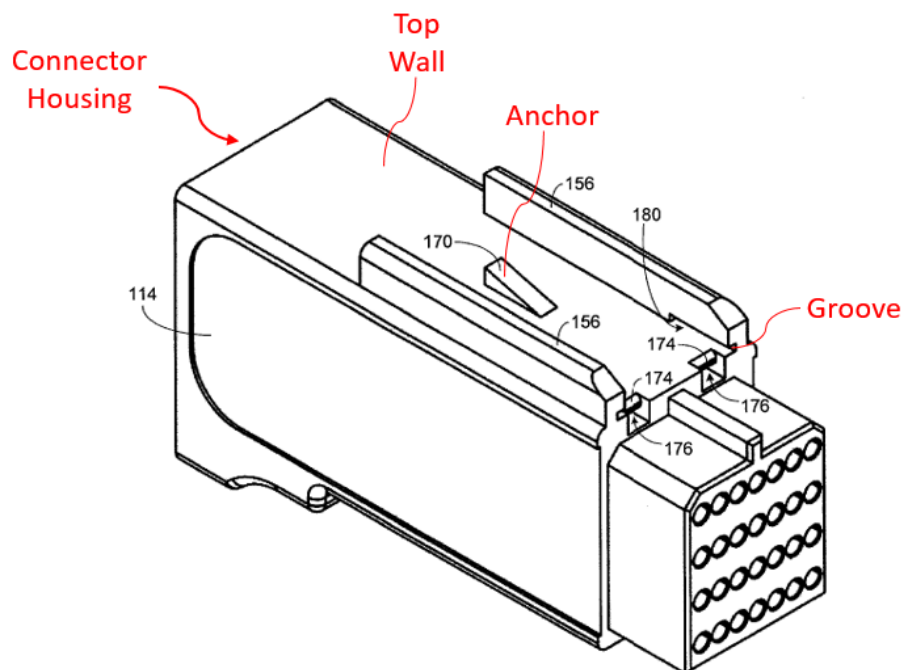


FIG. 15

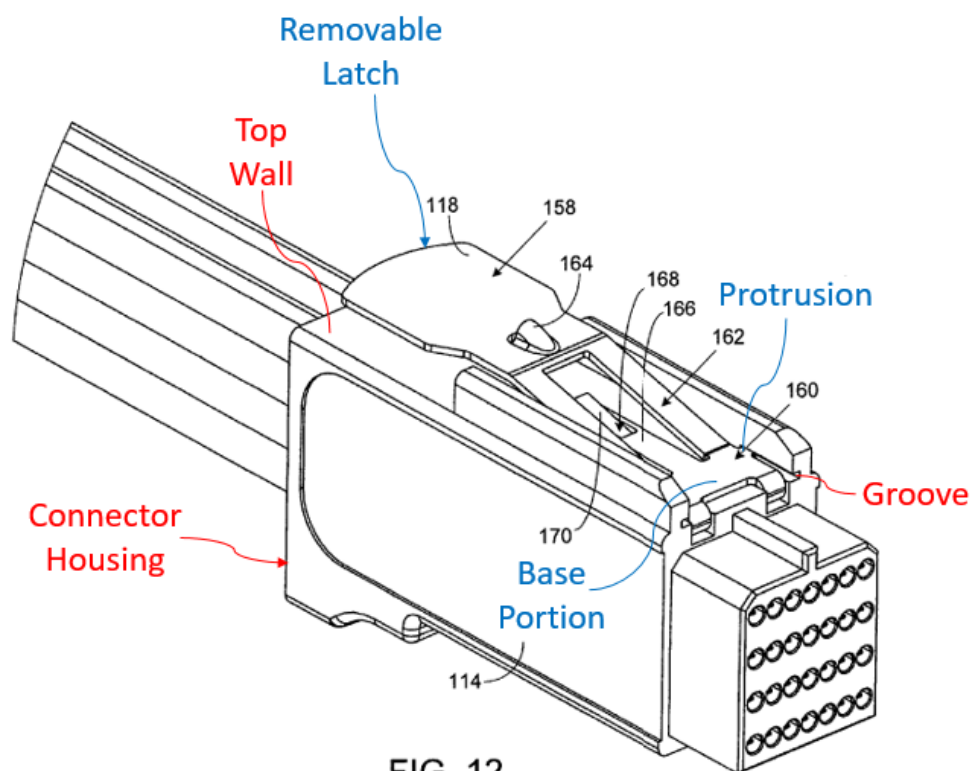
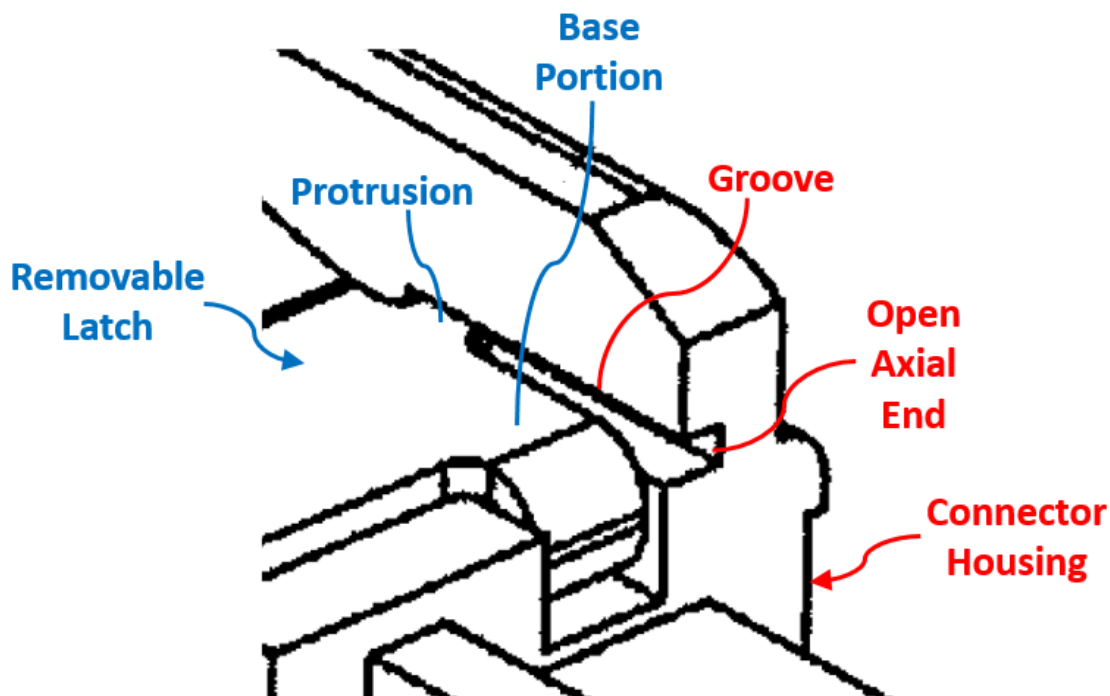


FIG. 12



EX1017, FIGS. 15 and 12 (annotated-partial).

Soubh further discloses the groove (slots 180) having an open axial end and a protrusion (guides 178) on the base portion configured to be received through the open end. EX1017, ¶62; EX1004, ¶¶280-282.

2. MTC

A POSITA would have been motivated to combine the teachings of Soubh's slots/guides with Veatch-Nguyen. §VIII.C.1. EX1004, ¶¶283-284. Thus, the Veatch-Nguyen-Soubh combination renders claim 30 obvious.

K. Claim 32

1. Veatch

Veatch is silent about the pitch between the ferrules in bodies 110. Senko may argue that Veatch does not disclose first and second optical ferrules having a pitch of about 4.8 mm or less.

2. Nguyen

Nguyen discloses a ferrule pitch (3.8 mm) falling within the recited pitch of claim 32. EX1008, ¶37 (“a pitch (e.g., center-to-center spacing) of the ferrules 602 may be about 3.8 mm.”); EX1004, ¶¶285-287.

3. MTC

A POSITA would have sought to reduce the pitch between Veatch’s optical ferrules to be 4.8 mm or less, as taught by Nguyen, to reduce the connector’s footprint. §VIII.A; EX1004, ¶¶288-289.

Thus, the Veatch-Nguyen-Soubh combination renders claim 32 obvious.

L. Claim 33

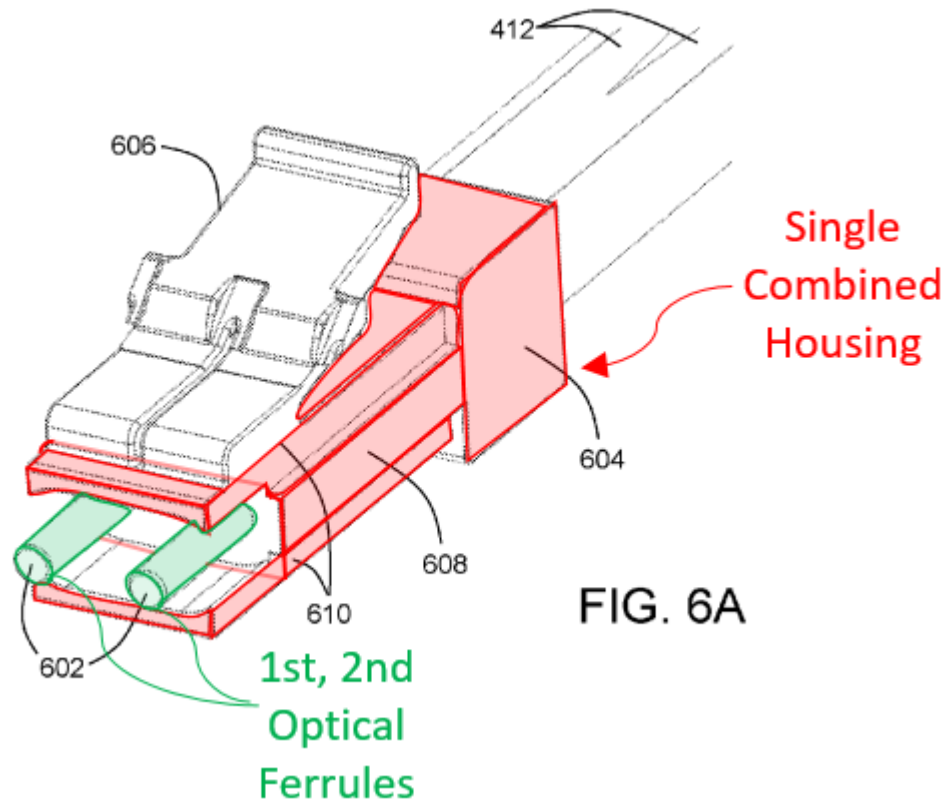
1. Veatch

Veatch’s fiber holder 108 and bodies 110 correspond to the recited “connector housing.” §VIII.E.2; EX1004, ¶¶290-291.

Senko may argue that Veatch’s connector housing does not include a single housing for each of the first and second optical ferrules.

2. Nguyen

Once the Veatch-Nguyen-Soubh combination is made, Nguyen discloses a single combined housing for the first and second optical ferrules in the form of housing 604. EX1008, ¶¶37-40; EX1004, ¶¶292-294.



EX1008, FIG. 6A (annotated).

3. MTC

A POSITA would have been motivated to replace Veatch's fiber holder 108 and connectors 110 with a single housing, as taught by Nguyen, to provide a connector with fewer parts and reduced footprint. §VIII.A; EX1004, ¶¶295-296.

Thus, the Veatch-Nguyen-Soubh combination renders obvious claim 33.

M. Claim 34

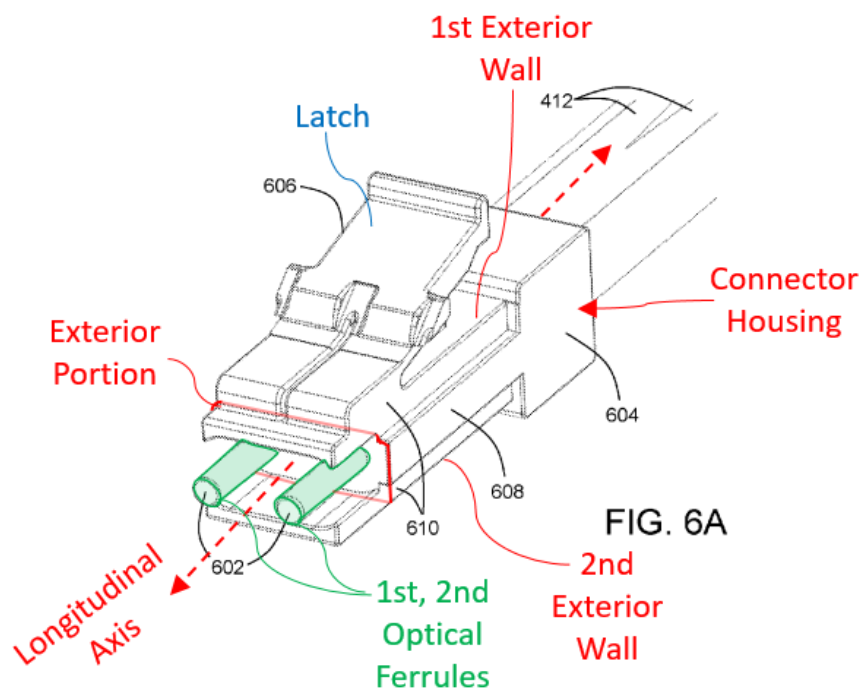
1. Veatch

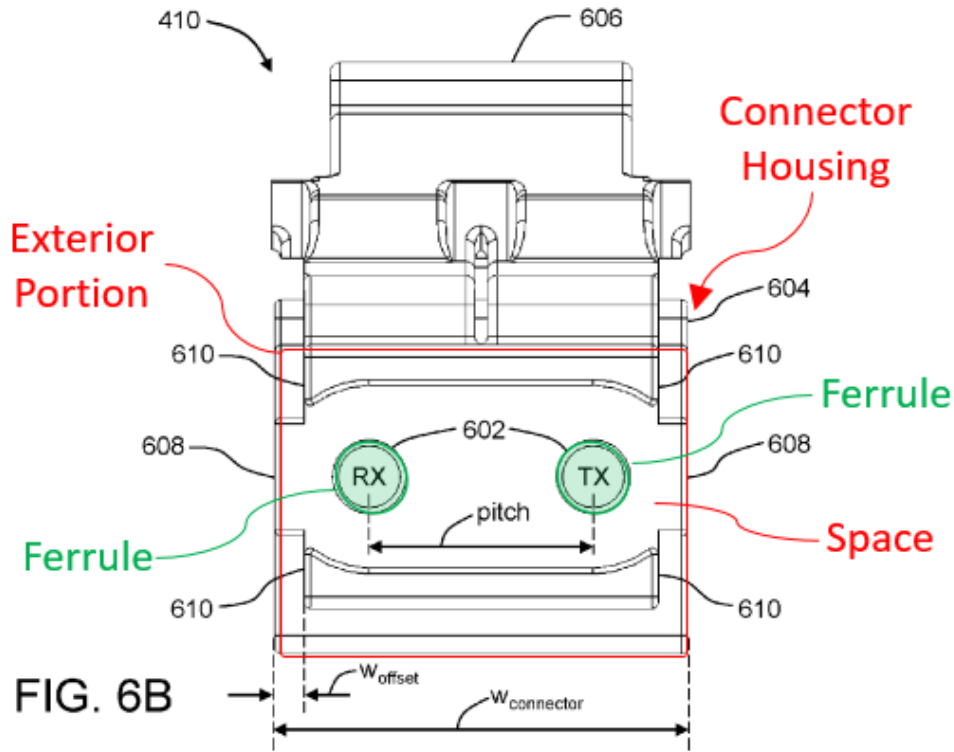
Veatch's fiber holder 108 and bodies 110 correspond to the recited "housing." §VIII.E.2; EX1004, ¶¶297-298.

Senko may argue that Veatch's housing does not include an exterior portion radially overlapping a longitudinal segment of each of the first and second optical ferrules with respect to the axis.

2. Nguyen

Once the Veatch-Nguyen-Soubh combination is made, Nguyen discloses that the exterior portion of housing 604 radially overlaps a longitudinal segment of each of the optical ferrules 602 with respect to the axis, as annotated below. EX1008, ¶38; EX1004, ¶¶299-300.





EX1008, FIGS. 6A-B (annotated).

3. MTC

A POSITA would have been motivated to replace Veatch's fiber holder 108 and connectors 110 with a single housing, as taught by Nguyen, to provide a connector with fewer parts and reduced footprint. §VIII.A; EX1004, ¶¶301-302.

Thus, the Veatch-Nguyen-Soubh combination renders obvious claim 34.

IX. VEATCH-NGUYEN-SOUBH IN VIEW OF SUZIC RENDERS OBVIOUS CLAIMS 2 AND 26

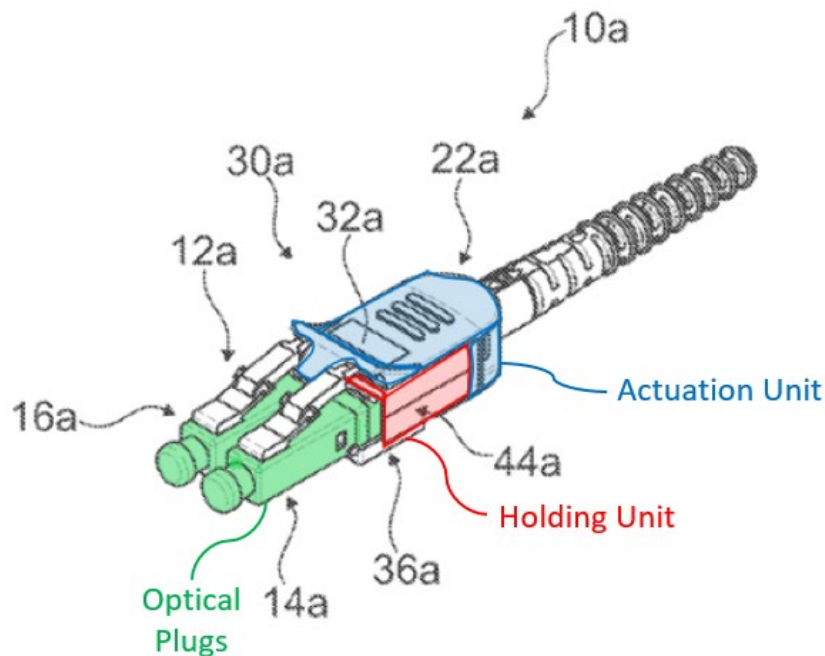
A. Motivation to Combine

A POSITA would have found it obvious to combine Veatch, Nguyen, Soubh and Suzic to arrive at the claims addressed below prior to the '230 patent filing date.

EX1004, ¶303. Particularly, a POSITA would have been motivated to modify the

shape of the latch's protrusion and the housing's recess/groove in the Veatch-Nguyen-Soubh combination to be dovetail-shaped, as taught by Suzic, to minimize any inadvertent sliding between the latch and housing. EX1004, ¶304.

Suzic's LC duplex connector 10 includes a holding unit 44a for holding plug elements 14a, 16a and an actuation unit 22a for securing plug elements 14a, 16a to holding unit 44a. EX1010, ¶¶27-45. Suzic describes using dovetail connection elements 50a and 52a on the top and bottom walls of Suzic's holding unit 44a to receive a corresponding dovetail connection 54a of actuation unit 22a. EX1010, ¶¶38-45. A POSITA would have recognized that Suzic's holding unit 44a is analogous to Veatch's fiber holder 108, as modified by Nguyen-Soubh, and that Suzic's actuation unit 22a is analogous to Veatch's latch 106. EX1004, ¶¶305-306.



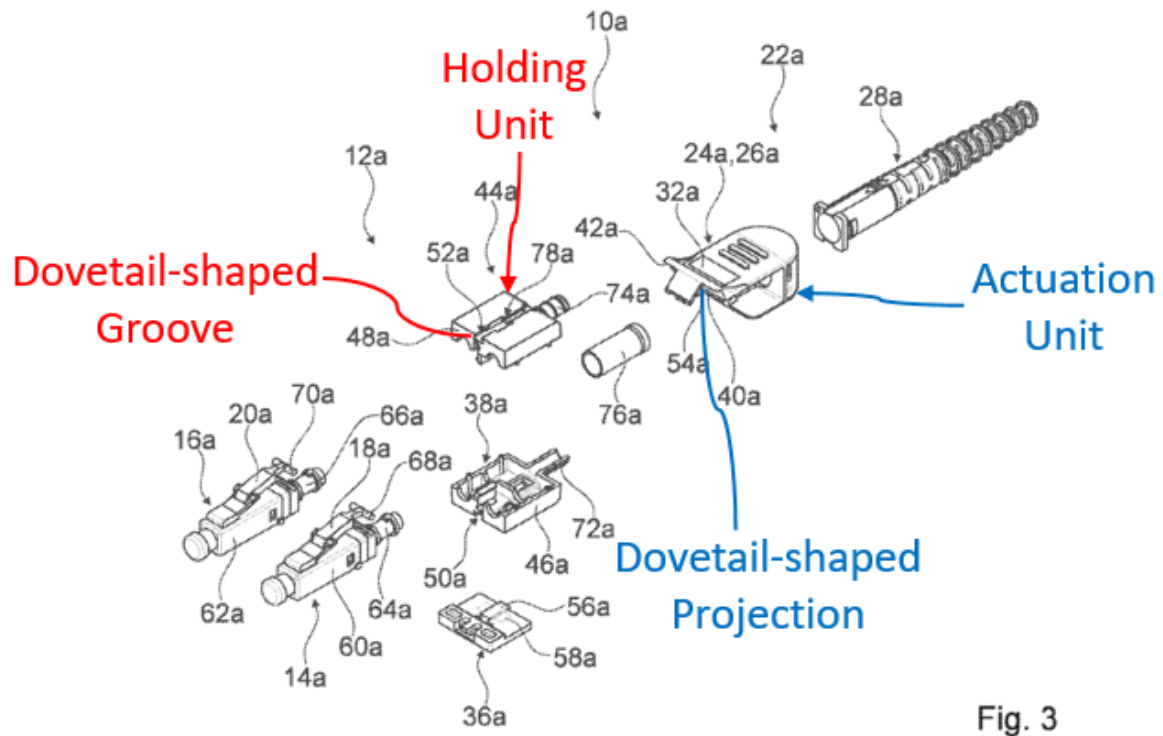
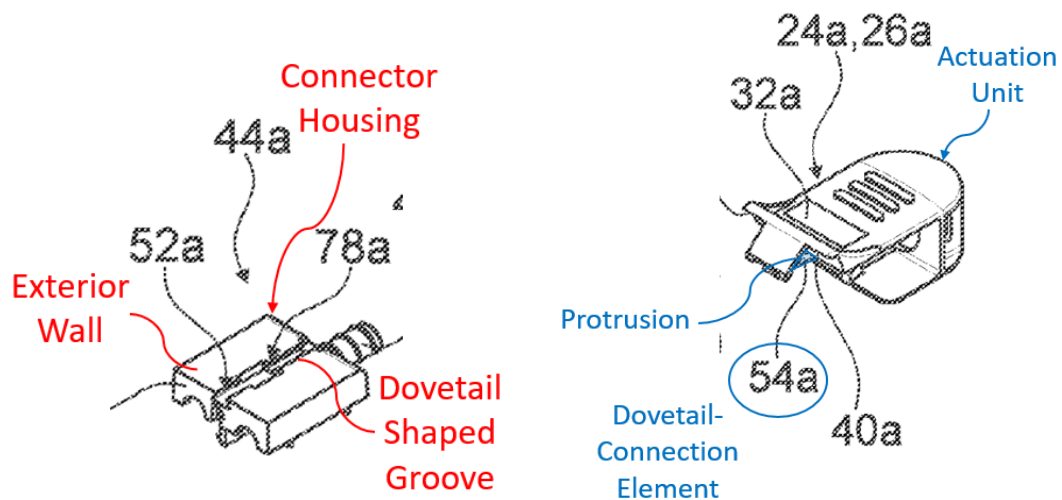


Fig. 3



EX1010, FIGS. 1 and 3 (annotated-partial).

A POSITA would have understood that the shape of Suzic’s dovetail connector elements 52A/54A—groove/projection with angled walls—provides a “form-fit” coupling that minimizes inadvertent sliding. EX1010, ¶41; EX1004,

¶¶307-308. Accordingly, a POSITA would have been motivated to modify the shape of the latch's protrusion and the housing's recess/groove in the Veatch-Nguyen-Soubh combination to be dovetail, as taught by Suzic, to provide a form-fit coupling that generates more resistance against inadvertent sliding between the latch and the housing. EX1004, ¶¶307-308.

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in combining the teachings of Suzic's dovetail connection elements with Veatch-Nguyen-Soubh because Veatch's latch 106 would perform as originally intended after being coupled to the housing via a dovetail connection. EX1004, ¶¶309-310. All these modifications would have simply been applying one known coupling technique (Suzic's dovetail connection) to a similar device (Veatch's modified connector), yielding the predictable result of securing the latch to the housing. EX1004, ¶¶310-311.

C. Claim 2

1. [2.1]

(a) Veatch-Nguyen-Soubh

Once the Veatch-Nguyen-Soubh combination is made, Soubh discloses latch couplings on the first and second exterior walls of the connector housing that include a "recess" in the form of slots 180. §VIII.F.1; EX1017, ¶60; EX1004, ¶¶313-315.

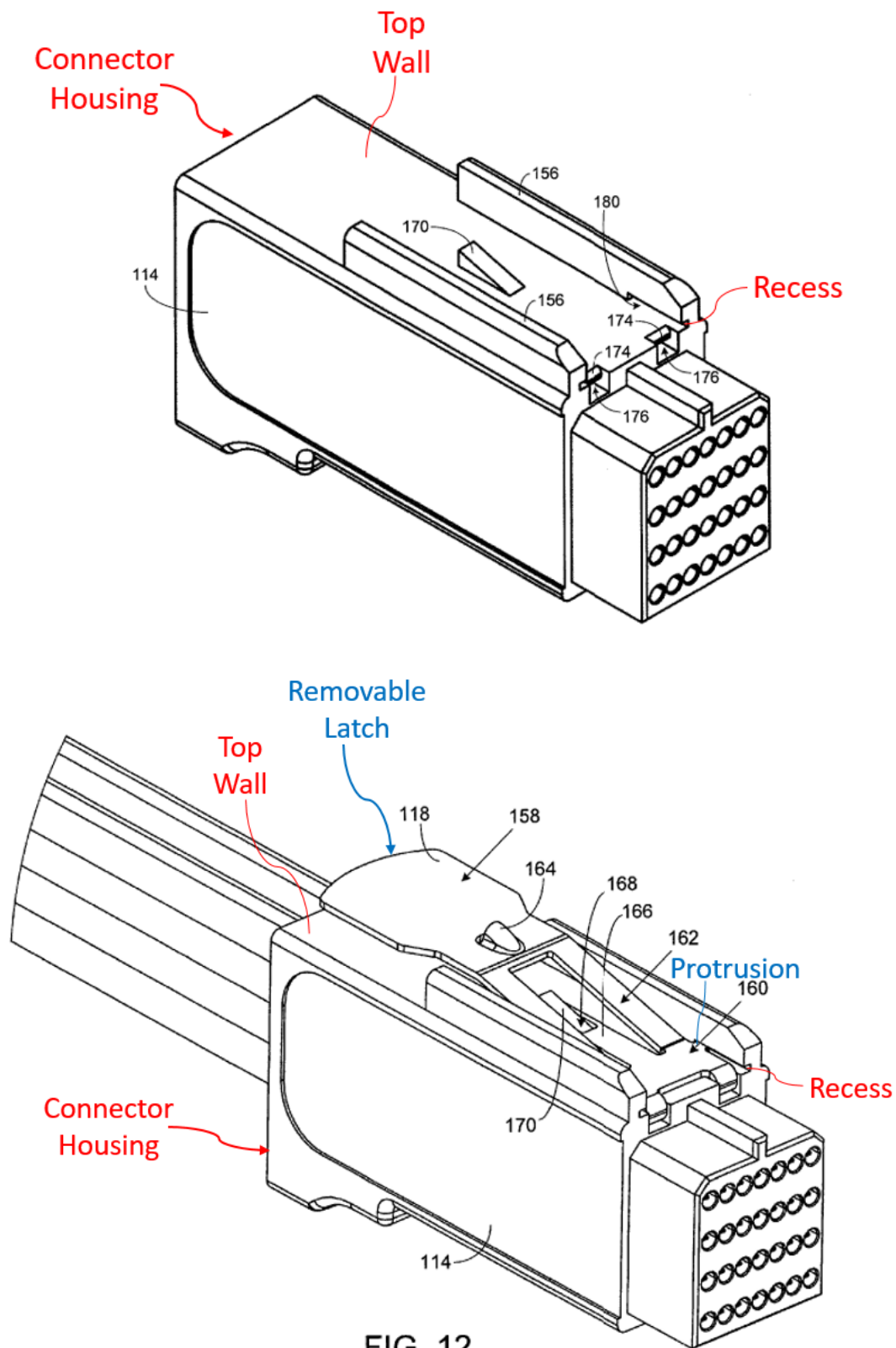
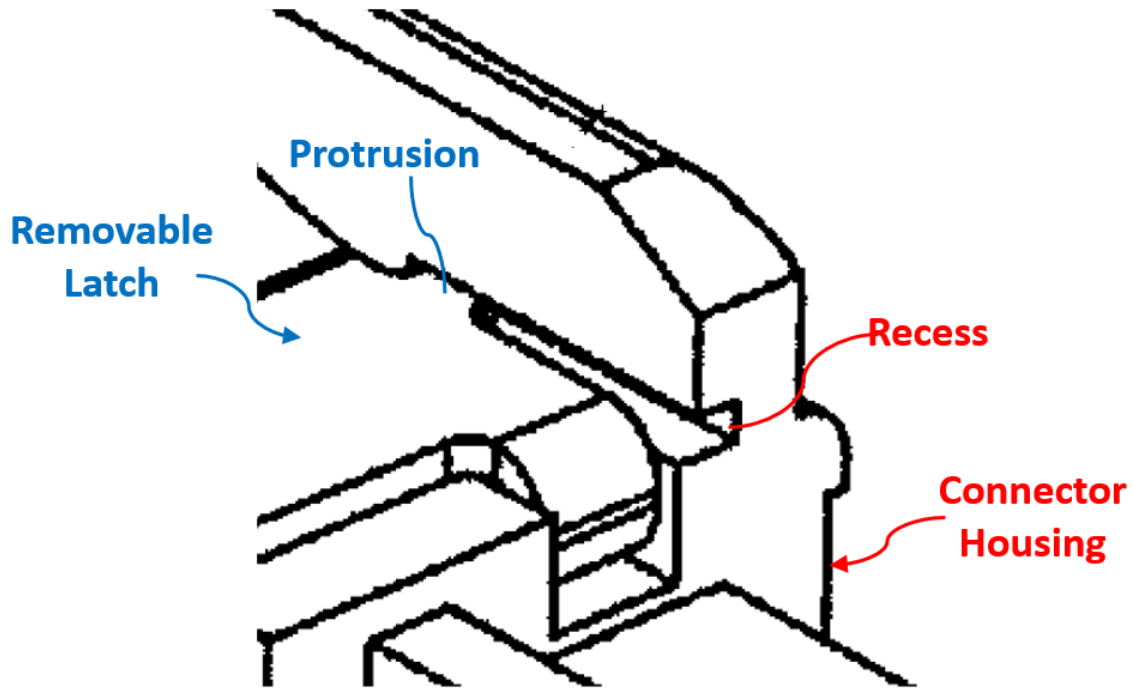


FIG. 12

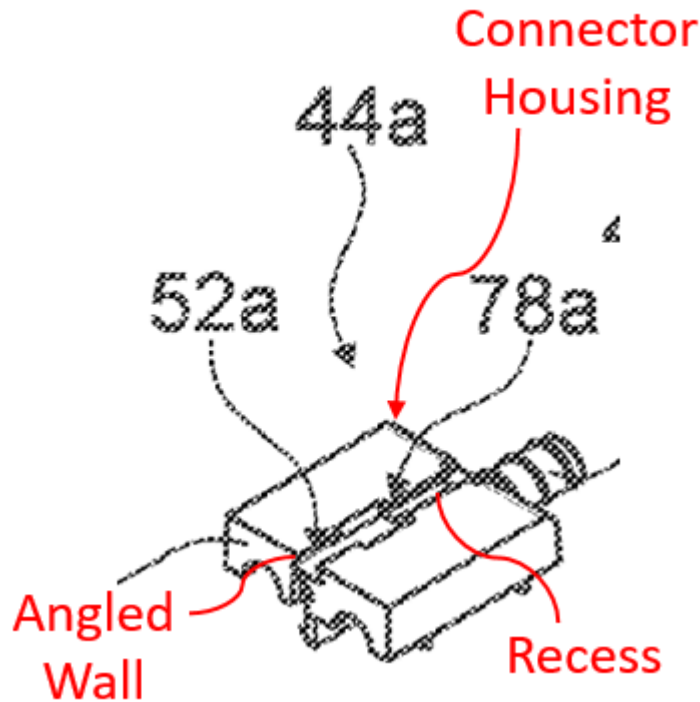


EX1017, FIGS. 15 and 12 (annotated-partial).

Senko may argue that the Veatch-Nguyen-Soubh combination does not expressly disclose recesses with *angled* walls.

(b) Suzic

Suzic discloses a “recess with angled walls,” in the form of its dovetail connection elements 50a/52a of holding unit 44a, which receives a protrusion (54a) of actuation unit 22a. EX1010, ¶¶38 (“dovetail guidance”), 43; EX1004, ¶¶316-317.



EX1010, FIG. 3 (annotated-partial).

(c) MTC

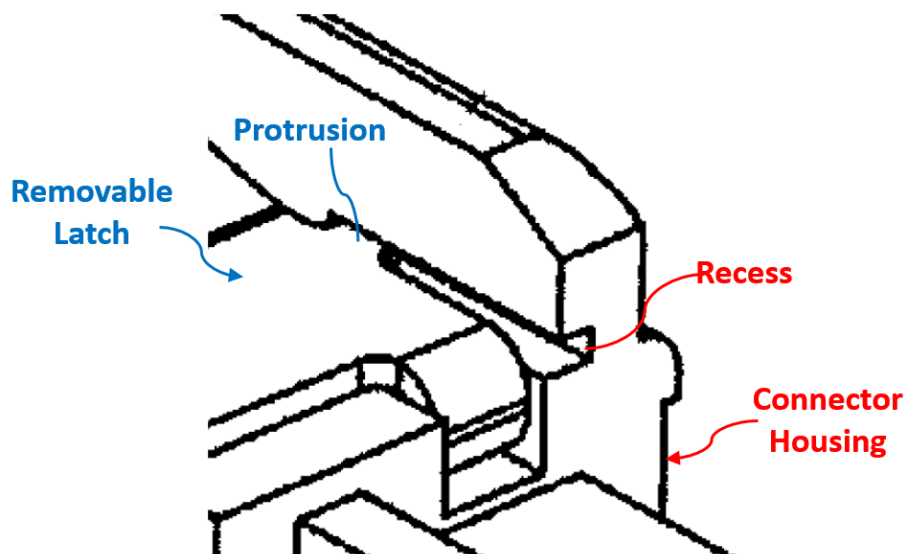
A POSITA would have been motivated to combine the teachings of Suzic's dovetail connection with Veatch-Nguyen-Soubh to prevent inadvertent latch movement. §IX.A; EX1004, ¶¶318-319.

Thus, the Veatch-Nguyen-Soubh-Suzic combination renders [2.1] obvious.

2. [2.2]

(a) Veatch-Nguyen-Soubh

The Veatch-Nguyen-Veatch combination discloses a removable latch comprising a protrusion in the form of Soubh's guides 178 for coupling with recesses on the housing's first exterior wall to yield a first polarity and the housing's second exterior wall to yield a second polarity. §VIII.F.2; EX1004, ¶¶320-321.

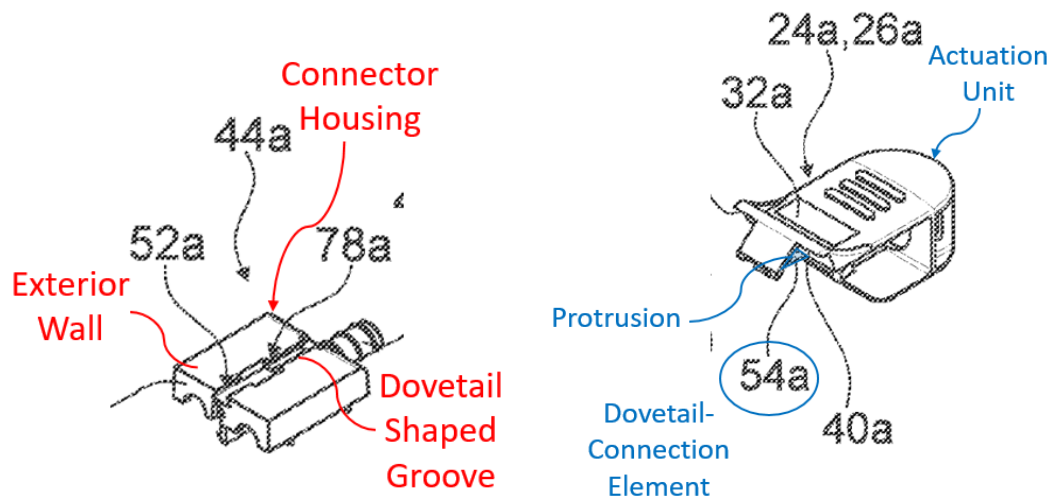


EX1017, FIG. 12 (annotated-partial).

Senko may argue that the projection of the Veatch-Nguyen-Soubh combination does not include slanted edges.

(b) Suzic

Suzic discloses a “protrusion” having “slanted edges,” in the form of its dovetail connection 54a of actuation unit 22a. EX1010, ¶43; EX1004, ¶¶322-323.



EX1010, FIG. 3 (annotated-partial).

(c) MTC

A POSITA would have been motivated to combine the teachings of Suzic's dovetail connection with Veatch-Nguyen-Soubh to prevent inadvertent latch movement. §IX.A; EX1004, ¶¶324-325.

Thus, the Veatch-Nguyen-Soubh-Suzic combination renders [2.2] obvious.

D. Claim 26

1. [26.1]

As discussed with respect to [11.1], the Veatch-Nguyen-Soubh combination renders [26.1] obvious. EX1004, ¶¶327-329.

2. [26.2]

As discussed with respect to [11.2], the Veatch-Nguyen-Soubh combination renders [26.2] obvious. EX1004, ¶330.

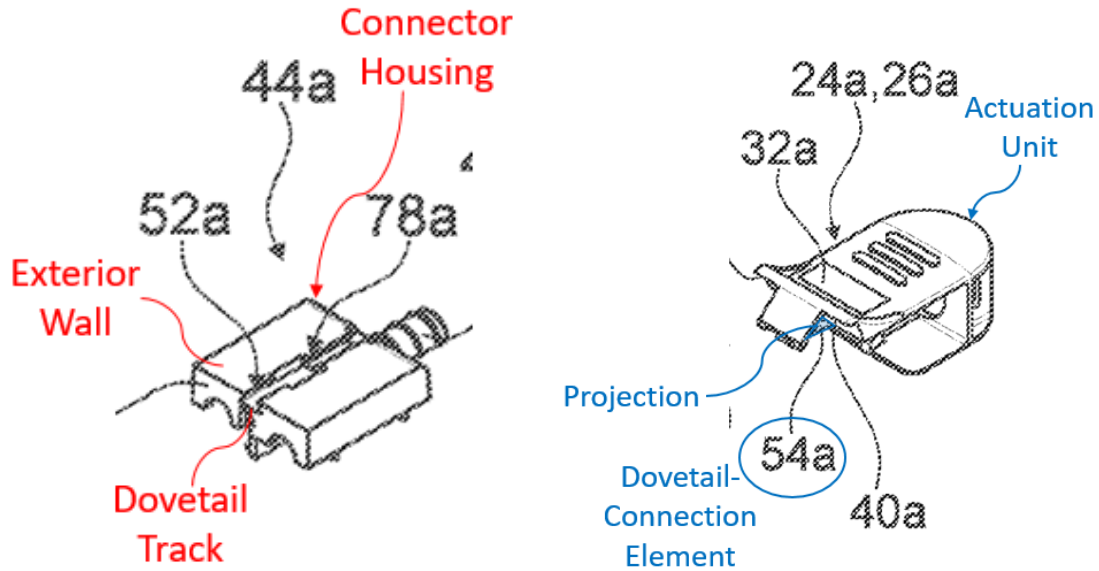
3. [26.3]

(a) Veatch-Nguyen-Soubh

Senko may argue that the projection of the Veatch-Nguyen-Soubh combination is not dovetail shaped.

(b) Suzic

Suzic discloses a dovetail-shaped projection in the form of dovetail connection 54a. EX1010, ¶43; EX1004, ¶¶331-333.



EX1010, FIG. 3 (annotated-partial).

(c) MTC

A POSITA would have been motivated to combine the teachings of Suzic's dovetail connection with Veatch-Nguyen-Soubh to prevent inadvertent latch movement. §IX.A; EX1004, ¶¶334-335.

Thus, the Veatch-Nguyen-Soubh-Suzic combination renders [26.3] obvious.

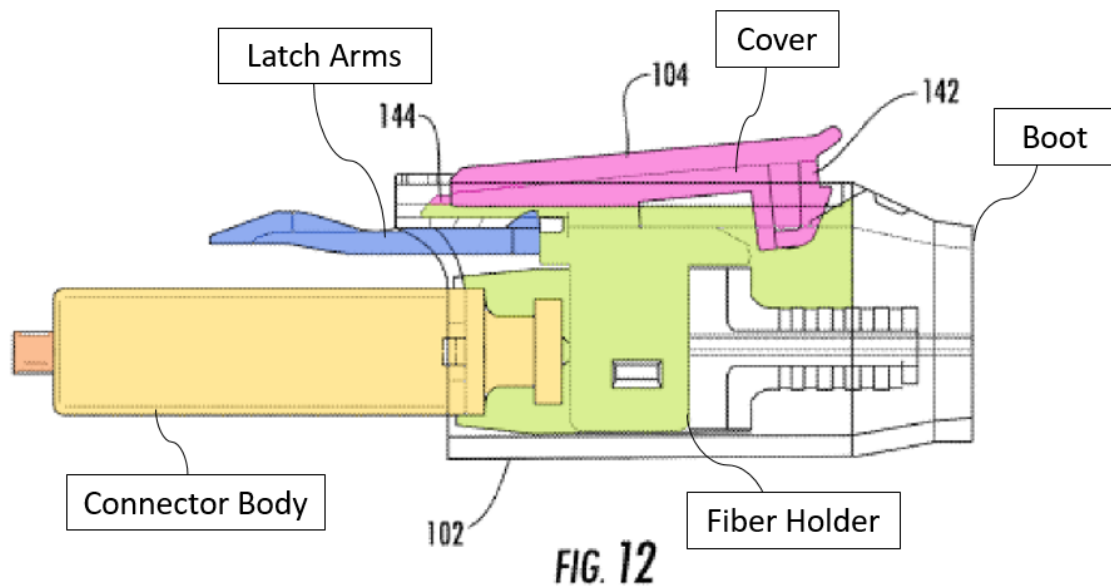
X. VEATCH-NGUYEN-SOUBH IN VIEW OF LEE RENDERS OBVIOUS CLAIMS 28 AND 29

A. Motivation to Combine

A POSITA would have found it obvious to combine Veatch-Nguyen-Soubh, and Lee to arrive at the claims addressed below prior to the '230 patent filing date. EX1004, ¶336. Particularly, a POSITA would have been motivated to incorporate aspects of pushing feature 142 of Lee's handle 30 with Veatch's boot 102 such that

boot 102 actuates latch 106 without cover 104, thereby reducing the total number of connector parts. EX1004, ¶¶337.

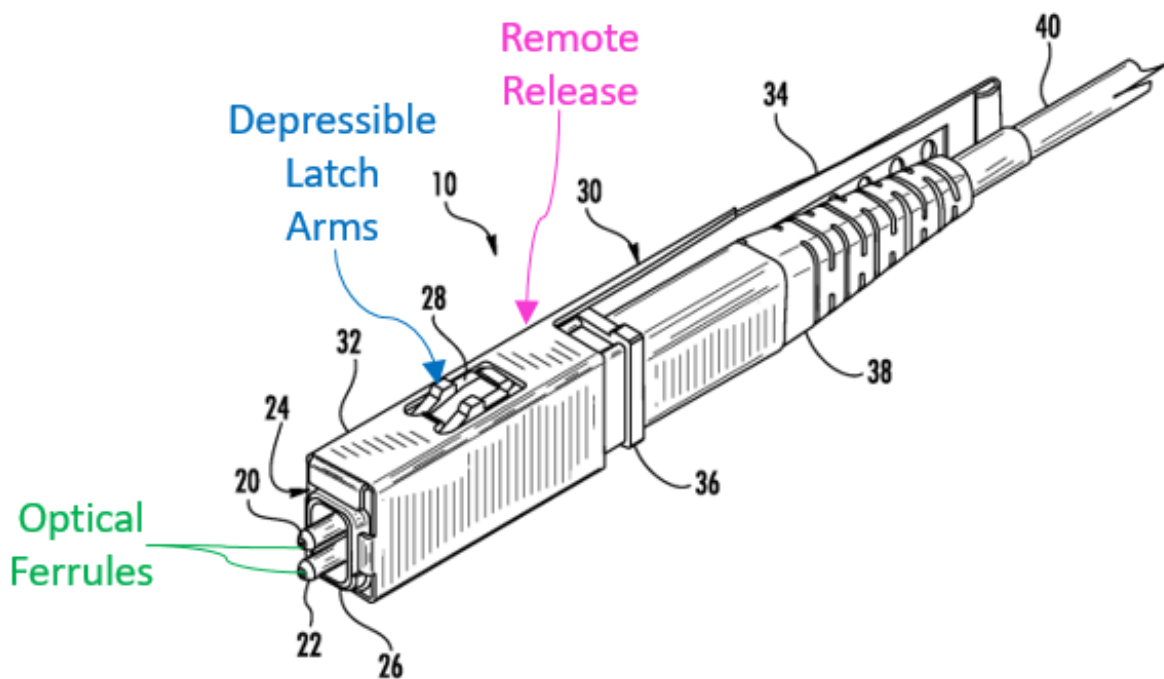
Veatch's boot 102 and cover 104 "provide the push-pull activation of latch 106" when "boot 102 is pulled back" from the adapter. §VIII.C.2; EX1007, 2:64-3:7. Allowing latch actuation without direct contact, Veatch's boot 102 corresponds to the recited "remote release." EX1004, ¶¶338-349.

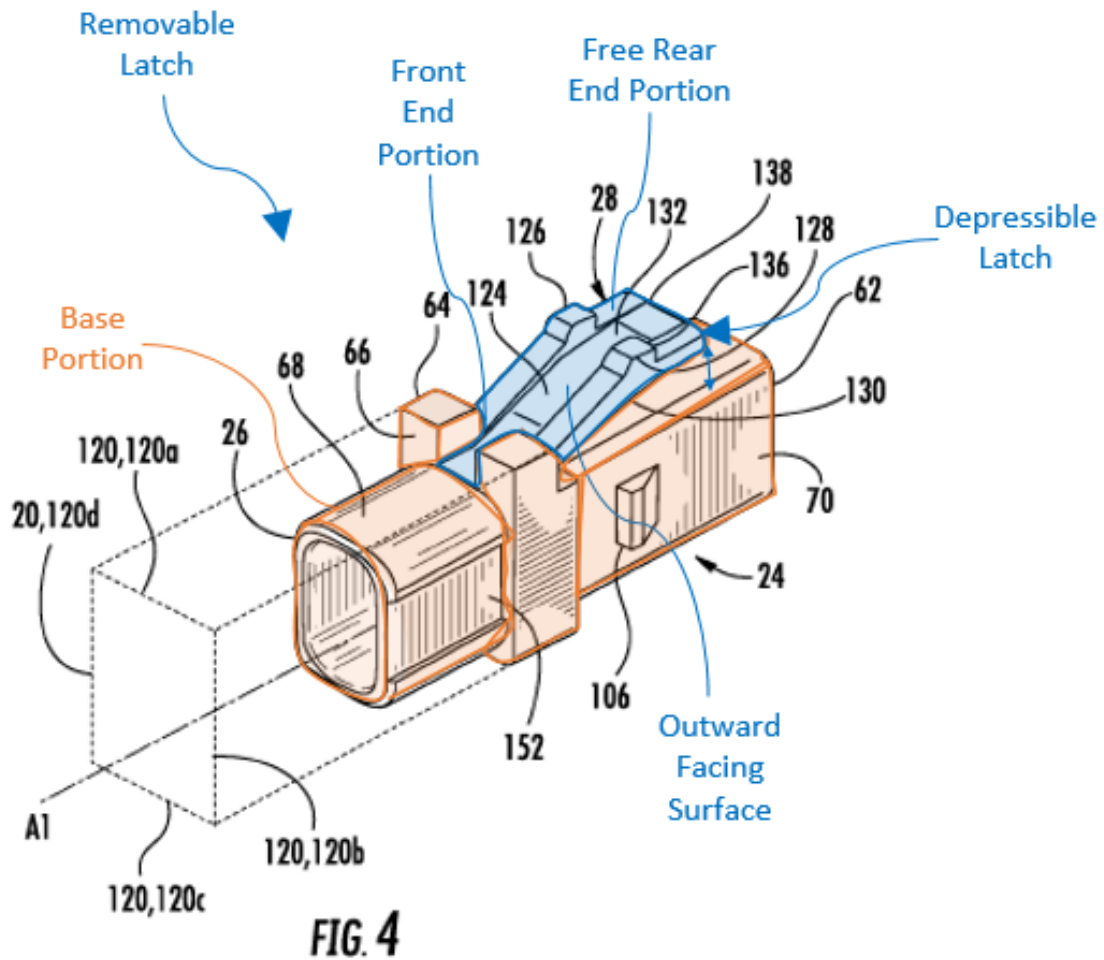


EX1007, FIG. 12 (annotated).

But Veatch, as modified by Nguyen-Soubh, does not explicitly disclose the elongate front section of boot 102 engaging a rearward-extending latch arm. However, providing a remote release with an elongate front section to actuate a rearward-extending connector latch arm was well known, as evidenced by Lee. EX1004, ¶¶340-341.

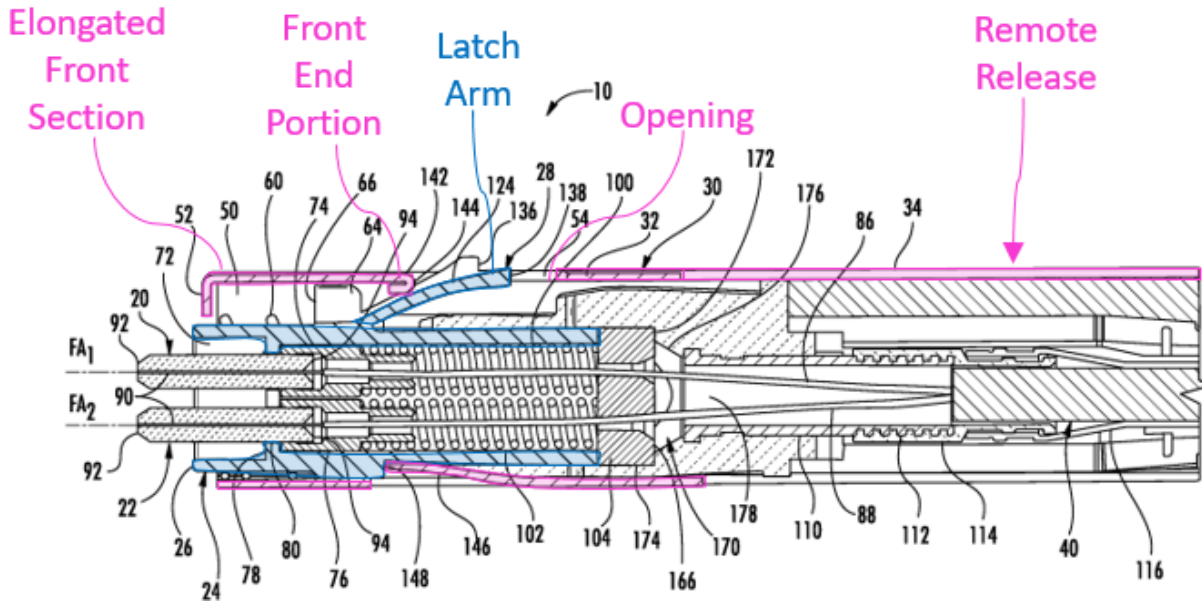
Lee's connector 10 includes an inner connector body 24 housing ferrules 20, 22 and a latch arm 28 protruding rearward from body 24 to mate with an adapter. EX1009, ¶30. Lee's connector includes a handle 30 received around body 24. *Id.* Handle 30 moves relative to body 24 to deflect latch arm 28 toward inner connector body 24 to release connector 10 from the adapter. *Id.*





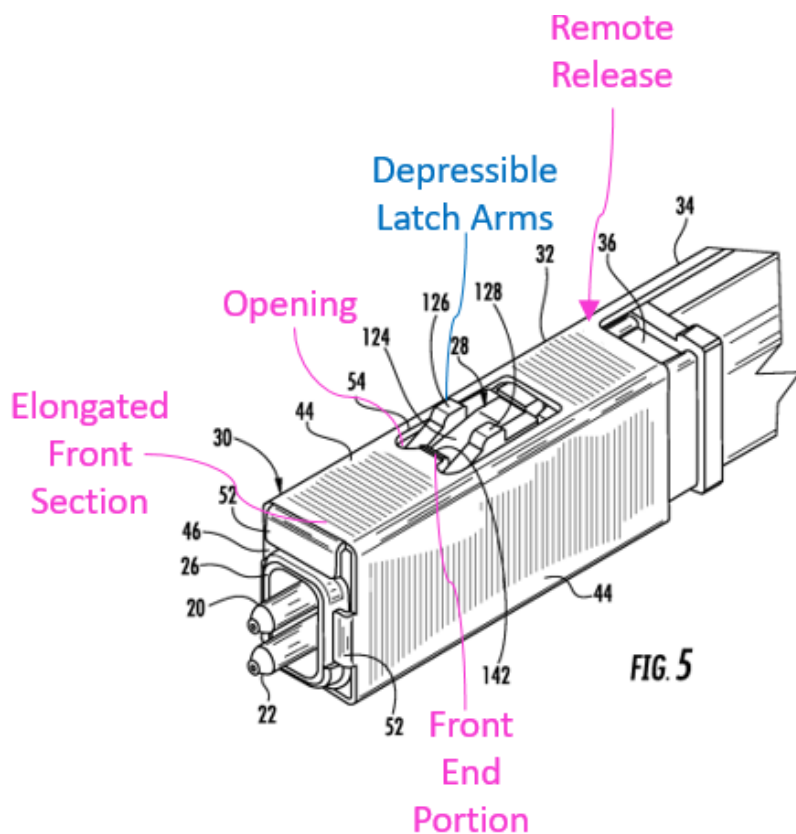
EX1009, FIGS. 1 and 4 (annotated).

Due to its shape, Lee's latch arm 28 is designed to protrude through an opening 54 of handle 30 and then to be depressed when the handle 30 is pulled rearward. EX1009, ¶¶34, 42-47, 65. A POSITA would have recognized that Lee's latch arm 28 is analogous to the rearward-extending latch arm in the Veatch-Nguyen-Soubh combination. EX1004, ¶¶342-344.

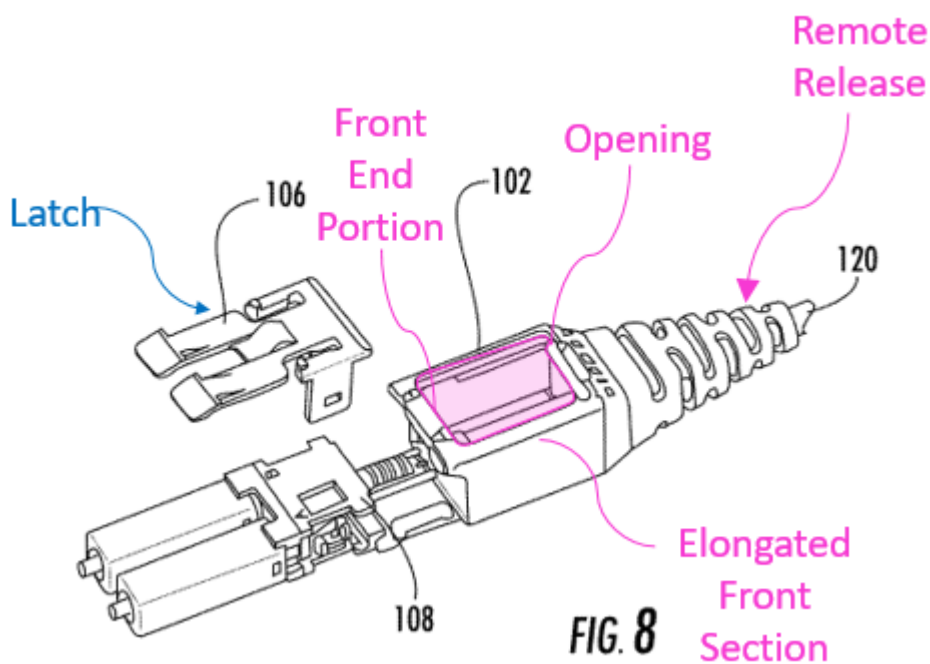


EX1009, FIG. 3 (annotated).

The housing portion 32 of Lee's handle 30 includes a pushing feature 142 having a rounded surface 144 *adjacent the opening 54* of handle 30 for contacting the latch arm 28. EX1009, ¶47. As Lee's handle is pulled rearward, pushing feature 142 depresses latch arm 28, thereby releasing connector 10 from adapter 12. EX1009, ¶¶42-51, 63-66.



EX1009, FIG. 5 (annotated).



EX1007, FIG. 8 (annotated).

Recognizing that Lee's handle 30 is analogous to Veatch's boot 102, a POSITA would have been motivated to combine the teachings of the Lee's pushing feature 142 with Veatch's boot 102 to actuate latch 106 without cover 104, thereby reducing the number of connector parts. EX1004, ¶¶345-348.

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in combining the teachings of Lee's pushing feature 142 with Veatch's boot 102 because doing so would have been a simple substitution of one known latch-actuation arrangement for another, while maintaining a small footprint to house two LC ferrules. EX1004, ¶349. Indeed, a POSITA would have recognized that Lee's handle pushing feature 142 is analogous to Veatch's cover nub 146, and therefore, would have sought to integrate Lee's pushing feature 142 in an analogous location on Veatch's boot 102. EX1004, ¶350. Thus, a POSITA would have had a reasonable expectation of success in protruding rearward-extending latch arms through the top opening of Veatch's boot 102, while still allowing the boot 102 to actuate latch 106. EX1004, ¶¶351-353.

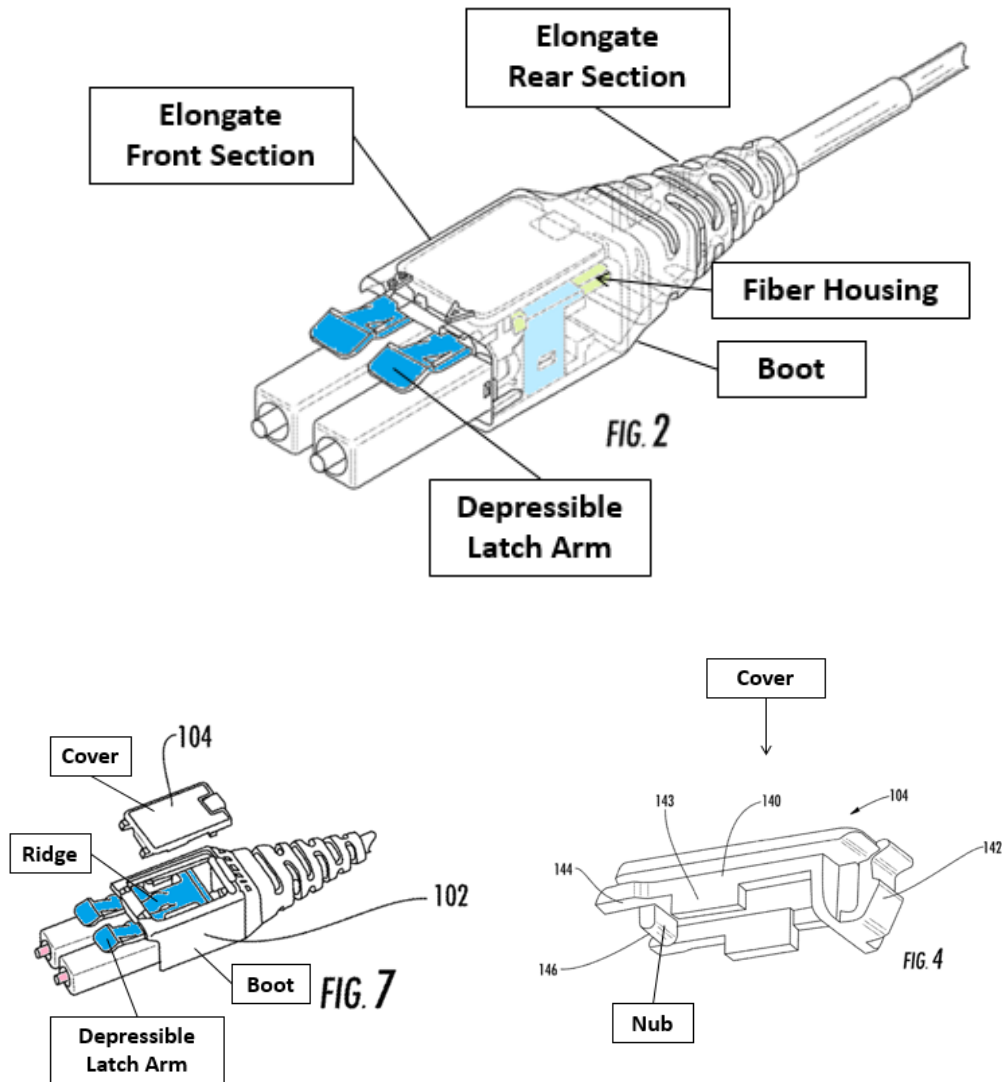
C. Claim 28

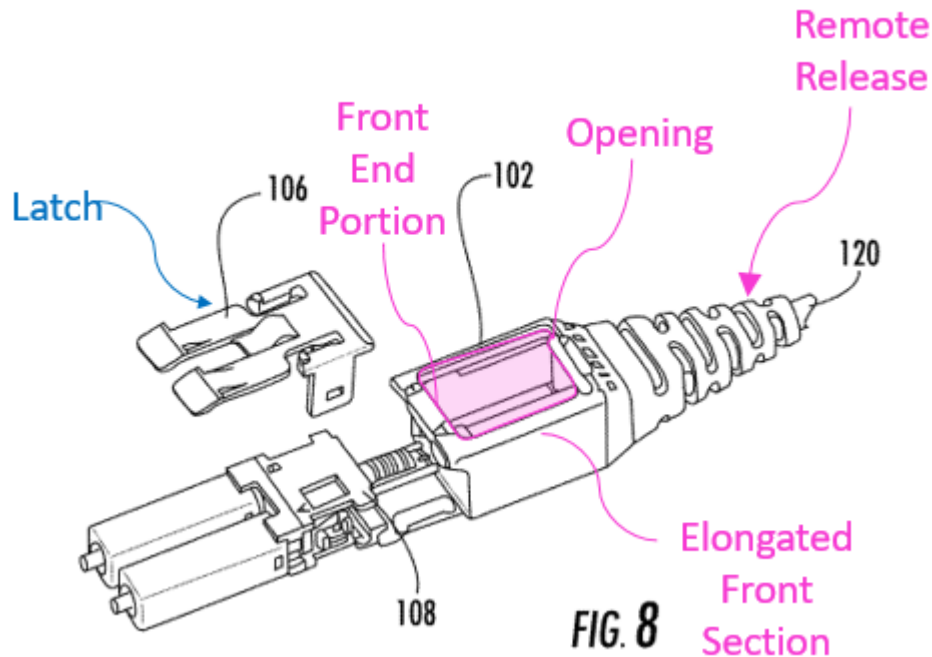
1. Veatch-Nguyen-Soubh

Veatch, as modified by Nguyen-Soubh, discloses the recited "remote release" in the form of boot 102 slidably received over latch 106 and fiber holder 108. As annotated below, Veatch's boot 102 includes an elongate front section that extends

longitudinally along fiber holder 108 and configured to slide along fiber holder 108.

EX1007, 2:64-66, FIG. 2. Veatch's boot 102 further has an elongate rear section extending rearward from the boot's front section. EX1004, ¶¶354-358.



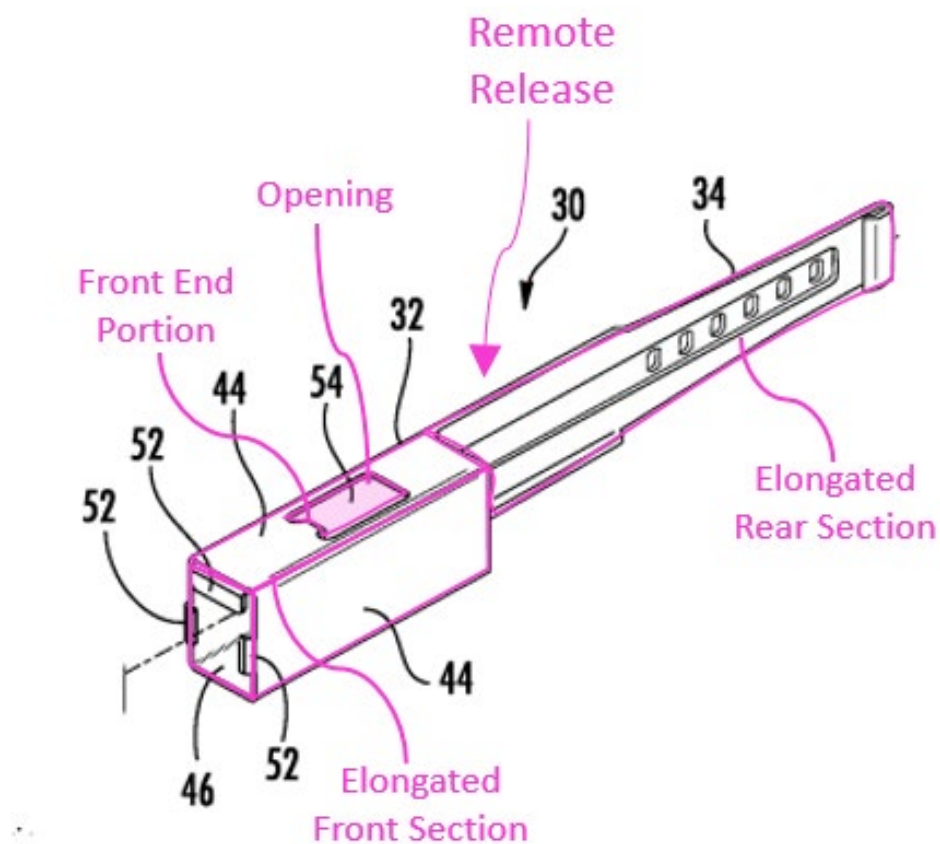


EX1007, FIGS. 2, 7, 4, and 8 (annotated).

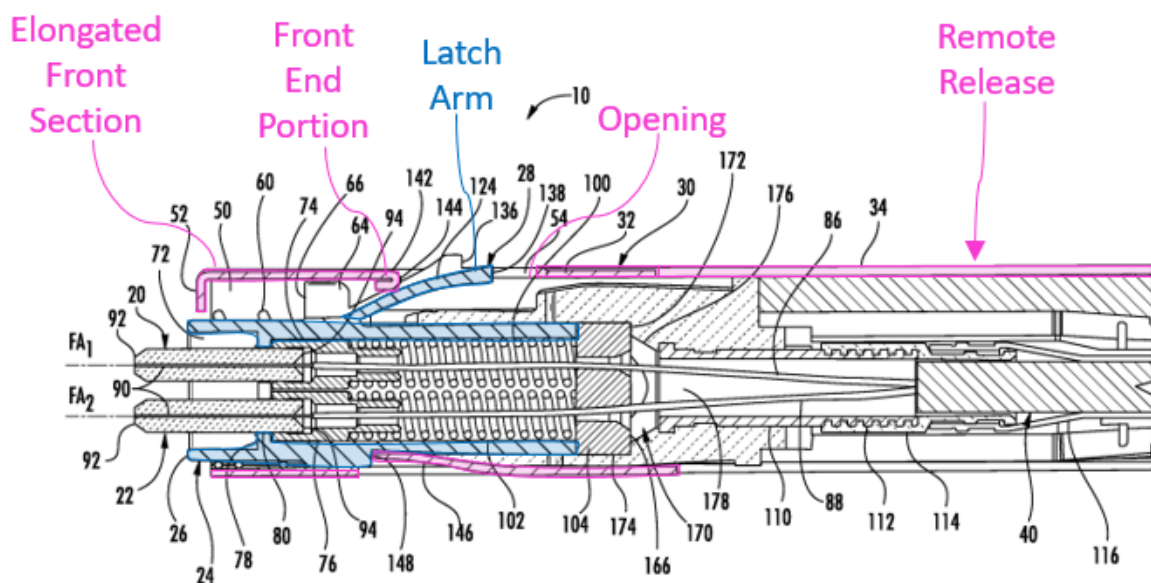
Senko may argue that the Veatch-Nguyen-Soubh combination does not disclose the elongate front section of the remote release being configured to engage the depressible latch arm of a *rearward-extending* latch.

2. Lee

Lee discloses a remote release comprising an elongated front section configured to engage a depressible latch arm of a rearward-extending latch in the form of handle's housing portion 32 comprising a side 44 defining an opening 54 to receive rearward-extending latch arm 28 and “a pushing feature 142 adjacent the opening 54 for contacting the latch arm 24,” as annotated below. EX1009, ¶47; EX1004, ¶¶359-360.



EX1009, FIG. 2 (annotated-partial).



EX1009, FIG. 3 (annotated).

3. MTC

A POSITA would have been motivated to combine the teachings of Lee's pushing feature with Veatch-Nguyen-Soubh to obviate the need for cover 104.

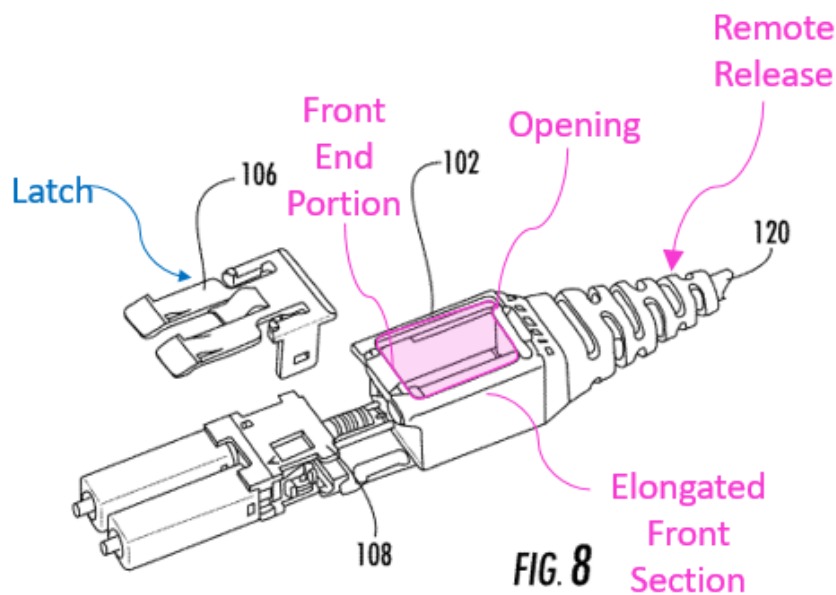
§X.A; EX1004, ¶¶361-362.

Thus, the Veatch-Nguyen-Soubh-Lee combination renders claim 28 obvious.

D. Claim 29

1. Veatch-Nguyen-Soubh

Veatch discloses a remote release in the form of a boot 102 that includes an elongate front section being configured to slide rearward along its connector housing, as modified by Nguyen. §X.C.1. As annotated below, Veatch's boot 102 includes an opening on its top wall and a front end portion defining a front end of the opening. EX1007, FIG. 8; EX1004, ¶363.

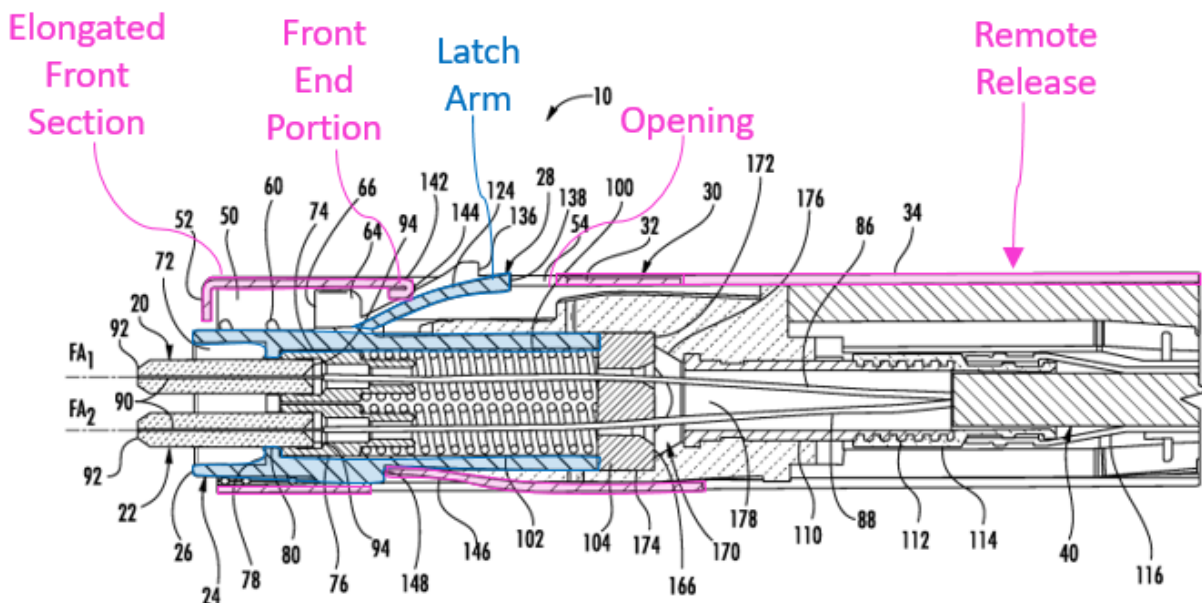


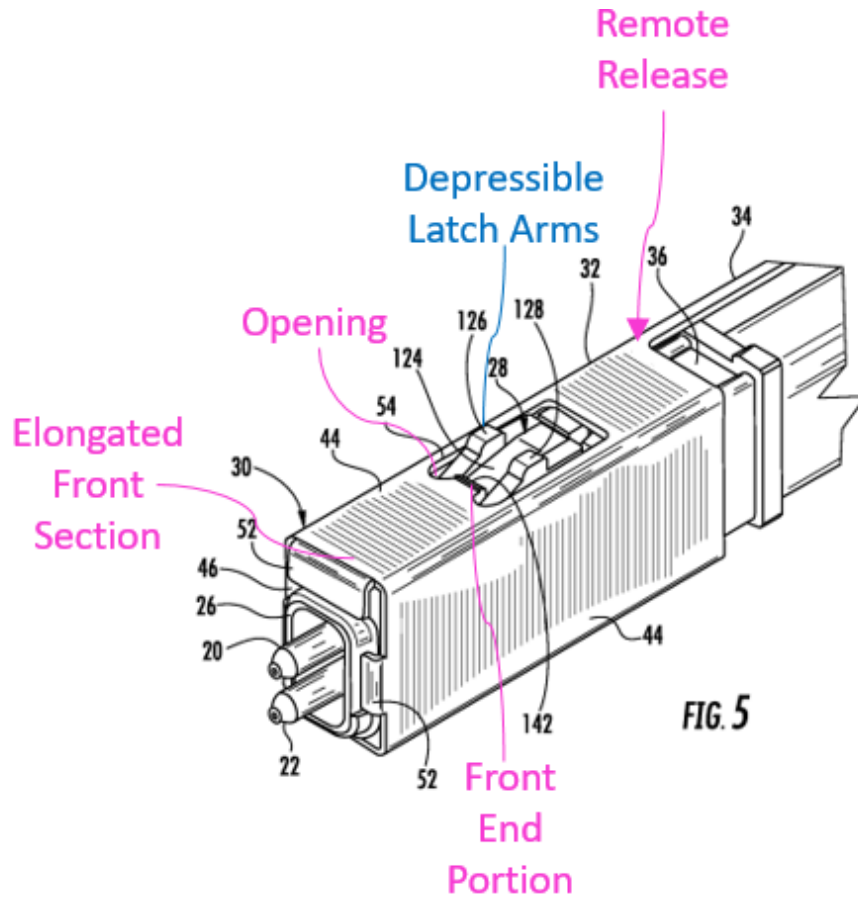
EX1007, FIG. 8.

Senko may argue that Veatch-Nguyen-Soubh does not disclose the opening in the elongate front section of Veatch's boot 102 being configured to receive the depressible latch arm and the front end portion in the opening of Veatch's boot 102 being configured to slide rearward along the outward facing surface of the depressible latch arm, as recited in claim 29.

2. Lee

Once the combination is made, Lee discloses an opening 54 in the elongate front section (housing portion 32) of a remote release (handle 30) to receive rearward-extending latch arms 28. EX1009, ¶31. Lee's housing portion 32 "includes a pushing feature 142 adjacent the opening 54 for contacting the latch arm 24." EX1009, ¶47. Lee's pushing feature 142 corresponds to the recited "front end portion" of claim 29. EX1004, ¶¶364-368.





EX1009, FIGS. 3 and 5 (annotated).

3. MTC

A POSITA would have been motivated to combine the teachings of Lee's pushing feature with Veatch-Nguyen-Soubh such that Veatch's boot 102 is configured to slide rearward along the outward facing surface of the latch arm when Veatch's boot moves rearward, thereby obviating the need for Veatch's cover.

§X.A; EX1004, ¶¶369-370.

Thus, the Veatch-Nguyen-Soubh-Lee combination renders claim 29 obvious.

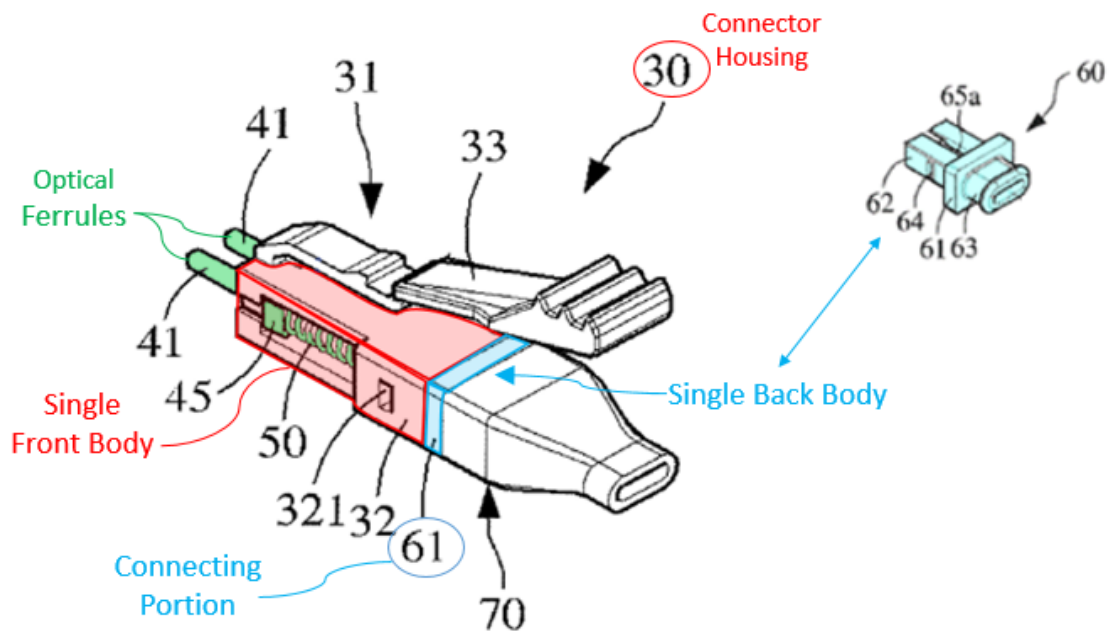
XI. VEATCH-NGUYEN-SOUBH IN VIEW OF PENG RENDERS OBVIOUS CLAIM 31

A. Motivation to Combine

A POSITA would have found it obvious to combine Veatch-Nguyen-Soubh, and Peng to arrive at claim 31 prior to the '230 patent filing date. EX1004, ¶371.

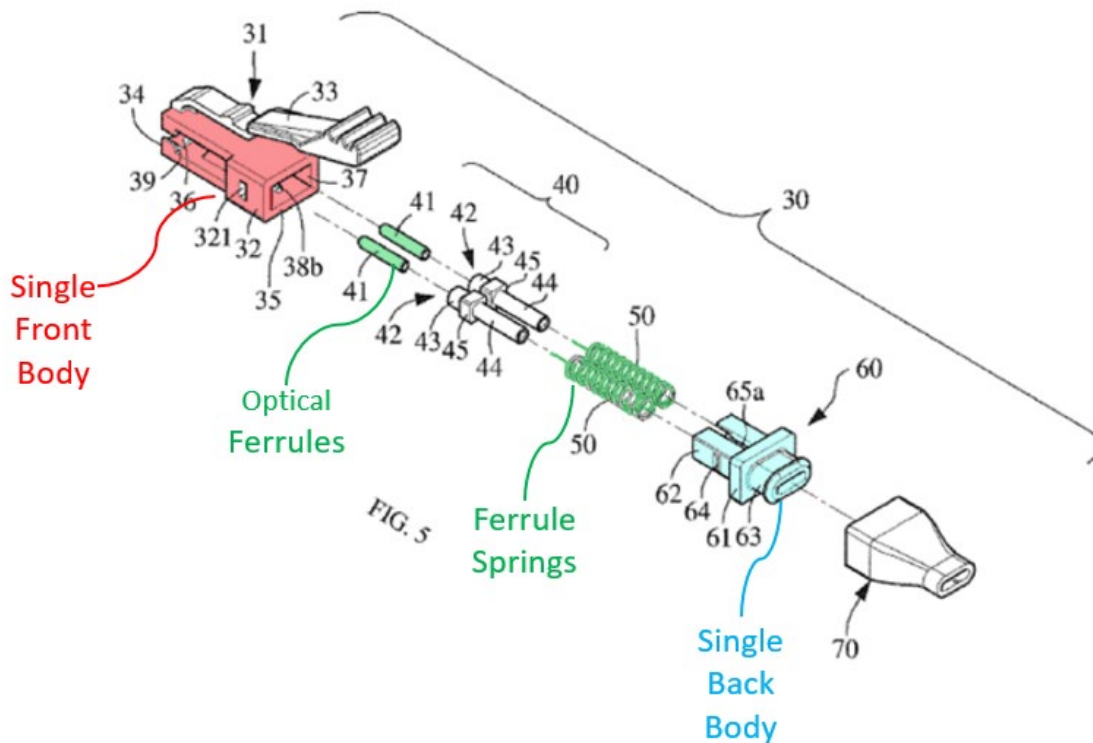
Veatch, as modified by Nguyen and Soubh, renders obvious a unitary housing to hold first and second ferrule springs. §VIII.E; EX1004, ¶¶372-375. Senko may argue that the Veatch-Nguyen-Soubh combination does not explicitly disclose a single back body configured to attach to a single front body to compress ferrule springs, as recited in claim 31.

But it was well known to form a connector housing from a single front body and a single back body, as evidenced by Peng. EX1004, ¶¶374-377.



EX1011, FIG. 3 (annotated).

Peng discloses that a double core optical fiber connector housing (connector 30) in the form of a single front body (i.e., shell 31) and a single back body (i.e., tail cover 60) to compress ferrule springs (i.e., elastic elements 50) therebetween was well known. EX1011, ¶¶13, 28-30, 34.



EX1011, FIG. 5 (annotated).

A POSITA would have been motivated to form Veatch-Nguyen-Soubh's modified housing from a single front body and a single back body, as taught by Peng, to provide a housing arrangement that reliably compresses the ferrule springs and eases the assembly process, while maintaining a reduced pitch between the two ferrules. EX1004, ¶¶378-379; EX1011 ¶39. Indeed, a POSITA would have recognized that Peng's tail cover 60 biases optical ferrules 41 in a reliable manner

by providing a projected surface—tube portion 62—to abut ferrules 41. And a POSITA would have understood that Peng’s housing—shell 31 and tail cover 60—provides a larger opening at second end 35 (i.e., the rear end) of shell 31 to load springs 50 into shell 31, thereby easing the loading of the springs. EX1004, ¶380. Thus, a POSITA would have been motivated to combine the teachings of Peng with Veatch, Nguyen, and Soubh. *Id.*

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in combining the teachings of Peng’s single front body and back body with Veatch’s modified connector because doing so would still allow Veatch’s connector to be compatible with an LC adapter with a reduced footprint. EX1004, ¶¶381-383; EX1011, ¶¶13, 39.

C. Claim 31

1. [31.1]

A POSITA would have understood that the Veatch’s connector, as modified by Nguyen and Soubh, includes or would have been obvious to include springs received on ferrules because using spring-loaded ferrules in connector housings was an industry-standard practice for maintaining connection between two mating optical fibers in an adapter. EX1004, ¶¶385-391; EX1008, ¶40 (“[C]onnector 410 includes two coil springs ... disposed within the body 604, e.g., *one coil spring*

disposed within the body 604 per ferrule 602 ... to bias the ferrules 602 against or at least towards the corresponding TOSA or ROSA.” (Emphasis added)).

Thus, the Veatch-Nguyen-Soubh renders [31.1] obvious.

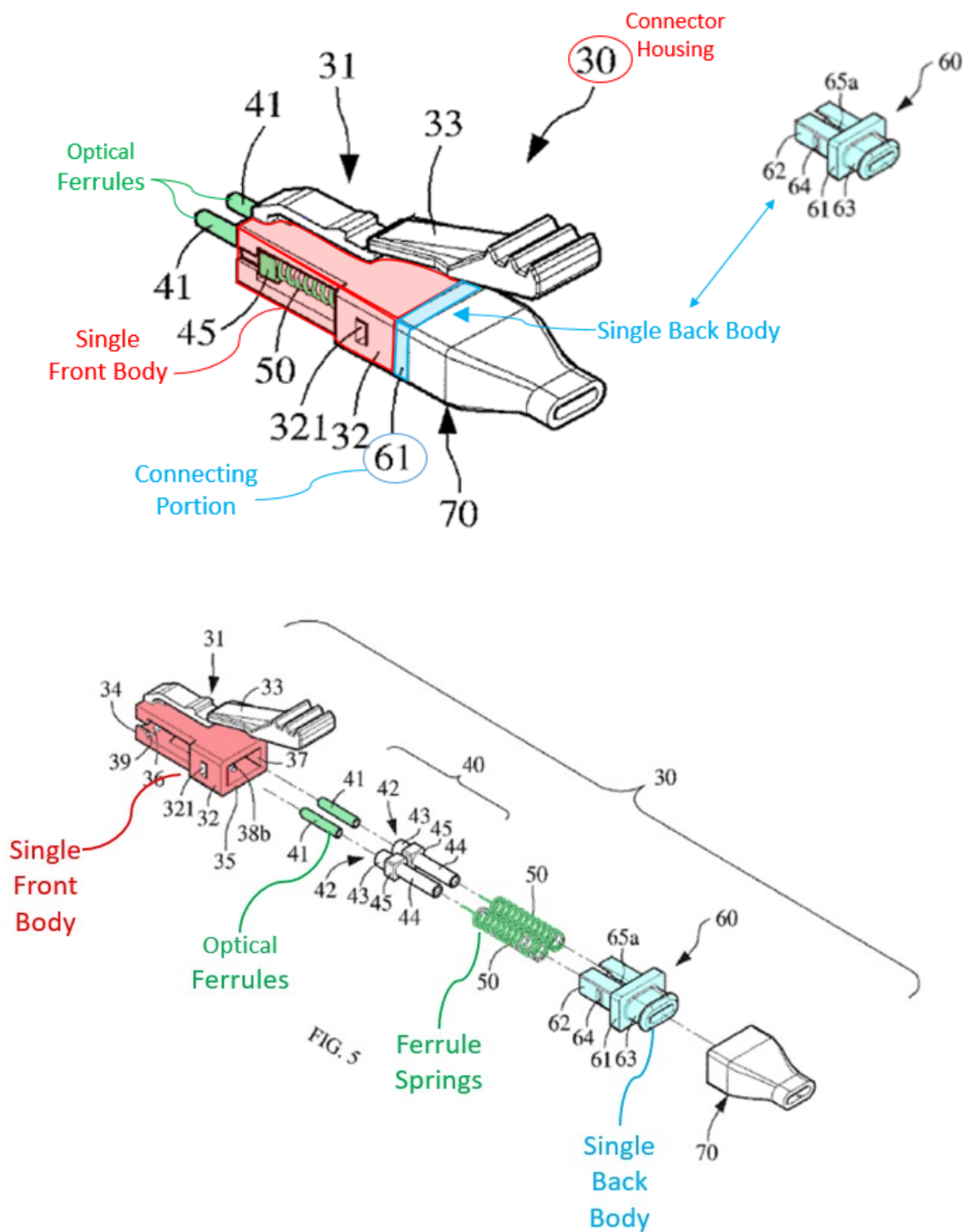
2. [31.2]

(a) Veatch-Nguyen-Soubh

Senko may argue that the Veatch-Nguyen-Soubh combination does not disclose the connector housing comprising a single front and a single back body, as recited in claim 31. EX1004, ¶392.

(b) Peng

Peng discloses a double core optical fiber connector housing (connector 30) in the form of a single front body (shell 31) and a single back body (tail cover 60) configured to attach to the single front body (shell 31) such that ferrule springs (elastic elements 50) are compressed therebetween. EX1011, ¶¶28-30, 34; EX1004, ¶¶393-394. Thus, Peng discloses [31.2].



EX1011, FIGS. 3 and 5 (annotated).

(c) MTC

A POSITA would have been motivated to combine the teachings of Peng's front and back bodies with Veatch-Nguyen-Soubh to ease the loading of springs into the housing. §XI.A; EX1004, ¶¶395-396.

Thus, the Veatch-Nguyen-Soubh-Peng combination renders claim 31 obvious.

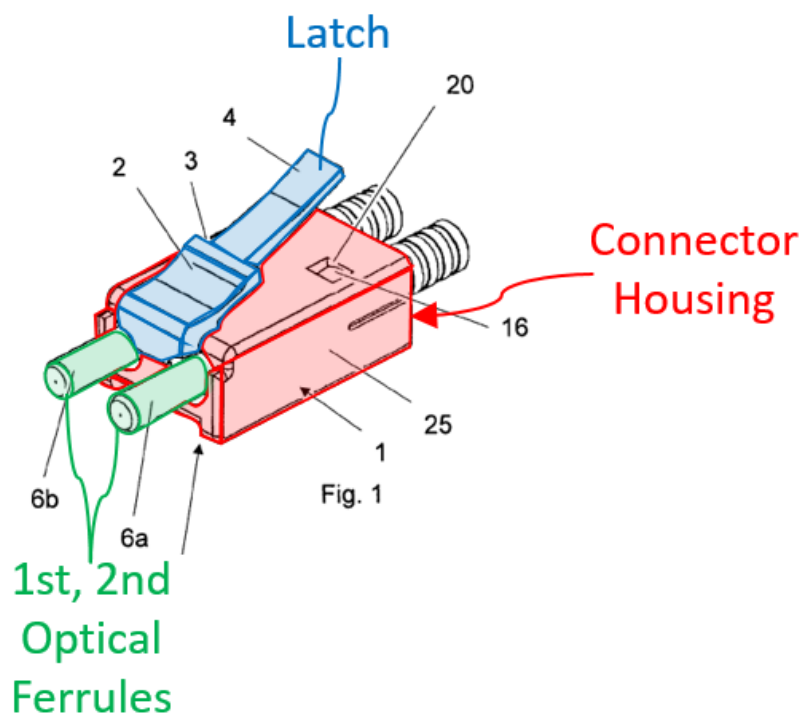
XII. NEHLER IN VIEW OF LIMBERT RENDERS OBVIOUS CLAIMS 1, 2, 9, 27, AND 32-34

A. Motivation to Combine

A POSITA would have found it obvious to combine Nehler and Limbert to arrive at the claims addressed below prior to the '230 patent filing date.

Particularly, a POSITA would have been motivated to make the latch of Nehler's connector be removably coupled to the top and bottom walls of Nehler's connector housing, as taught by Limbert, to provide cross-polarity adjustment. EX1004, ¶¶397-398.

Nehler discloses a connector housing 1 receiving two optical fibers through its back end and two optical ferrules 6a, 6b projecting from front end 5 of housing 1. EX1012, 3:1-9. Nehler's housing further includes a locking device 2 for securing housing 1 to an adapter. *Id.* Nehler's locking device includes a locking edge 3 integrally hinged to housing 1 and an actuation bar 4 to be "pressed onto the housing ... to unlock a connection with a receptacle" of an adapter. *Id.*



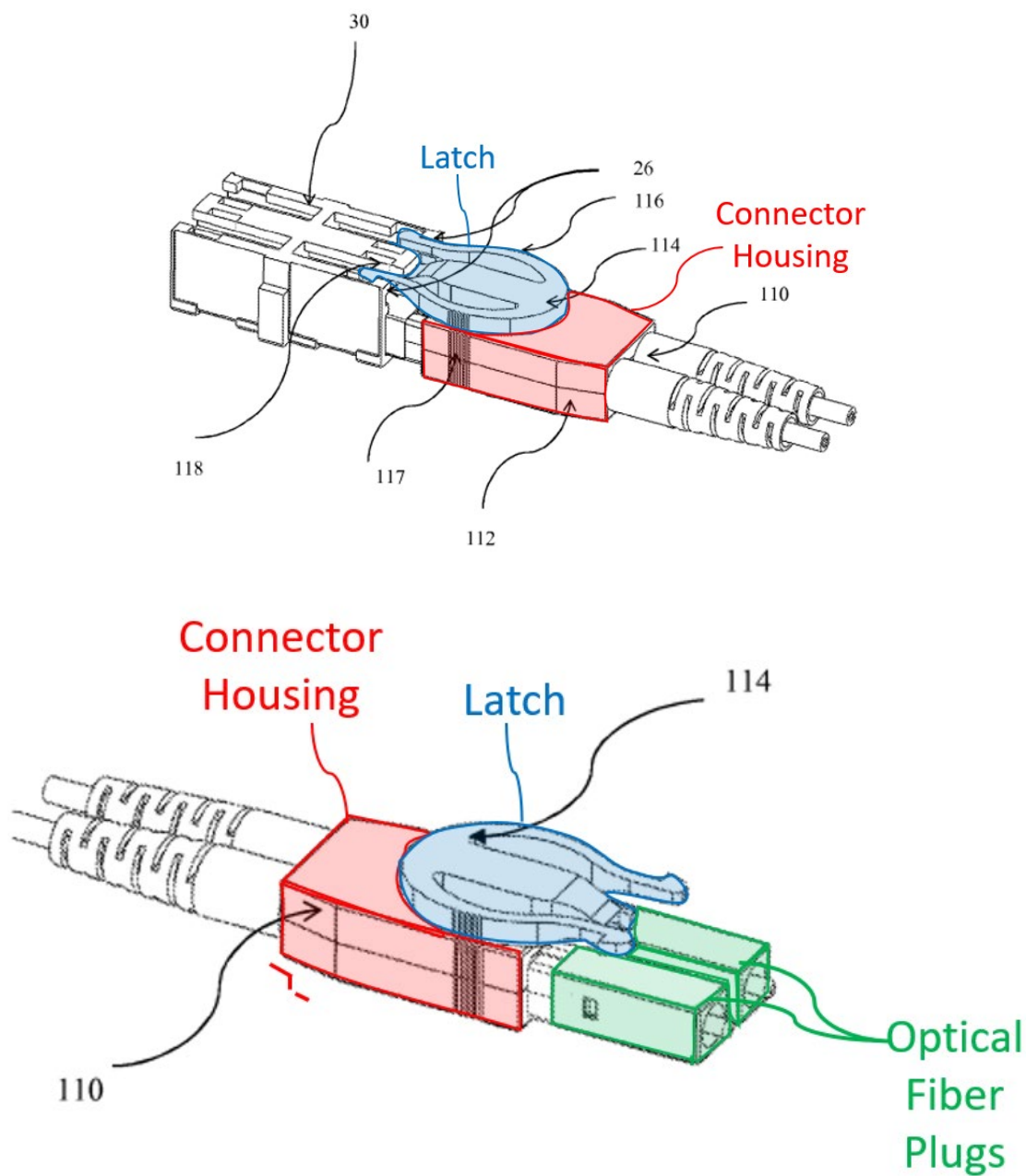
EX1012, FIG. 1 (annotated).

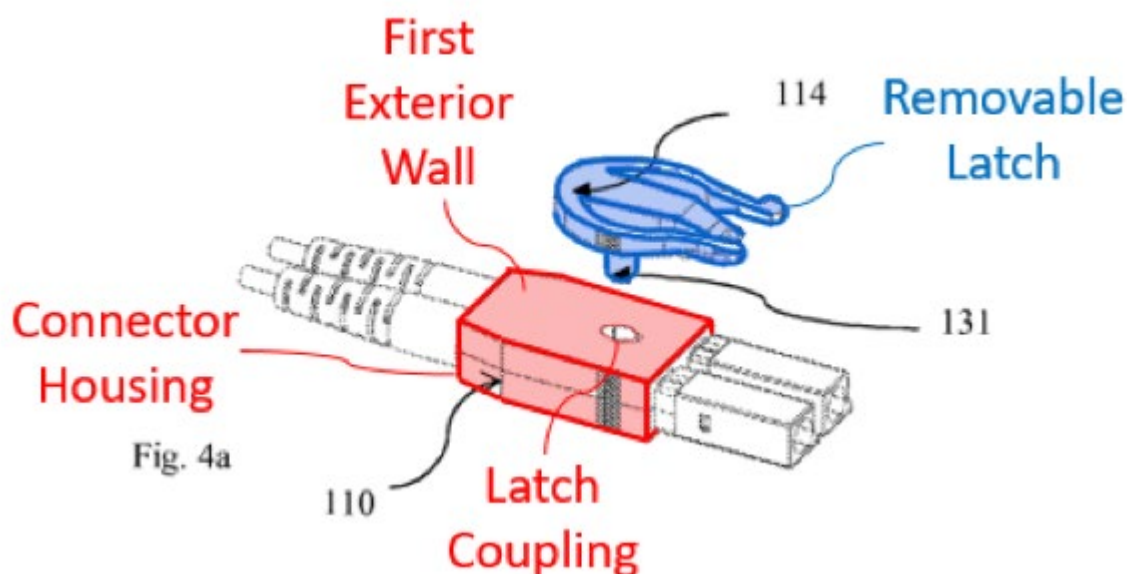
A POSITA would have understood that Nehler's locking device 2 corresponds to the recited "latch." EX1004, ¶¶399-400. Nehler is silent about locking device 2 being removable from the top wall of connector housing 1. But making a latch removably coupled to either the first and second exterior walls of a connector housing was well known, as evidenced by Limbert. EX1004, ¶400.

Limbert discloses a fiber optic connector 10 that includes a body 112 receiving two optical fibers at a rear end of body 112, two optical fiber plugs held at a front end of body 112, and a latch mechanism 114 configured to releasably connect body 112 and fiber plugs to a fiber optic adaptor 11. EX1013, 4:34-41, FIG. 3. Limbert's latch mechanism 114 is releasably mountable on each of two

opposing surfaces of the connector body 112 to alter the polarity of connector 10.

EX1013, 5:25-31; EX1004, ¶¶401-403.





EX1013, FIGS. 3 and 4a-b (annotated).

A POSITA would have been motivated to add latch couplings on Nehler's connector housing 1 and make Nehler's locking device 2 removably engaged with the latch couplings, as taught by Limbert, "to accommodate the desire to alter the polarity of the patch cord connection" via using only one connector. EX1013, 5:25-28; EX1004, ¶¶404-405. Limbert teaches that "fitting the connector latch mechanism to either the bottom or to the top of the connector body" provides cross-polarity adjustment "without requiring a separate specific replacement patch cord connector." EX1013, 2:39-51; EX1004, ¶405. Thus, the combination would allow Nehler's connector to accommodate both straight-through and crossed patch cord connections without replacement equipment. EX1004, ¶¶406-407.

B. Reasonable Expectation of Success

A POSITA would have expected the combination to be successful because Nehler's locking device 2 would perform as originally intended after being releasably mountable to the top and bottom walls of Nehler's connector housing 2. EX1004, ¶408. Adding a coupling feature, such as a spigot or a projection, to Nehler's locking device 2 and adding a corresponding latch coupling, such as an opening or a groove, to Nehler's connector housing 1 would still allow Nehler's locking edge 3 to be hinged to the housing. Indeed, it was well known to make similar-type latches with depressible arms releasably mountable to optical plug housings. EX1017, ¶60; EX1004, ¶408. This modification would have simply been applying a known technique (Limbert's releasably mountable latch) to a similar device (Nehler's connector) in the same way (providing couplings on the top and bottom housing walls). EX1004, ¶¶408-409.

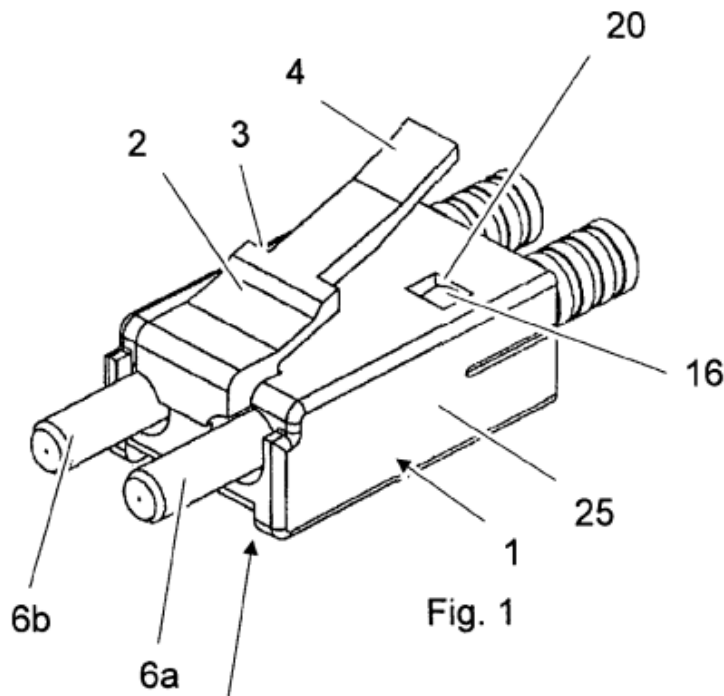
Thus, a POSITA would have had a reasonable expectation of success in combining Nehler with Limbert.

C. Claim 1

1. [1.P]

The preamble should not be considered limiting. But, if so, the Nehler-Limbert combination renders obvious a reversible polarity fiber optic connector. EX1004, ¶¶410-414.

Nehler discloses a “fiber optic connector” in the form of its connector shown in FIGS. 1-3. EX1012, 2:66-3:3.



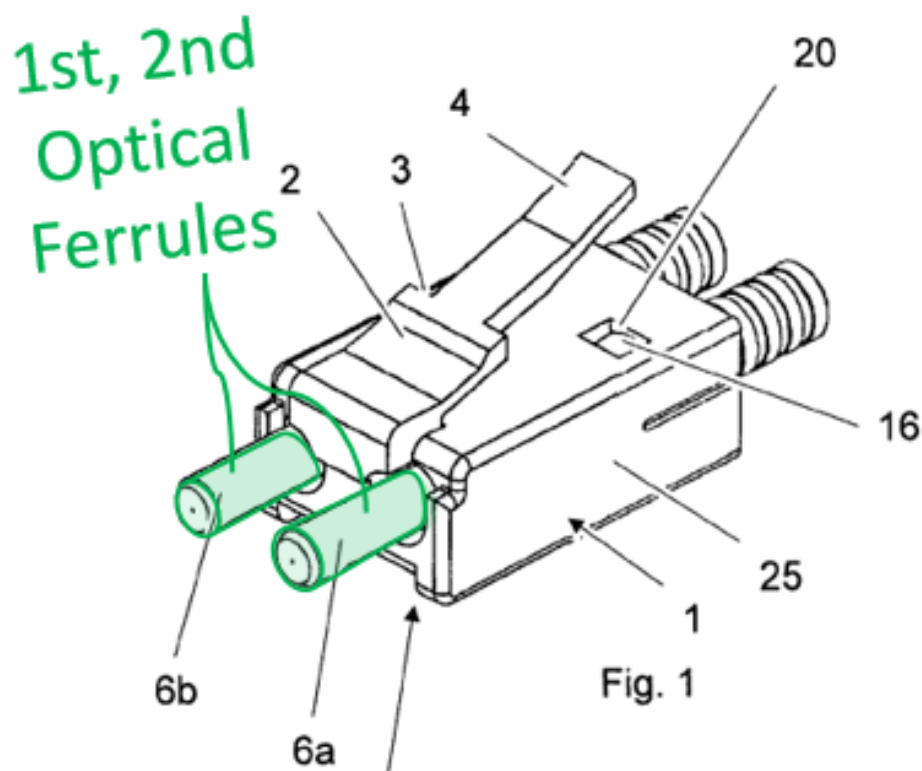
EX1012, FIG. 1.

Nehler is silent about the connector changing polarity. Combining the teachings of Limbert's removable latch with Nehler renders obvious a reversible polarity fiber optic connector because Nehler's modified connector would have been configured to change polarity by mounting Nehler's locking device 2 to the top/bottom walls of the housing. §XII.A; EX1004, ¶413.

Thus, the Nehler-Limbert combination renders obvious [1.P].

2. [1.1]

Nehler discloses “first and second optical ferrules” in the form of ferrules 6a/6b. EX1012, 3:3-9; EX1004, ¶¶415-416.

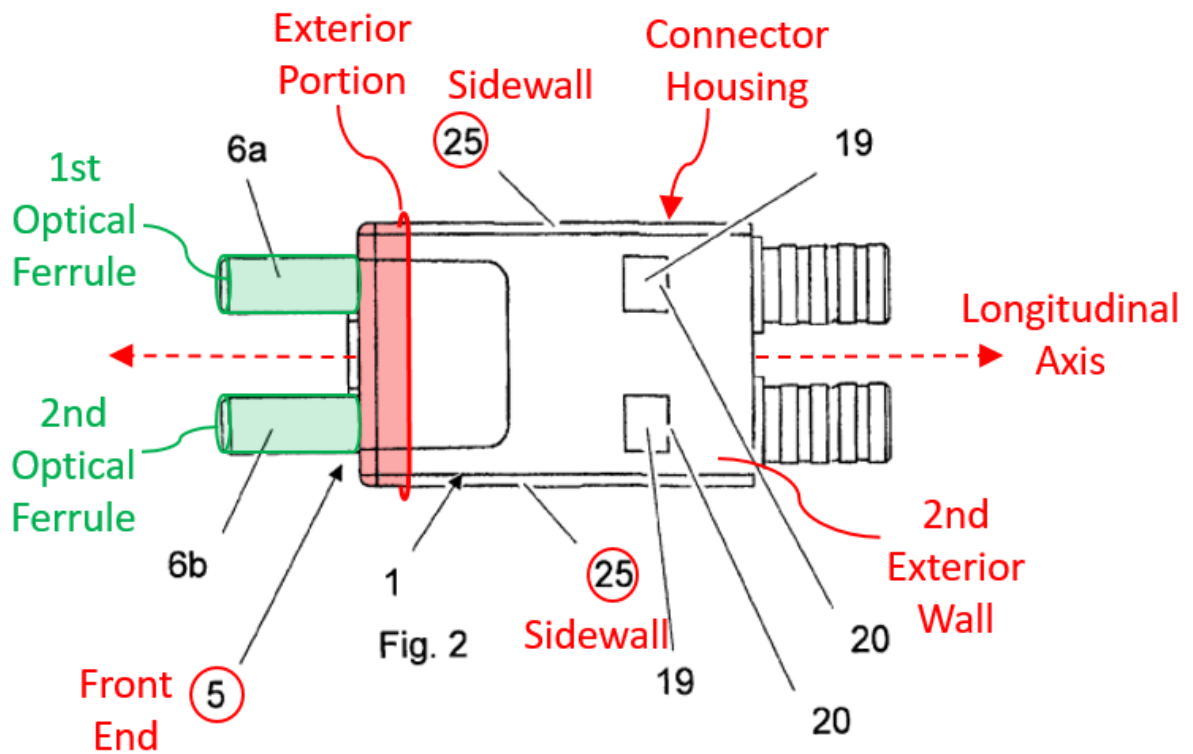
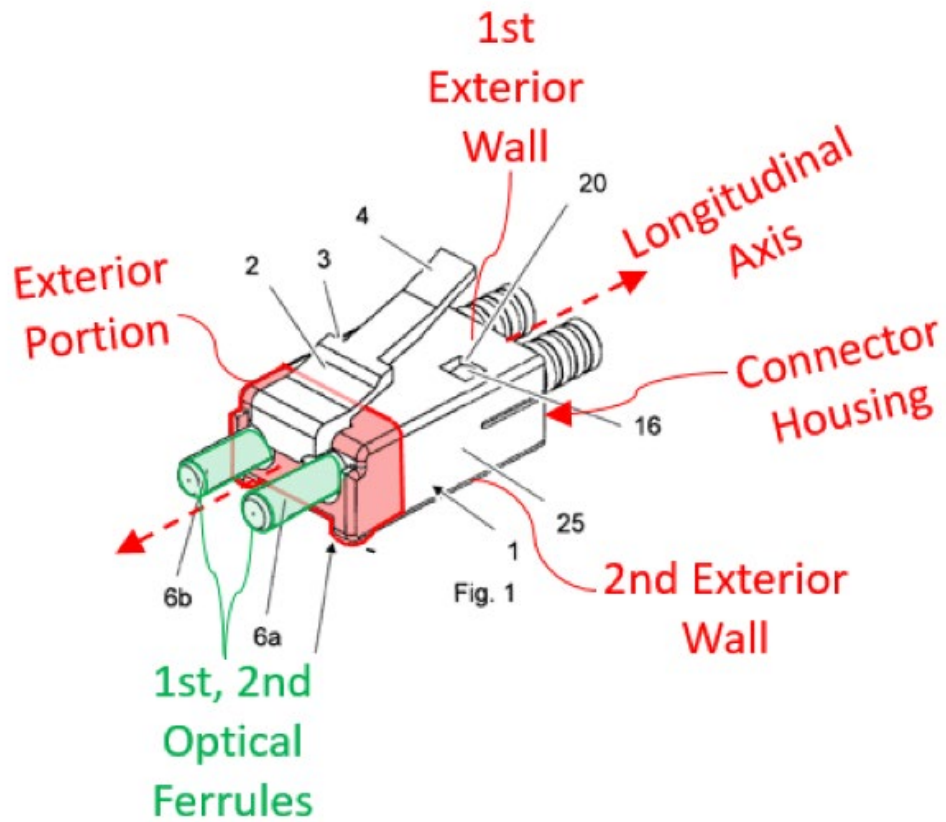


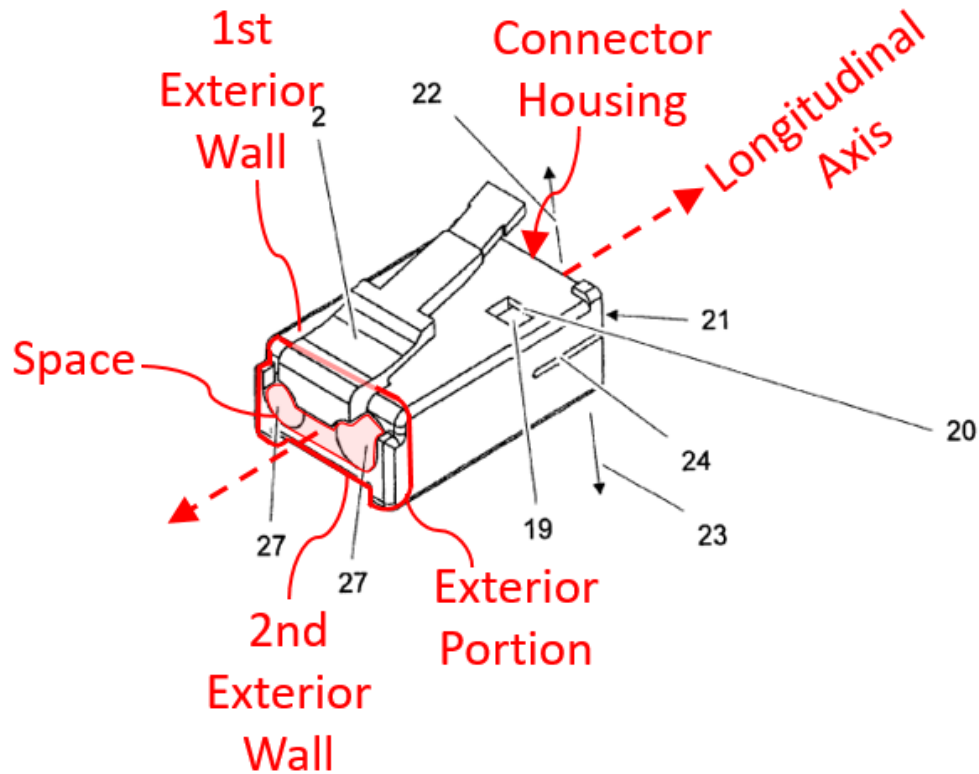
EX1012, FIG. 1 (annotated).

Thus, Nehler discloses [1.A].

3. [1.2]

Nehler discloses a connector housing (connector housing 1) comprising a longitudinal axis and an exterior portion at least partially surrounding the first and second optical ferrules (ferrules 6a/6b). EX1012, 3:1-15; EX1004, ¶¶417-418.





EX1012, FIGS. 1-3 (annotated).

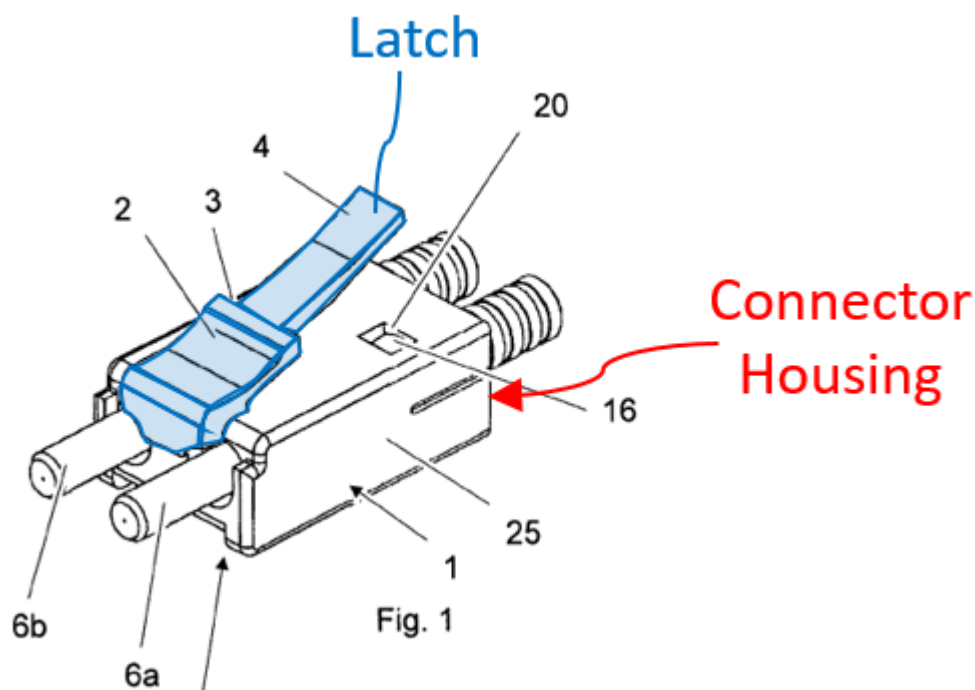
The exterior portion of Nehler's connector housing 1 extends 360° circumferentially with respect to the longitudinal axis about a space (including Nehler's openings 27) in which ferrules 6a/6b are received. The exterior portion of Nehler's connector housing 1 includes a first exterior wall (top wall) positioned above the first and second optical ferrules (i.e., ferrules 6a and 6b) and a second exterior wall (bottom wall) positioned beneath ferrules 6a/6b. EX1004, ¶¶418-4420.

Thus, Nehler discloses [1.B].

4. [1.3]

(a) Nehler

Nehler discloses a locking device 2 that is “integral[ly] hinge[d]” with the top of connector housing 1. EX1012, 3:3-8.

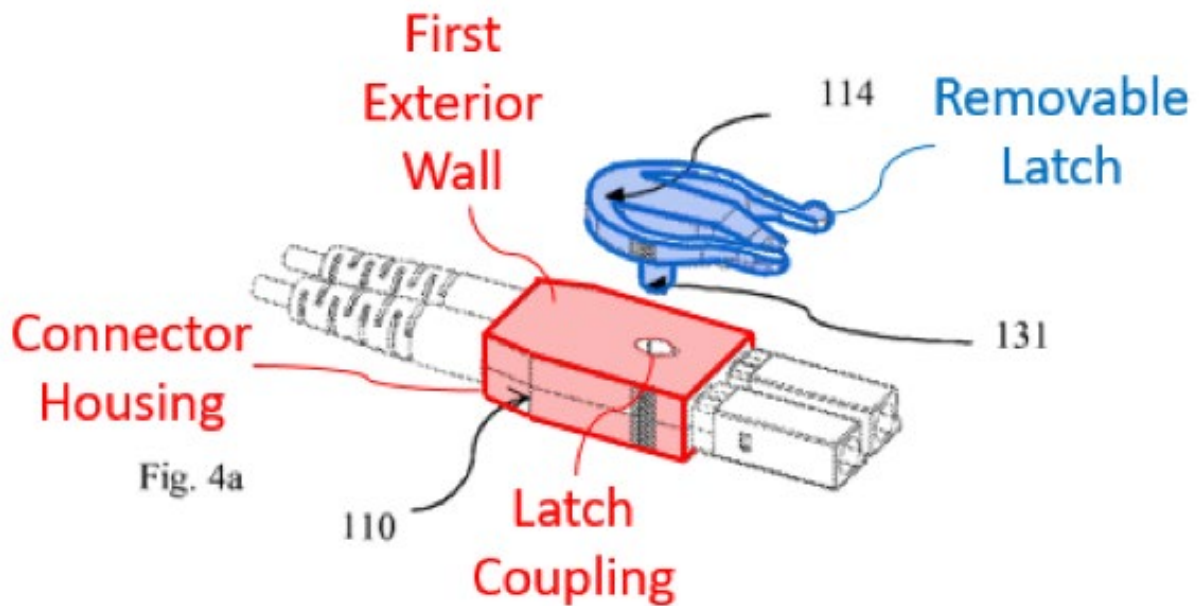


EX1012, FIG. 1 (annotated).

Senko may allege Nehler does not expressly teach latch couplings positioned on the first and second exterior walls of the connector housing to be coupled to Nehler’s locking device 2. But providing latch couplings on a connector housing to make the latch removably coupled to the connector housing was well known, as taught by Limbert. EX1004, ¶¶421-422.

(b) Limbert

Limbert discloses a latch coupling positioned on each of the first and second exterior walls of connector housing in the form of openings on the top and bottom walls of connector body 110. EX1004, ¶423; EX1013, 5:25-31.



EX1012, FIG. 4a (annotated).

(c) MTC

A POSITA would have been motivated to combine the teachings of Limbert's latch couplings with Nehler's connector to allow the polarity of Nehler's connector to be altered. §XII.A; EX1004, ¶¶424-425; EX1013, 2:37-51, 5:25-31.

Thus, the Nehler-Limbert combination renders obvious [1.3].

5. [1.4]

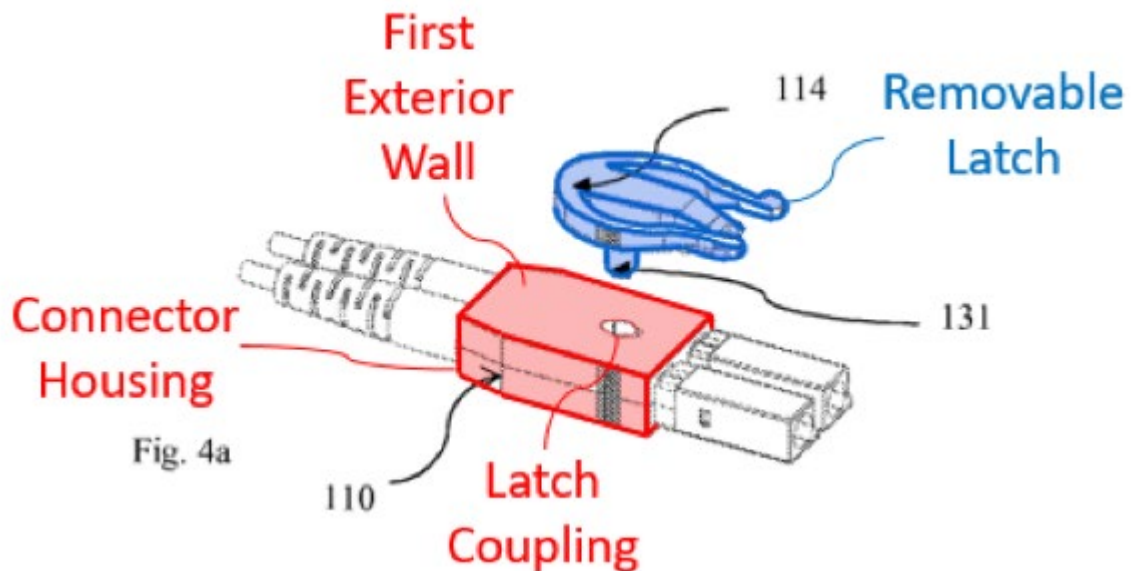
(a) Nehler

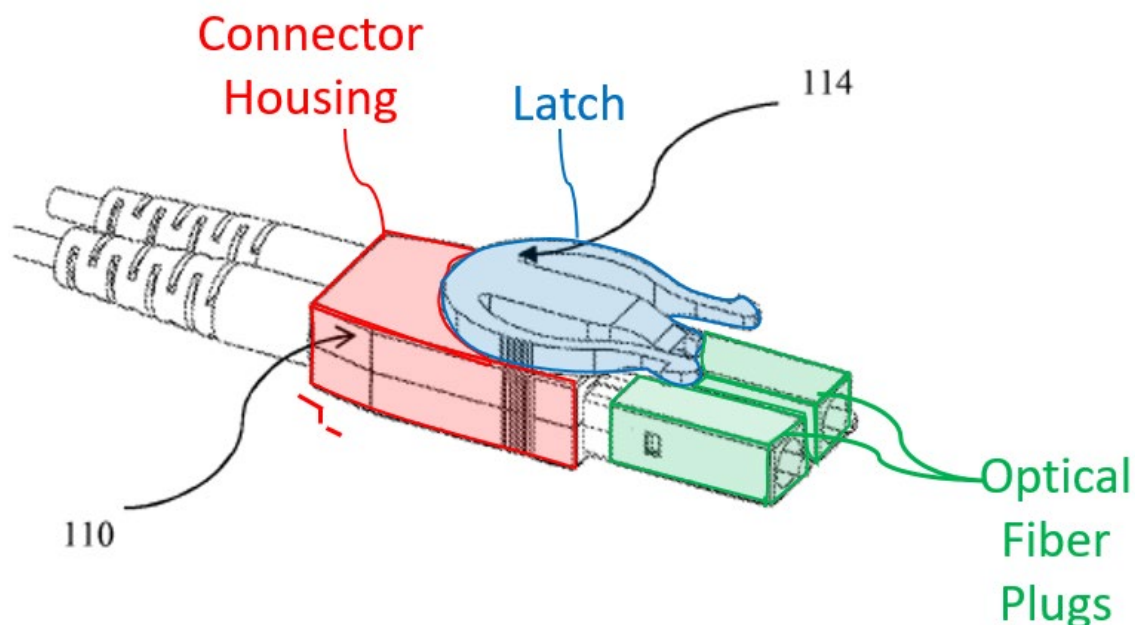
Nehler discloses a latch in the form of locking device 2. EX1012, 3:3-8; EX1004, ¶¶426-427.

Nehler is silent about locking device 2 being removable to engage either of the first and second exterior wall latch couplings on the connector housing.

(b) Limbert

Limbert discloses the recited “removable latch” in the form of “latch mechanism 114 [that] is configured to be releasably mountable on each of two opposing faces of the connector body 112.” EX1013, 5:25-31; EX1004, ¶428.





EX1013, FIGS. 4a-b.

(c) MTC

A POSITA would have been motivated to combine the teachings of Limbert's removable latch with Nehler's connector to allow the polarity of Nehler's connector to be altered. §XII.A; EX1004, ¶¶429-430; EX1013, 2:37-51, 5:25-31.

Thus, the Nehler-Limbert combination renders obvious [1.4].

6. [1.5]

(a) Nehler

Senko may allege Nehler does not disclose positioning locking device 2 on the first exterior wall of housing 1 to yield a first connector polarity and positioning locking device 2 on the second exterior wall of housing 1 to yield a second connector polarity. EX1004, ¶¶431-432.

(b) Limbert

Limbert discloses [1.5] in the form of latch 114 being coupled to the top wall of connector body 110 to yield a first polarity and to the bottom wall of connector body 110 to yield a second polarity. EX1013, 2:37-46, 5:25-31; EX1004, ¶¶433-434.

(c) MTC

Once the Nehler-Limbert combination is made, a POSITA would have understood that Nehler's locking device 2 would have been coupled to the top wall of housing 1 to yield a first polarity and to the bottom wall of housing 1 to yield a second polarity. A POSITA would have been motivated to do so to allow Nehler's connector to accommodate cross and through patch cord connections. §XII.A; EX1004, ¶¶435-436; EX1013, 2:37-51, 5:25-31.

Thus, the Nehler-Limbert combination renders obvious [1.5].

D. Claim 2

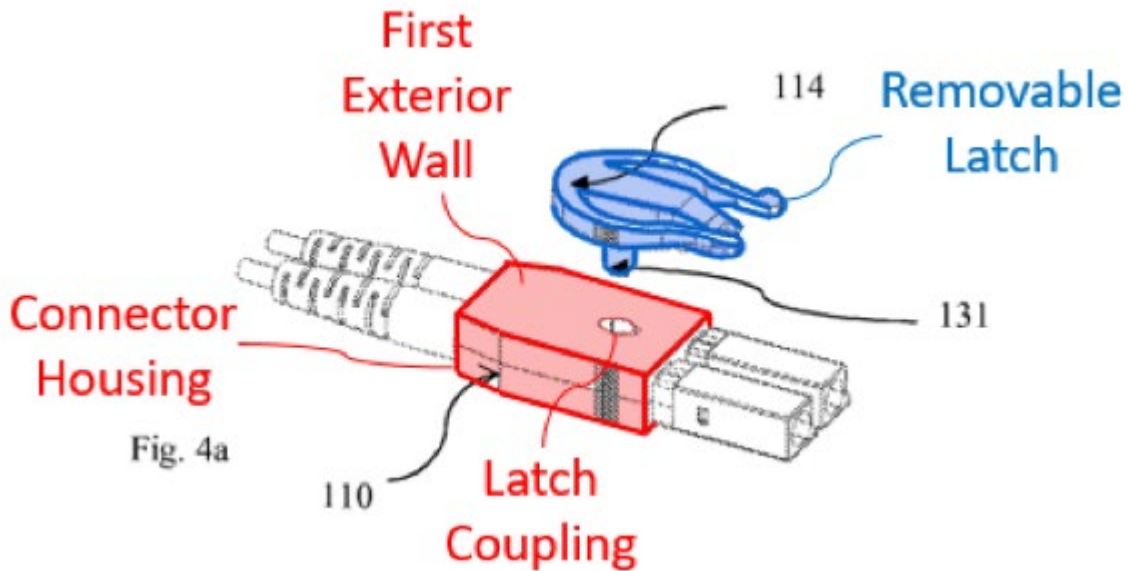
1. [2.1]

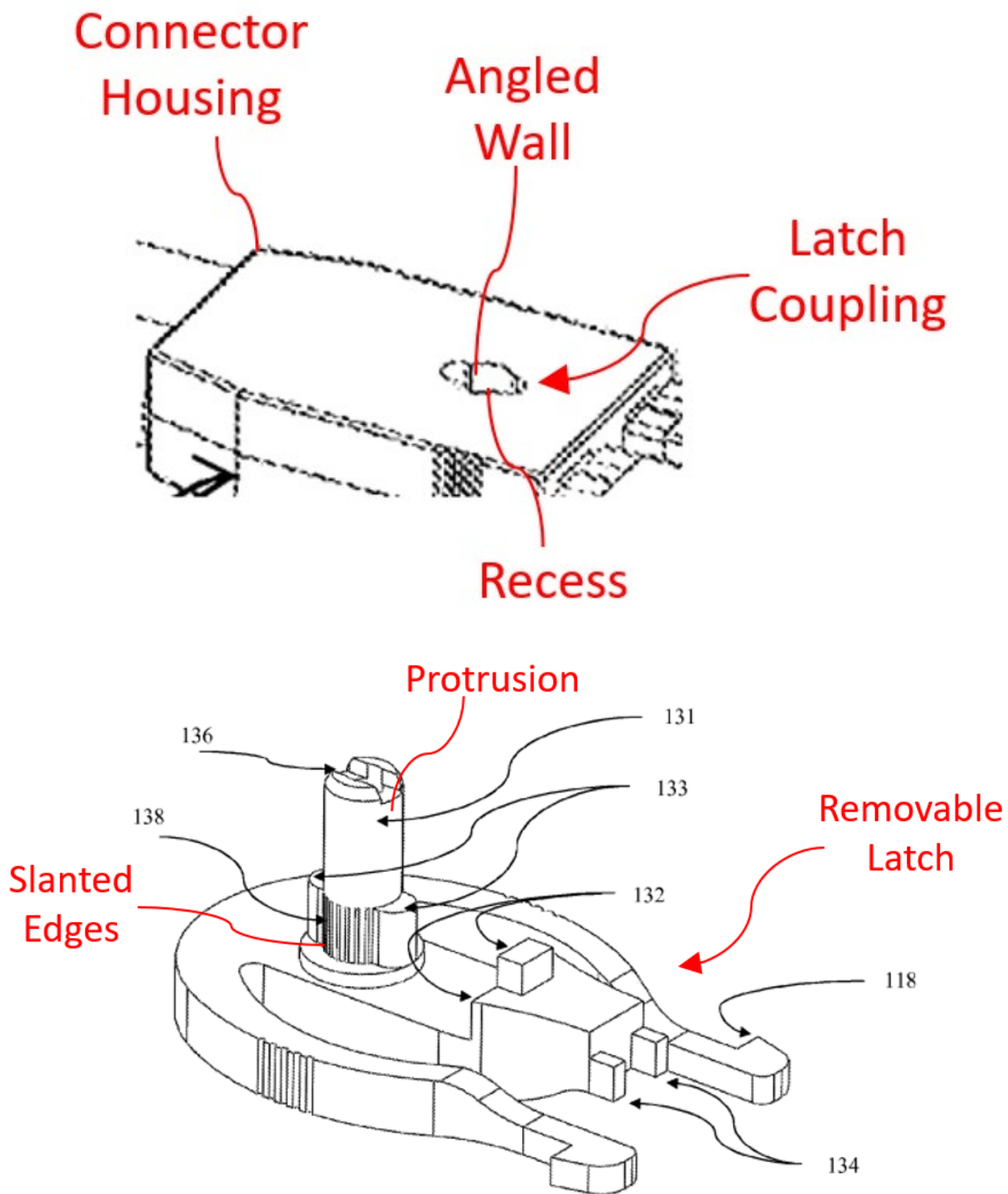
(a) Nehler

Senko may argue that Nehler does not expressly disclose latch couplings on the first and second exterior walls of housing 1 includes at least a recess with angled walls. EX1004, ¶¶438-439.

(b) Limbert

Once the Nehler-Limbert combination is made, Limbert discloses latch couplings that include a recess with angled walls. A POSITA would have understood that Limbert's connector body 112 includes a recess having angled walls to effectively engage with the coarse spline feature 138 of the latch's spigot 131 that is inserted into the recess. EX1004, ¶¶440-441; EX1013, 5:25-34, 5:56-58. And Limbert's spline 138 would interface with the corresponding angled surfaces located along the walls of Limbert's recess. EX1004, ¶¶441.





EX1013, FIGS. 4a, 4c (annotated-partial).

(c) MTC

A POSITA would have sought to include angled wall recesses, as taught by Limbert, on the first and second exterior walls of Nehler's connector housing to increase resistance between coupling surfaces, thereby preventing inadvertent latch disassembly. §XII.A; EX1004, ¶¶442-443.

Thus, the Nehler-Limbert combination renders obvious [2.1].

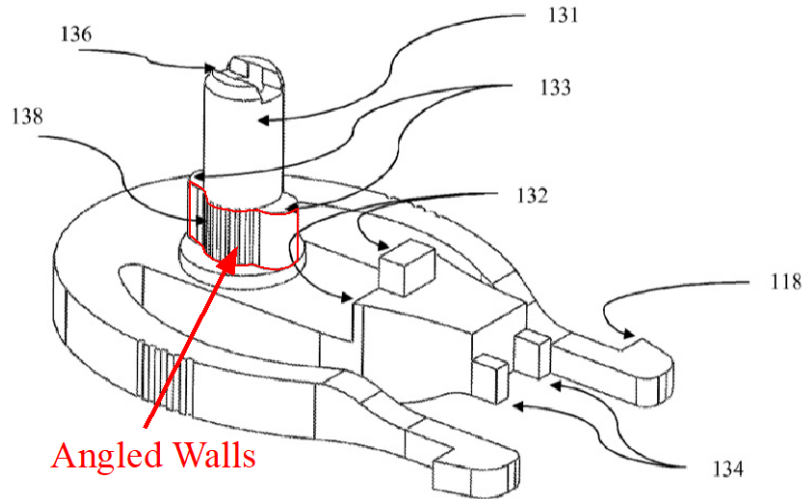
2. [2.2]

(a) Nehler

Senko may argue that Nehler does not expressly disclose locking device 2 includes at least a protrusion with slanted edges for coupling with the angled walls of the recess on the first exterior wall or the angled walls of the recess on the second exterior wall. EX1004, ¶¶444-445.

(b) Limbert

Once the Nehler-Limbert combination is made, Limbert teaches the latch that includes a protrusion with slanted edges as recited in [2.2] in the form of "coarse spline feature 138" on spigot 131 "to create resistance when inserting into the main connector body." EX1013, 5:56-58. EX1004, ¶¶446-448.



EX1013, FIG. 4c (annotated-partial).

(c) MTC

A POSITA would have sought to include a protrusion with slanted edges, as taught by Limbert, for coupling with the angled walls of the recess on the first and second exterior walls of Nehler's modified connector housing to increase resistance between coupling surfaces, thereby preventing inadvertent latch disassembly.

§XII.A; EX1004, ¶¶449-450.

Thus, the Nehler-Limbert combination renders obvious [2.2].

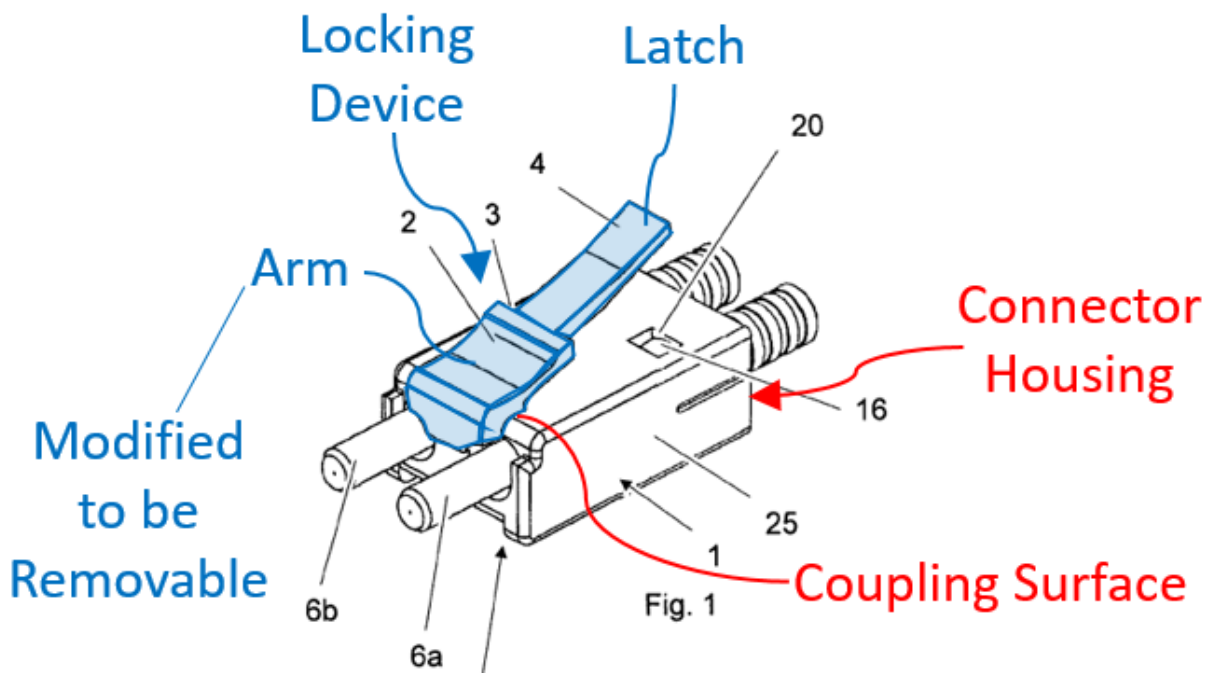
E. Claim 9

1. [9.P]

The preamble should not be considered limiting. But, if so, the Nehler-Limbert combination renders obvious a reversible polarity fiber optic connector.

§XII.C.1.

The Nehler-Limbert combination renders obvious “exchangeable arms for changing connector type” because Nehler’s housing, as modified by Limbert, is configured to receive an exchangeable arm with a latch configuration. EX1004, ¶¶451-453. A POSITA would have found it obvious to provide Nehler-Limbert’s exchangeable arm that includes either a latch for connecting to a corresponding recess of an adapter receptacle or a recess for connecting to a corresponding latch of an adapter receptacle, as a reversal of parts. EX1004, ¶¶454-455.



EX1012, FIG. 1 (annotated).

Thus, the Nehler-Limbert combination renders obvious [9.P].

2. [9.1]

As discussed with respect to [1.1], Nehler discloses “first and second optical ferrules.” §XII.C.2; EX1004, ¶456.

3. [9.2]

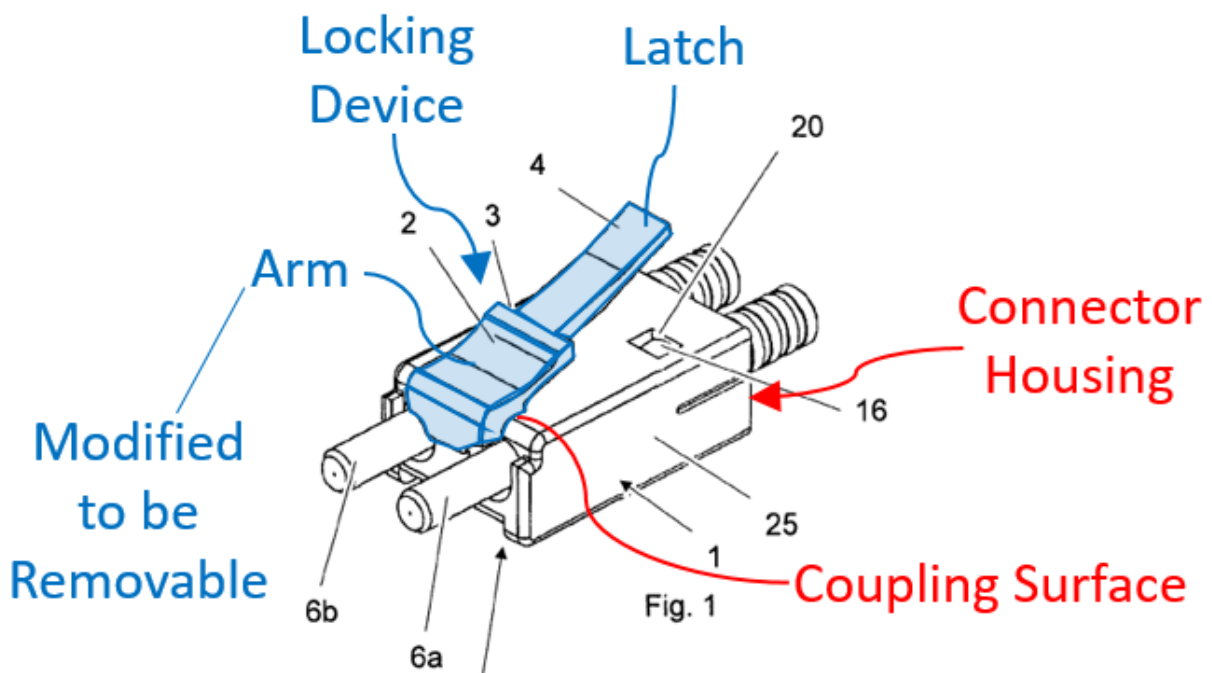
As discussed with respect to [1.2], Nehler discloses the recited “a common connector housing” of [9.2]. §XII.C.3; EX1004, ¶¶457-459.

4. [9.3]

Elements [9.3]/[1.3] are patentably indistinct. EX1001, Reexamination Cert., 1:34-35, 1:59-61. The Nehler-Limbert combination renders [9.3] obvious. §XII.C.4; EX1004, ¶¶460-462.

5. [9.4]

Combining the teachings of Limbert’s removable latch 114 with Nehler renders obvious the recited “removable arm ... including ... a latch” because Nehler’s modified locking device 2 includes a latch arm configured to engage the top and bottom housing walls and includes a latch. §XII.C.5; EX1004, ¶¶463-465.



EX1012, FIG. 1 (annotated).

Thus, the Nehler-Limbert combination renders [9.4] obvious.

6. [9.5]

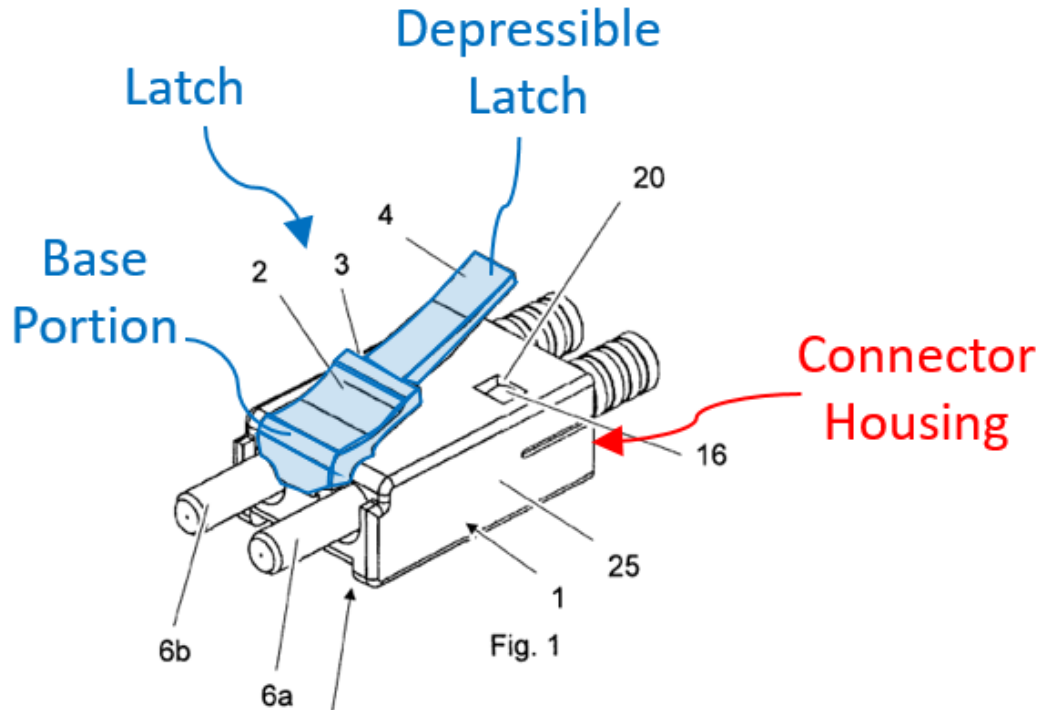
Combining the teachings of Limbert's removable latch 114 with Nehler's connector renders obvious "a fiber optic connector with a first polarity" and "a fiber optic connector with a second polarity," as recited in claim 9. §XII.C.6; EX1004, ¶¶466-467.

Thus, the Nehler-Limbert combination renders [9.5] obvious.

F. Claim 27

1. [27.1]

Nehler discloses a latch that comprises a base portion and a depressible latch in the form its locking device 2. EX1004, ¶469; EX1012, 3:3-8. The section of Nehler's locking device 2 coupled to connector housing 1 corresponds to the recited "base portion" and Nehler's actuation bar 4 corresponds to the recited "depressible latch." And combining the teachings of Limbert's releasably mountable latch with Nehler's connector would have made the base portion of Nehler's locking device 1 be releasably coupled to top and bottom surfaces of Nehler's connector housing 1. EX1004, ¶¶470-471.

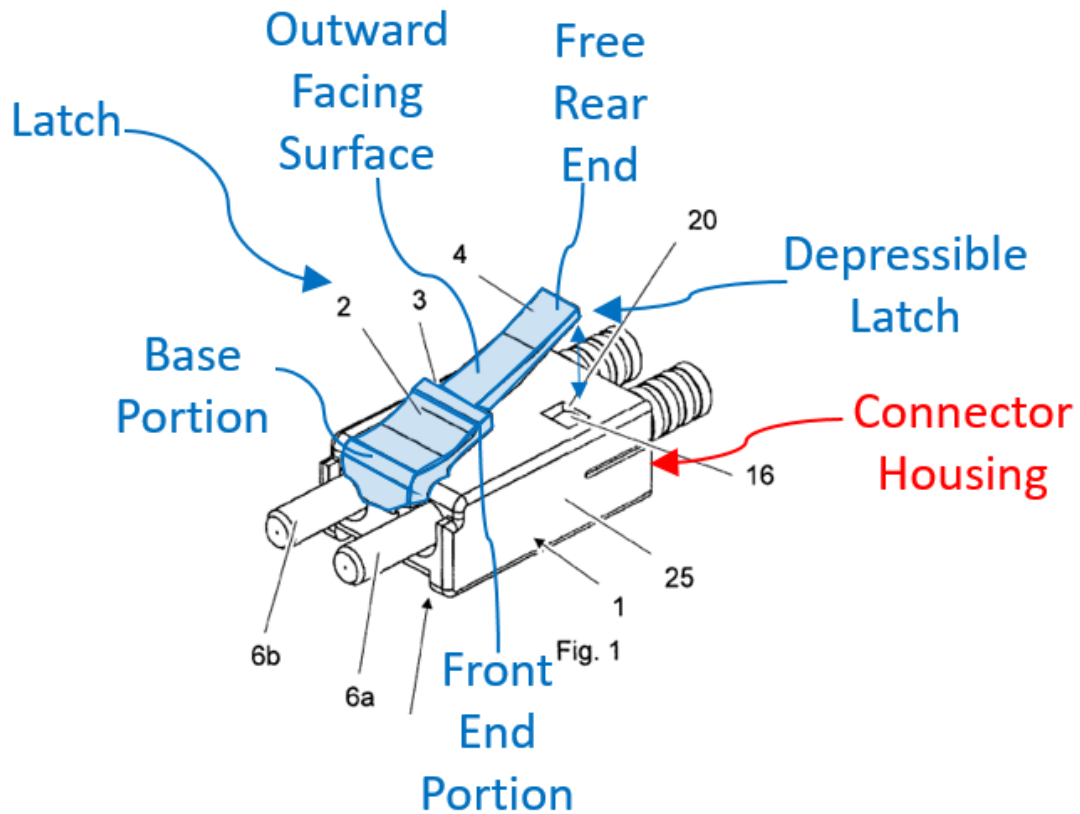


EX1012, FIG. 1 (annotated).

Thus, the Nehler-Limbert combination renders obvious [27.1].

2. [27.2]

Nehler discloses a depressible latch (locking device 2) having a front end portion (locking edge 3) connected to the base portion, a free rear end portion (actuator bar 4) spaced apart from the front end portion along the axis and being raised relative to the front end portion (locking device 3), and an outward facing longitudinal surface extending along the axis from the front end portion to the free rear end portion. EX1004, ¶¶472-474; EX1012, 3:3-8.

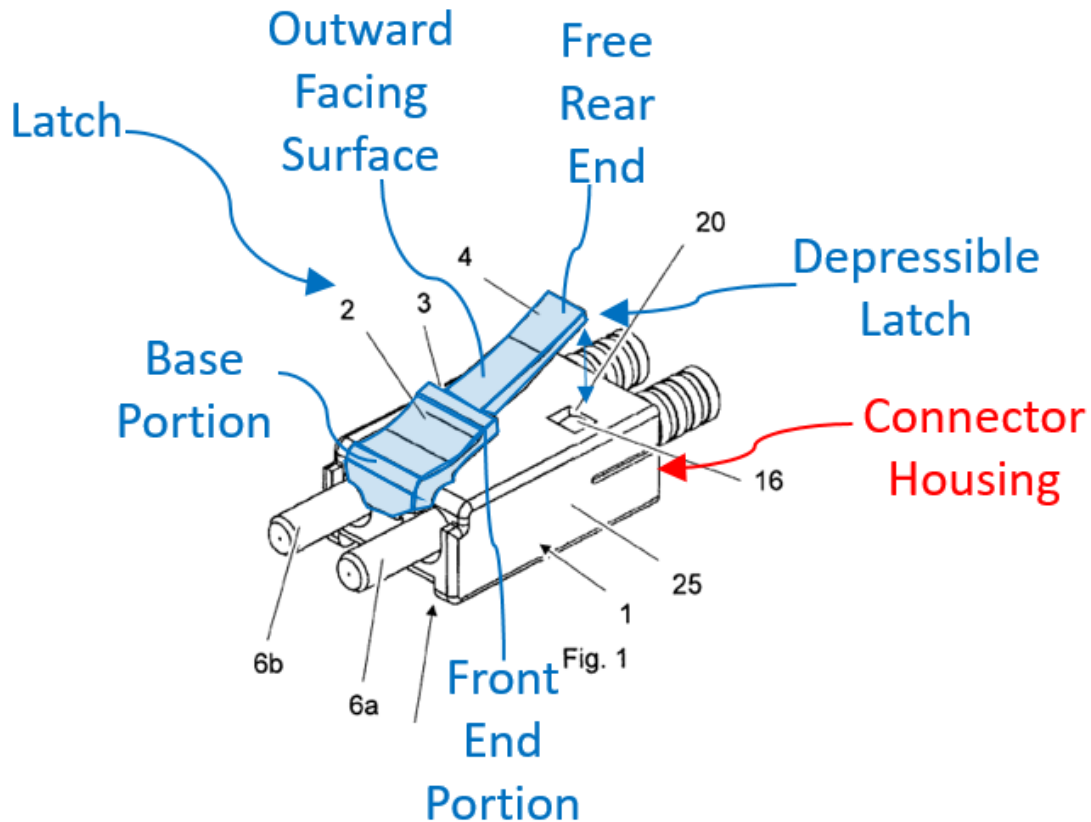


EX1012, FIG. 1 (annotated).

Thus, the Nehler-Limbert combination renders obvious [27.2].

3. [27.3]

Nehler discloses locking device 2 being bendable such that the free rear end portion (actuation bar 4) can be depressed toward the base portion at least in the vertical direction. EX1012, 3:3-8; EX1004, ¶475.



EX1012, FIG. 1 (annotated).

A POSITA would have also found it obvious to extend the latch's base portion further rearward, such that the latch's free end is depressed downward directly toward the base portion, to add stability to the latch in the Nehler-Limbert combination. EX1004, ¶¶476-477.

Thus, the Nehler-Limbert combination renders obvious [27.3].

G. Claim 32

While Nehler does not explicitly state that ferrules 6a/6b have a pitch of about 4.8 mm or less, a POSITA would have found it obvious to arrange the ferrules within the recited pitch range given that Nehler's connector housing 1 is

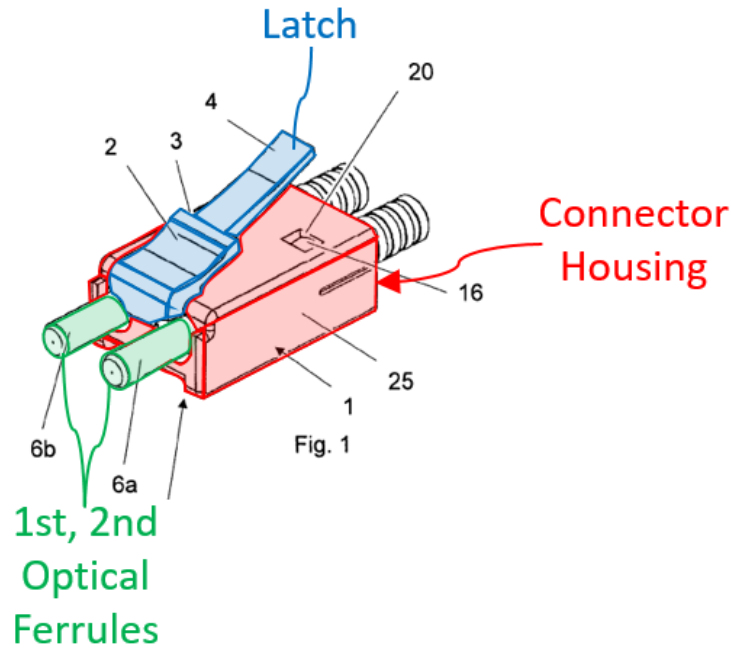
sized according to the dimensions of a RJ45 connector. EX1012, 3:51-55; EX1004, ¶¶478-479.

Because Nehler's connector housing 1 meets a RJ45 footprint, a POSITA would have understood that the width of Nehler's connector housing 1 to be 11.68 mm from the exterior surface of first sidewall 25 to the exterior surface of second sidewall 25. EX1004, ¶¶480-481; EX1015. And a POSITA would have understood that equally spacing standard-sized ferrules, such as SC or LC ferrules, within Nehler's housing 1 would have resulted in maintaining a pitch of 4.8 mm or less. To ensure that Nehler's connector housing 1 meets the specifications of a RJ45 connector, a POSITA would have been motivated to arrange standard-sized ferrules within Nehler's housing 1 at a pitch of about 4.8 mm or less. EX1004, ¶¶481-482.

Thus, the Nehler-Limbert combination renders obvious claim 32.

H. Claim 33

Nehler discloses a single combined housing for each of the first and second optical ferrules in the form of its connector housing 1. EX1012, 3:3-9; EX1004, ¶¶483-484.

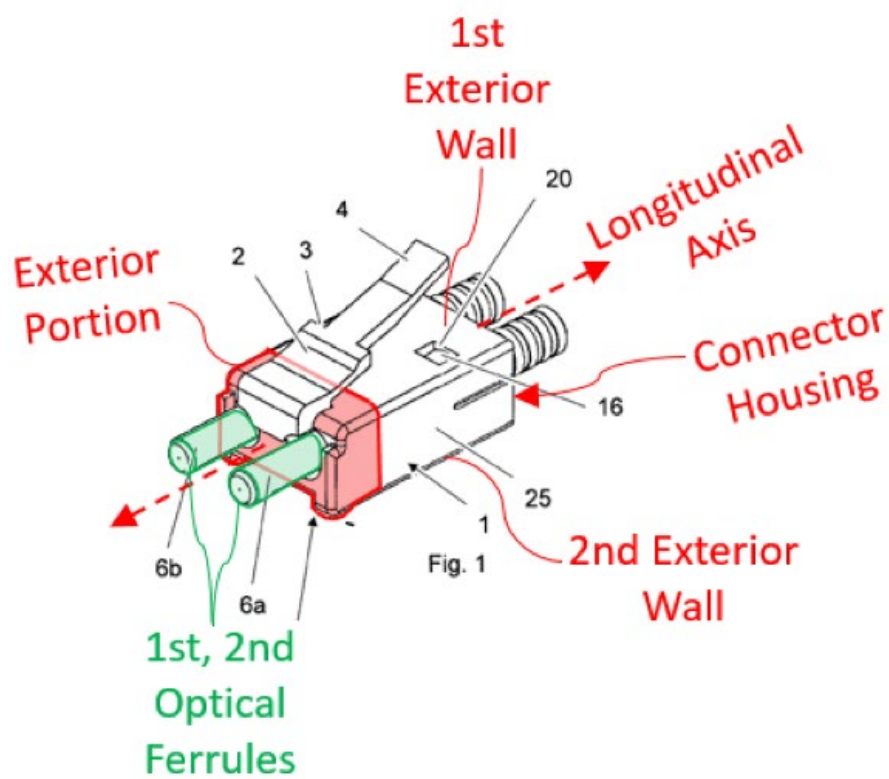
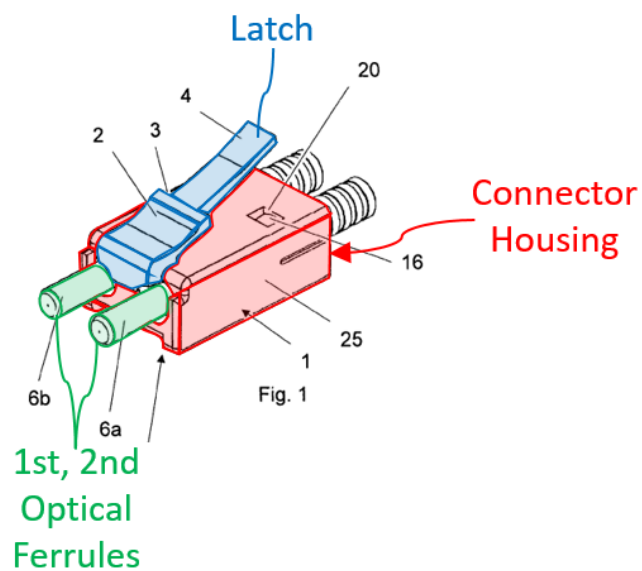


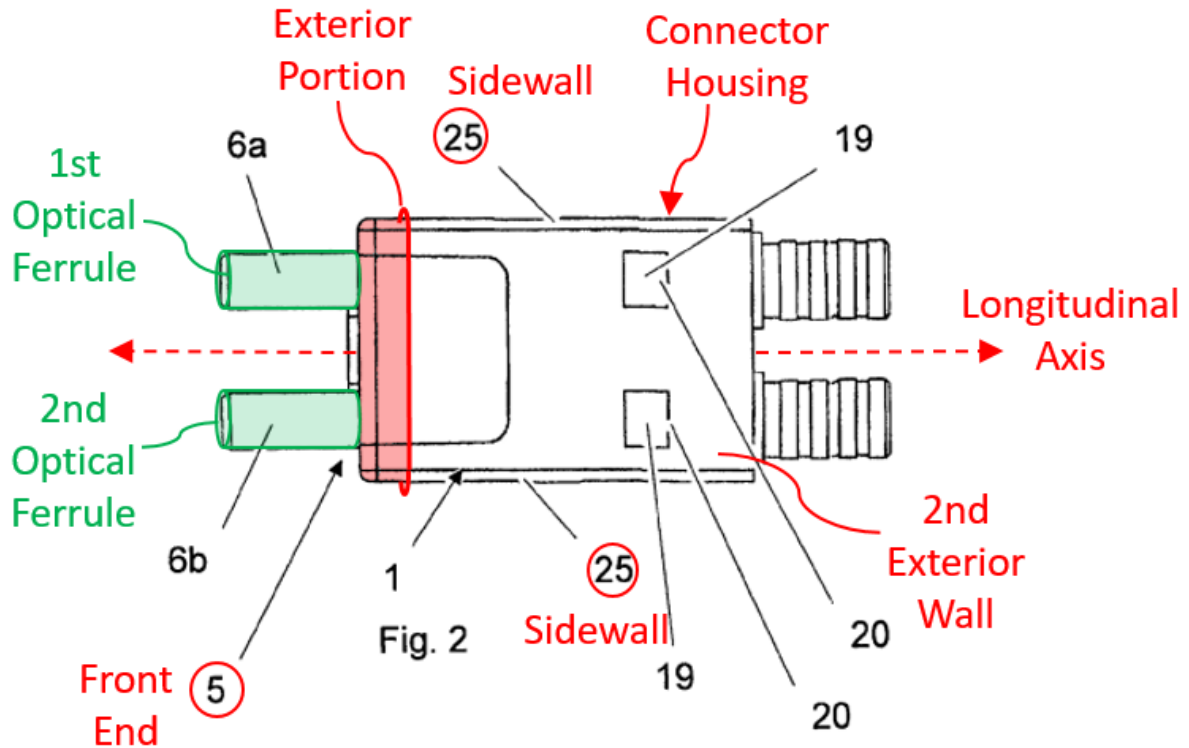
EX1012, FIG. 1.

Thus, the Nehler-Limbert combination renders obvious claim 33.

I. Claim 34

Nehler discloses the exterior portion of housing 1 radially overlapping a longitudinal segment of each of the first and second optical ferrules (ferrules 6a/6b) with respect to the axis, as annotated below. EX1012, 3:3-9; EX1004, ¶¶485-487.





EX1012, FIGS. 1-2 (annotated).

Thus, the Nehler-Limbert combination renders obvious claim 34.

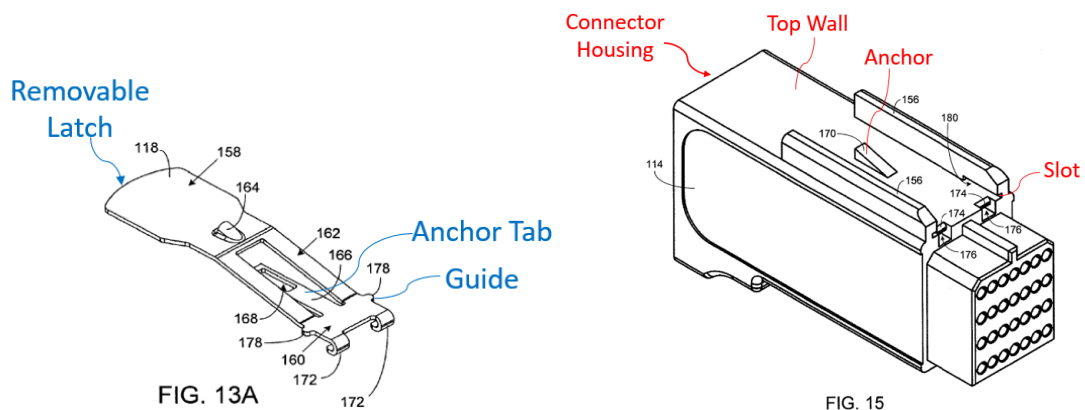
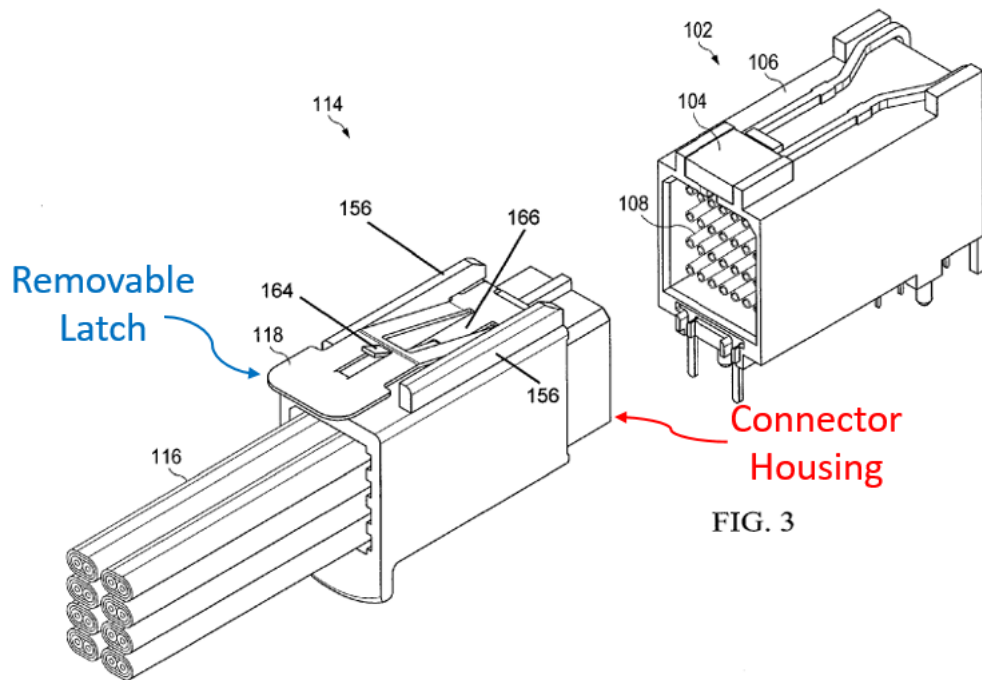
XIII. NEHLER-LIMBERT IN VIEW OF SOUBH RENDERS OBVIOUS CLAIMS 6, 11 AND 30

A. Motivation to Combine

A POSITA would have found it obvious to combine Nehler, Limbert, and Soubh to arrive at the claims addressed below prior to the '230 patent filing date. A POSITA would have been motivated to incorporate aspects of Soubh's latch coupling interface with Nehler-Limbert so that Nehler's locking device 2 is mounted and displaced by translational movement. EX1004, ¶¶488-489.

The Nehler-Limbert combination is silent about the latch couplings including a groove/track and the latch having a projection/protrusion for engaging a latch/track.

Soubh describes removably coupling a latch 118 to a connector housing 114 by sliding guides 178 of latch 118 through slots 180 on the top wall of connector 114. §VIII.C.1; EX1017, ¶¶56, 57, 60; EX1004, ¶¶490-491.



EX1017, FIGS. 3, 13A, and 15 (annotated).

A POSITA would have been motivated to combine the teachings of Soubh's slidably-coupled latch interface with Nehler-Limbert to make the connector assembly process more convenient. EX1004, ¶¶492-495. A POSITA would have understood that inserting a coarse splined-spigot into a corresponding opening of the housing, as taught in Limbert, would require substantial exertion to overcome the "resistance" generated by the coarse spline. EX1004, ¶¶495-498; EX1013, 5:56-58.

Soubh provided a known way of securing a latch to a fiber connector housing—a groove and protrusion interface—without the need to overcome the spline resistance. EX1017, ¶¶56, 57, 60. In combining the teachings of Limbert's removable latch with Nehler, a POSITA would have been motivated to implement another type of fastening structure—Soubh's groove/protrusion interface—for securing Nehler's locking device 2 to housing 1 that would expedite the assembly process and improve the durability of Nehler's locking device 2. EX1004, ¶¶495-498.

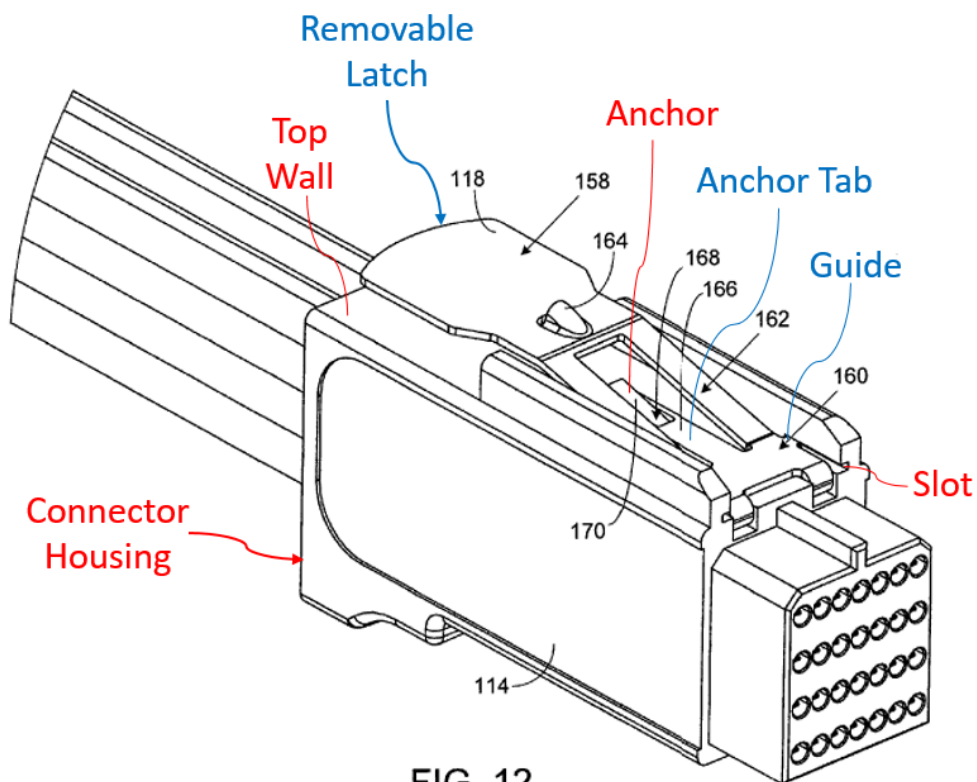
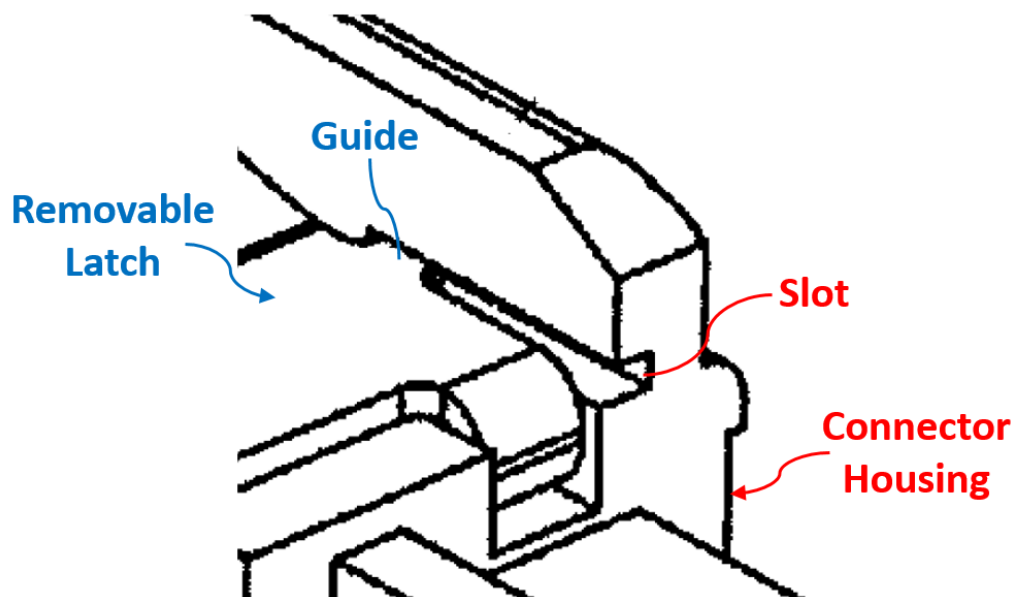


FIG. 12



EX1017, FIG. 12 (annotated-partial).

Recognizing that Limbert teaches making the latch selectively coupled to the upper wall and bottom wall of the connector housing to adjust the connector's

polarity, a POSITA would have also been motivated to provide grooves, as taught by Soubh, on both the upper and bottom walls of Nehler's housing 1. EX1004, ¶496.

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in implementing the teachings of Soubh's latch coupling interface with Nehler-Limbert because adding projections (Soubh's guides 178) to the base of Nehler's modified locking device 2 and a groove (Soubh's slots 180) to Nehler's modified connector housing would still allow Nehler's actuation bar 4 to releasably mate with an adapter. EX1004, ¶499. Indeed, Nehler and Soubh use similar rearward-extending latches. *Id.* All these modifications would have simply been a substitution of one known feature (Soubh's groove/protrusion interface) for another, yielding the predictable result of assembling Nehler's modified connector with less exertion. EX1004, ¶¶499-500.

C. Claim 6

1. [6.1]

(a) Nehler-Limbert

The Nehler-Limbert combination discloses latch couplings on the first and second exterior walls of a connector housing in the form of an opening. §XII.C.4; EX1004, ¶502.

Senko may argue that Nehler-Limbert does not explicitly disclose latch couplings including a groove.

(b) Soubh

Soubh discloses latch couplings that include a groove in the form of slots
180. §VIII.F.1; EX1004, ¶¶503-504; EX1017, ¶¶60.

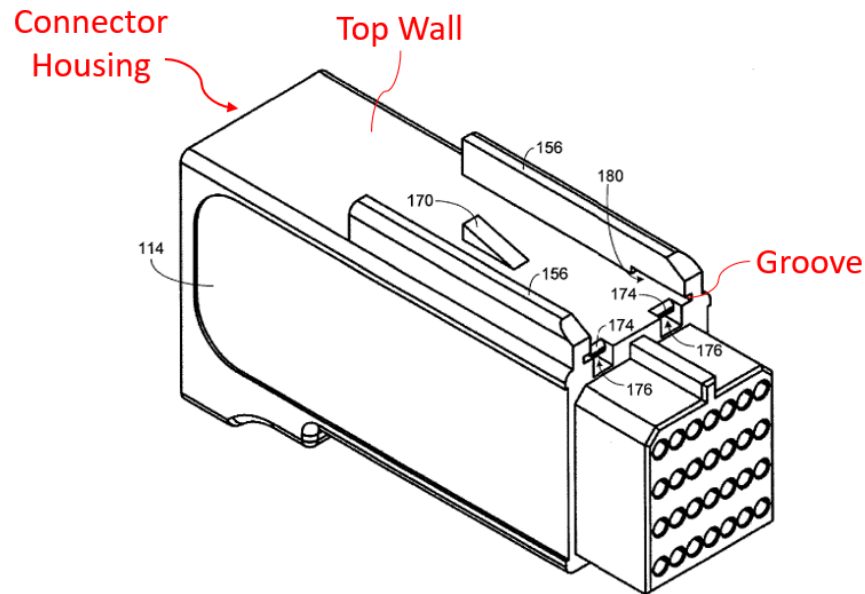


FIG. 15

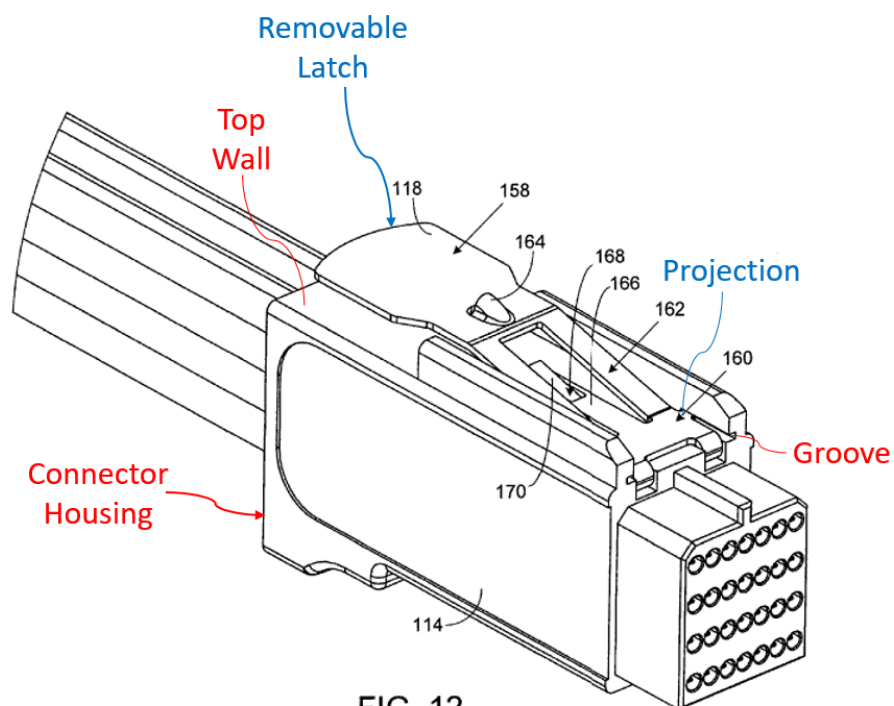
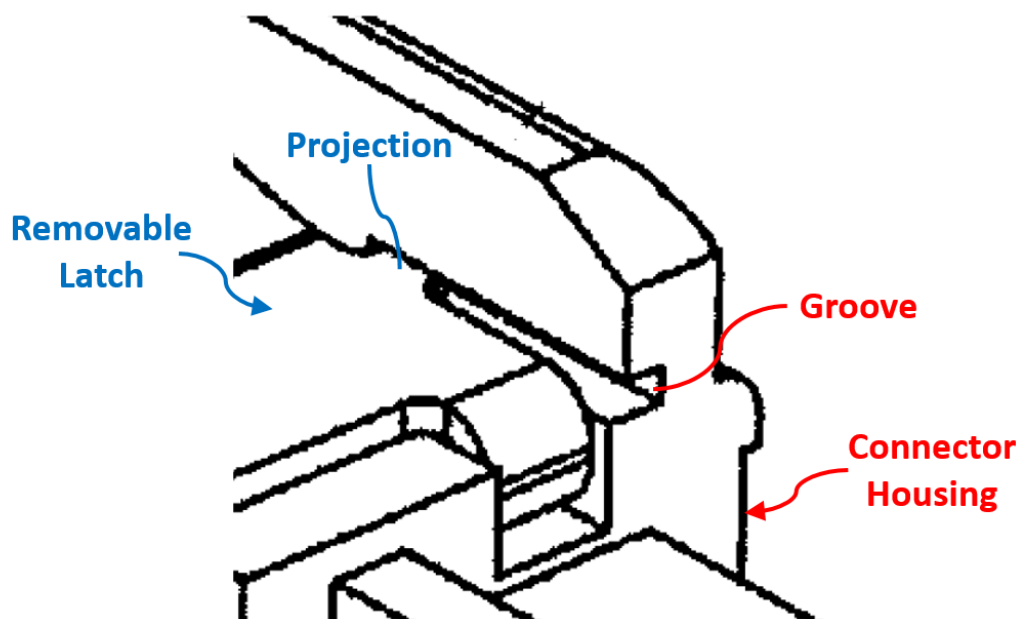


FIG. 12



EX1017, FIGS. 15 and 12 (annotated-partial).

(c) MTC

A POSITA would have sought to combine the teachings of Soubh's slot/guide interface with Nehler-Limbert to simplify the assembly process. §XIII.A; EX1004, ¶¶505-506.

Thus, the Nehler-Limbert-Soubh combination renders [6.1] obvious.

2. [6.2]

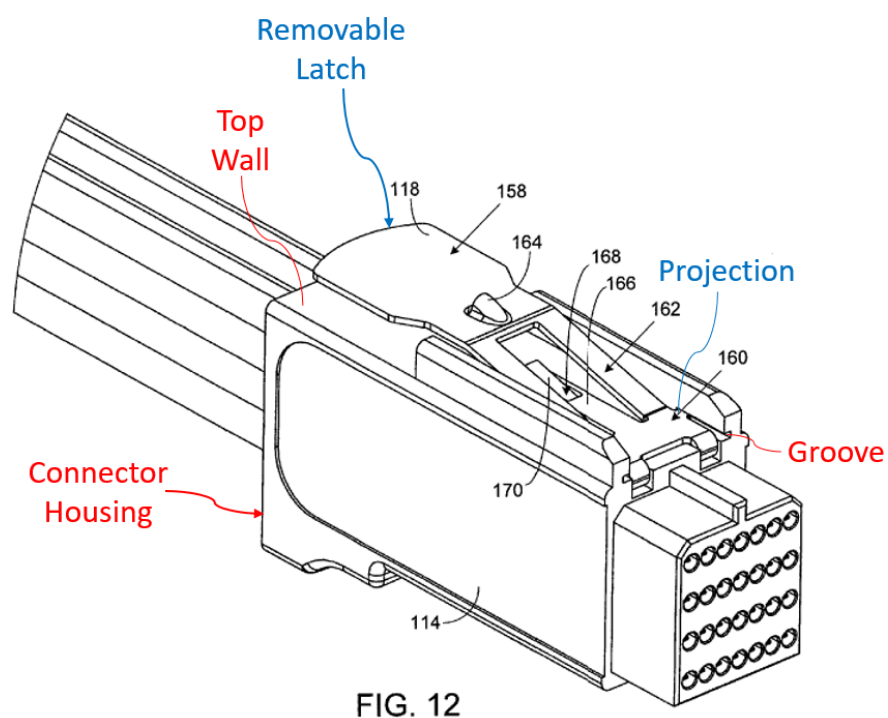
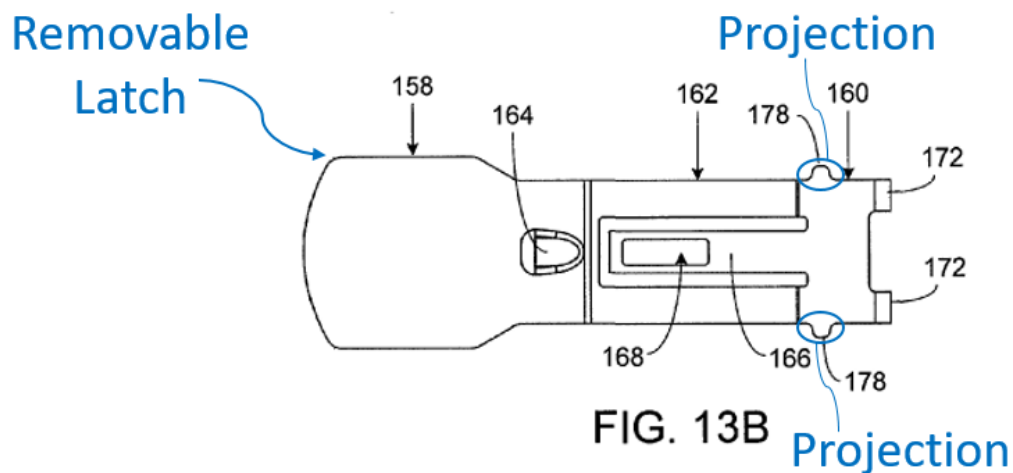
(a) Nehler-Limbert

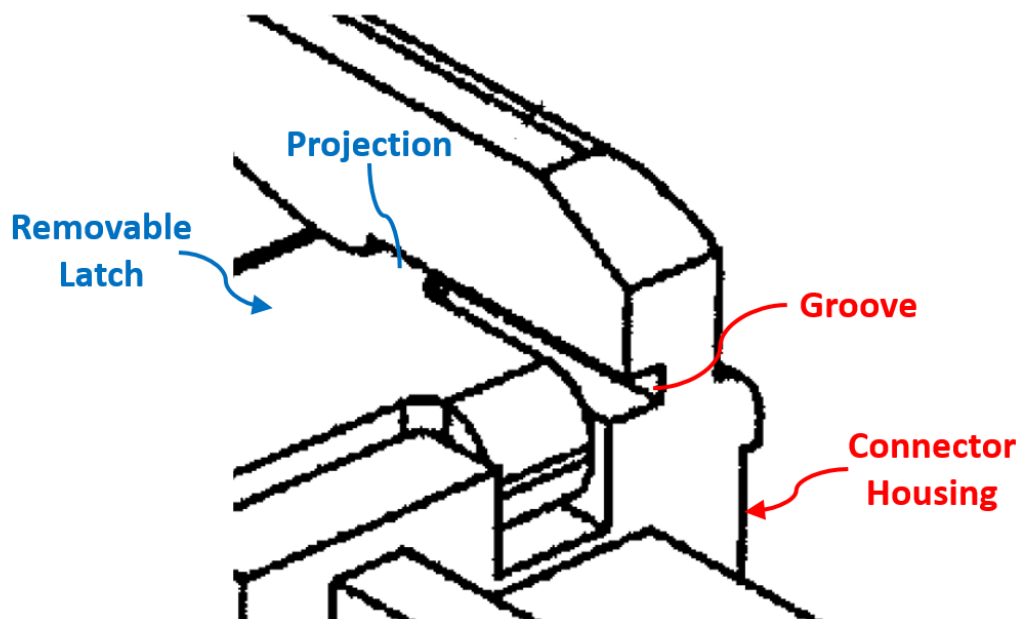
The Nehler-Limbert combination discloses a removable latch having a spigot (Limbert's spigot 131) to engage openings on the housing's top/bottom walls to yield the connector in first and second polarities. §XIII.A; EX1004, ¶507; EX1013, 5:25-31.

Senko may argue that the spigot of the Nehler-Limbert combination is not a projection to couple with a groove.

(b) Soubh

Soubh discloses the recited projection in the form of guides 178 coupling with slots 180. §VIII.F.2; EX1017, ¶60; EX1004, ¶508.





EX1017, FIGS. 13B and 12 (annotated-partial).

(c) MTC

A POSITA would have sought to combine the teachings of Soubh’s slot/guide interface with Nehler-Limbert to simplify the assembly process. §XIII.A; EX1004, ¶¶509-510.

Thus, the Nehler-Limbert-Soubh combination renders [6.2] obvious.

D. Claim 11

1. [11.1]

When Nehler, Limbert, and Soubh are combined, Soubh discloses the recited “receiving track” in the form of slots 180. §VIII.H.1; EX1004, ¶¶512-514.

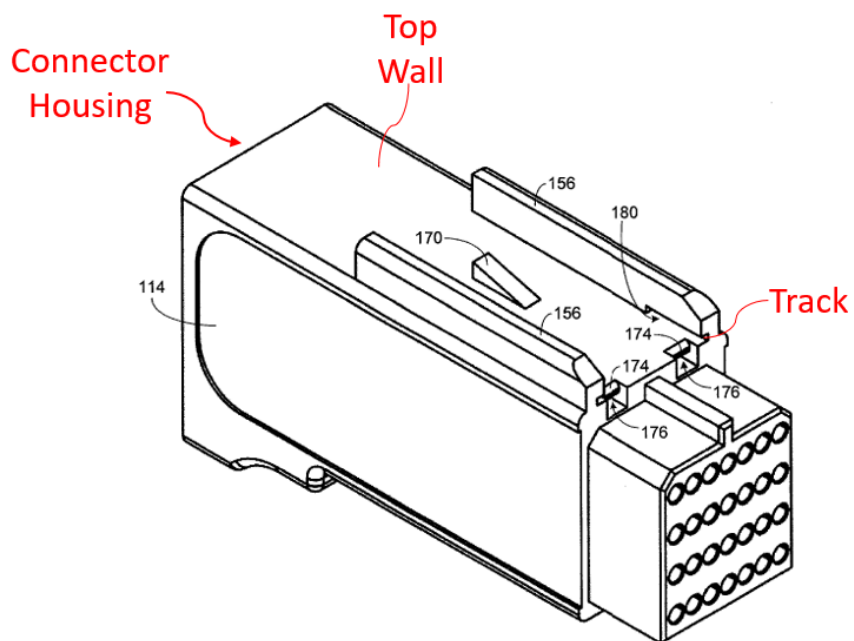


FIG. 15

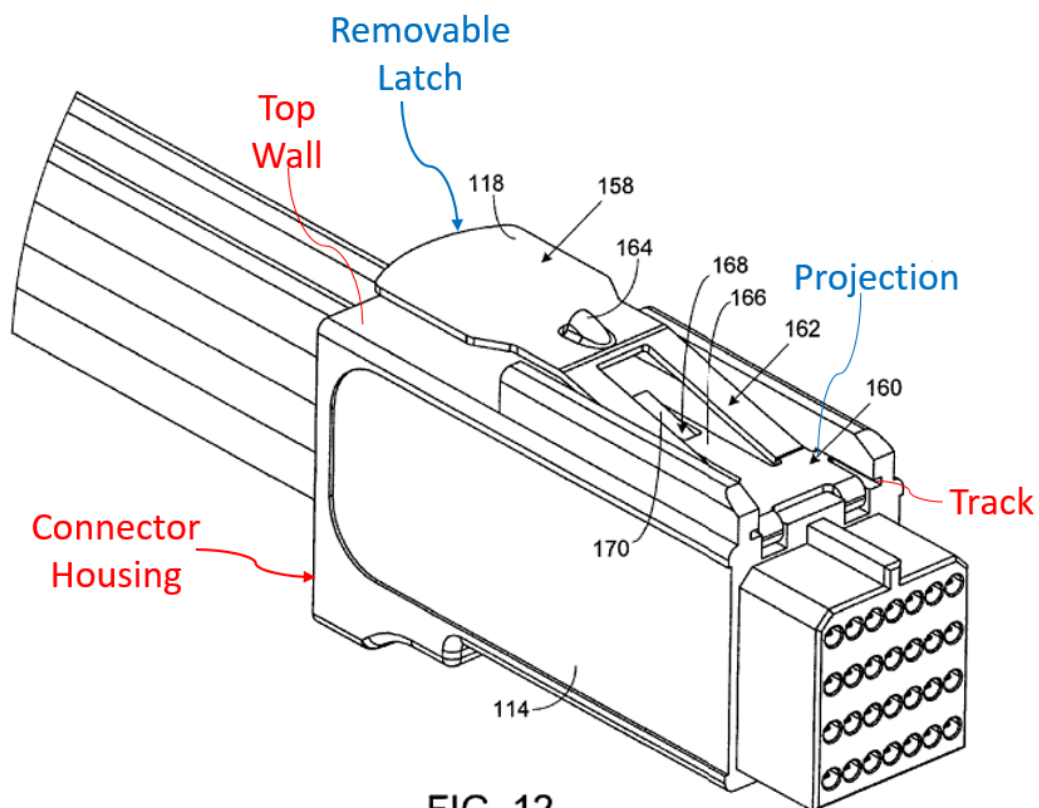
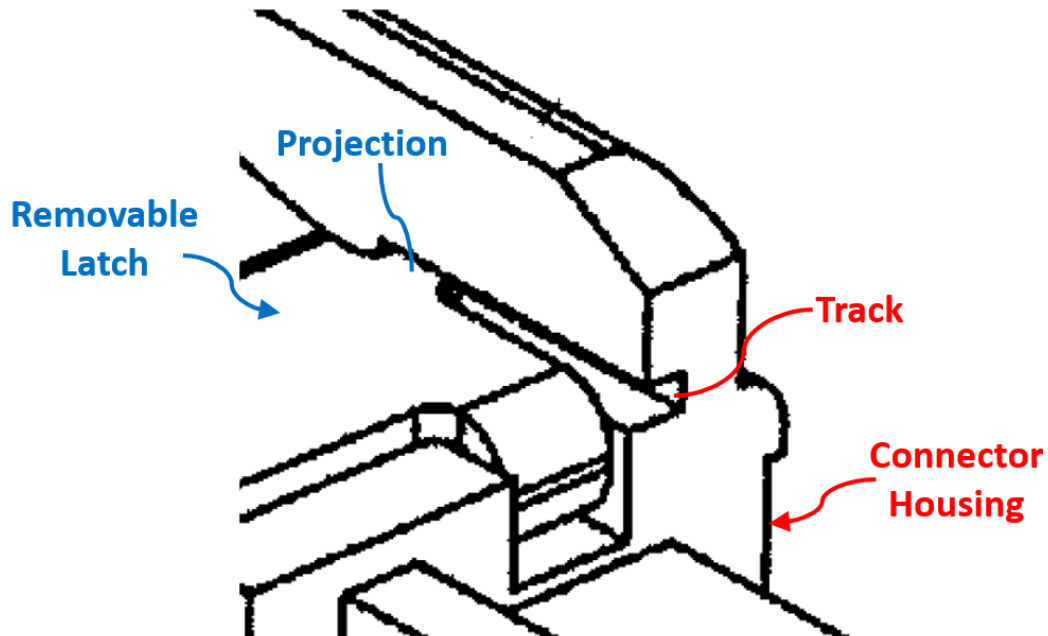


FIG. 12

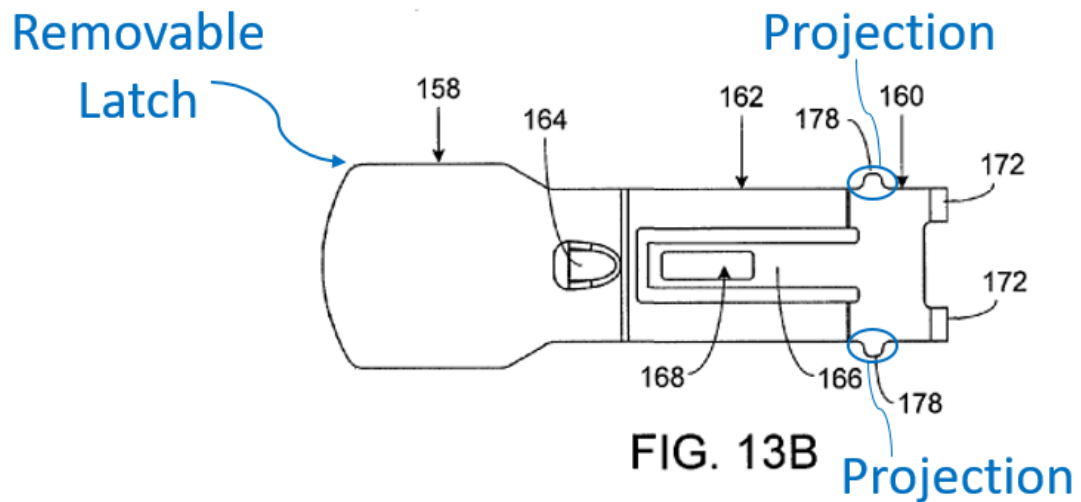


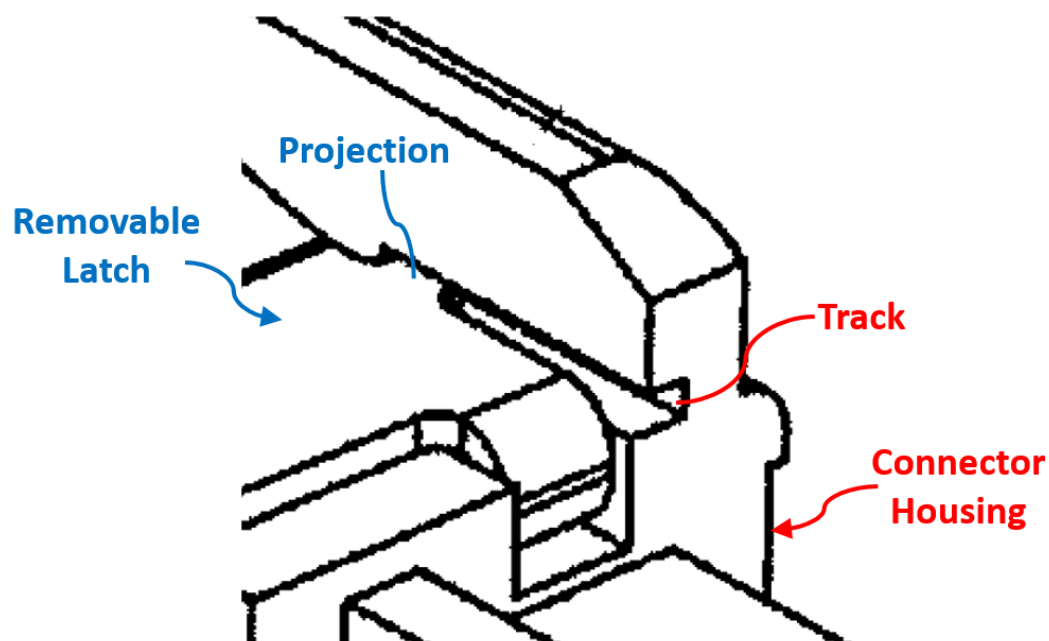
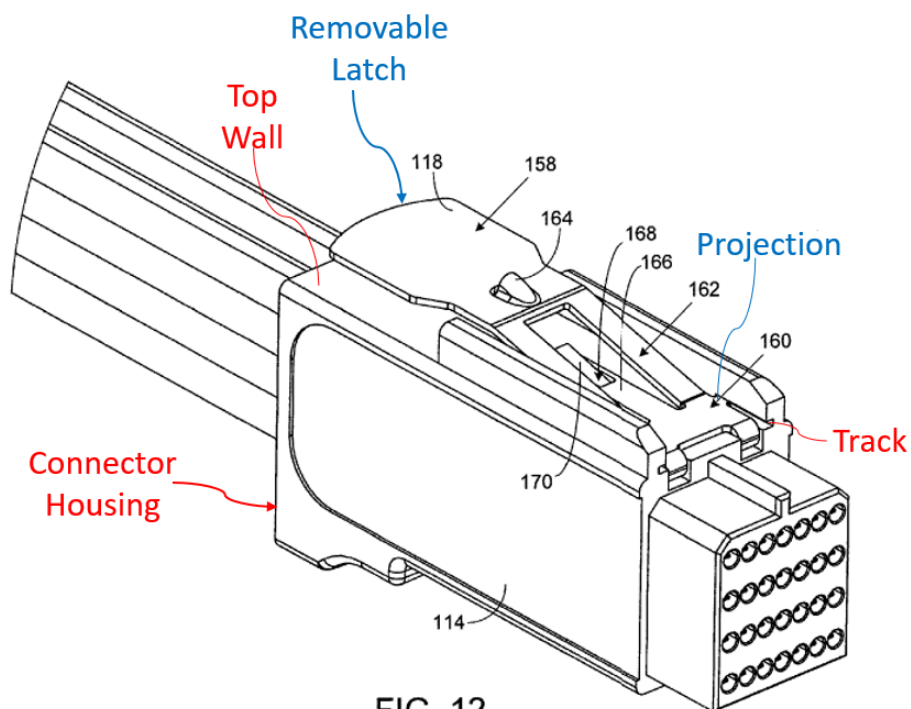
EX1017, FIGS. 15 and 12 (annotated-partial).

Thus, the Nehler-Limbert-Soubh combination renders obvious [11.1].

2. [11.2]

When Nehler, Limbert, and Soubh are combined, Soubh discloses the recited “projection” in the form of guides 178. §VIII.H.2; EX1004, ¶¶515-517.





EX1017, FIGS. 13B and 12 (annotated-partial).

Thus, the Nehler-Limbert-Soubh combination renders obvious [11.2].

E. Claim 30

(a) Nehler-Limbert

Senko may argue that the Nehler-Limbert combination does not disclose latch couplings including a groove having an open axial end and the removable latch comprises a protrusion, as recited in claim 30. EX1004, ¶¶518-519

(b) Soubh

Soubh discloses a groove having an open axial end in the form of slots 180 and a latch protrusion on the base portion for being inserted into the groove through the open end in the form of guides 178. §VIII.J; EX1004, ¶¶520-521; EX1017, ¶60.

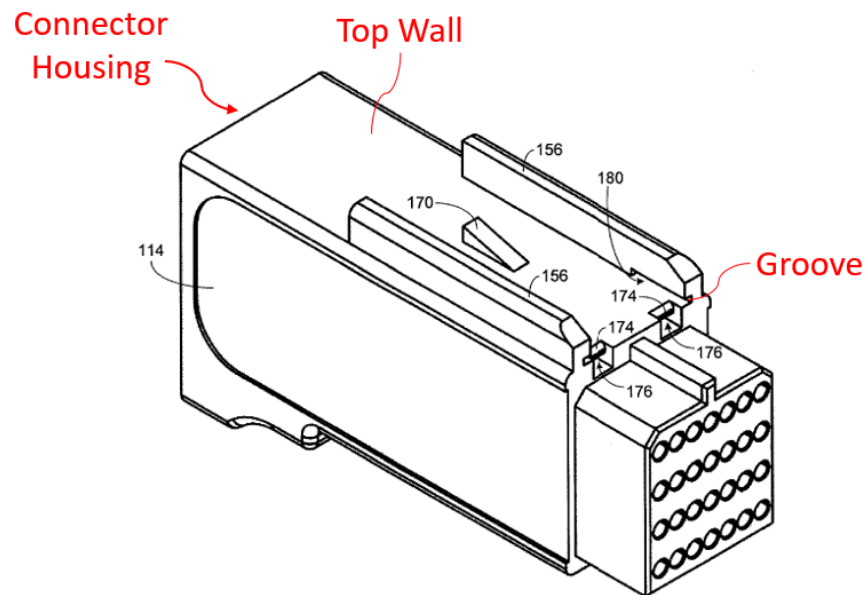
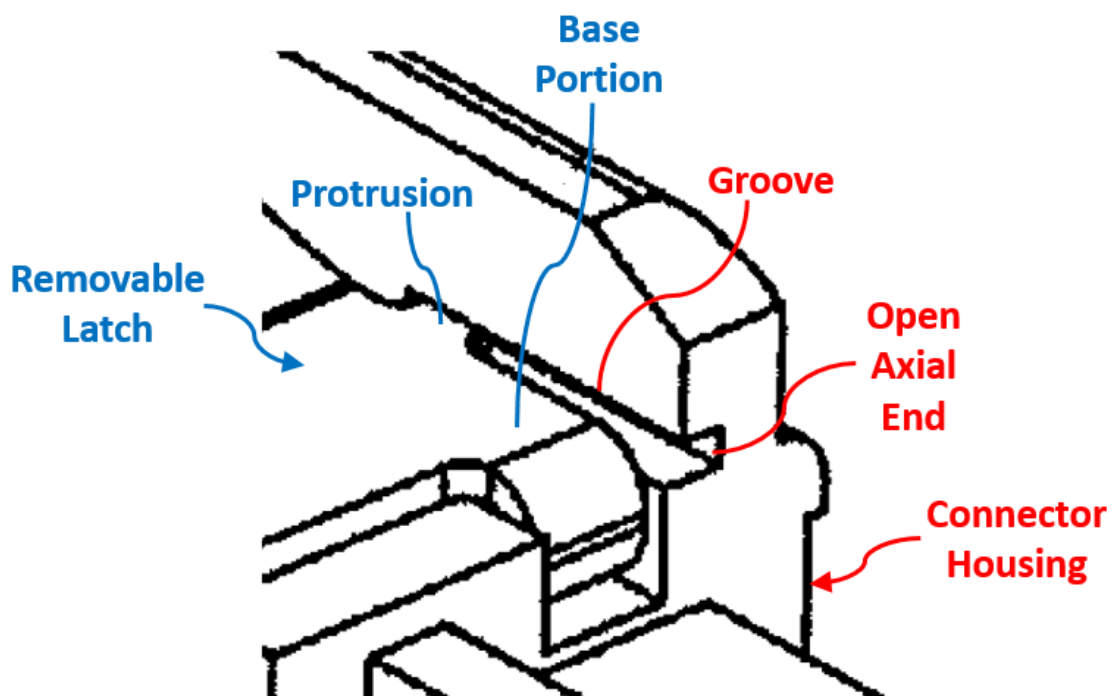
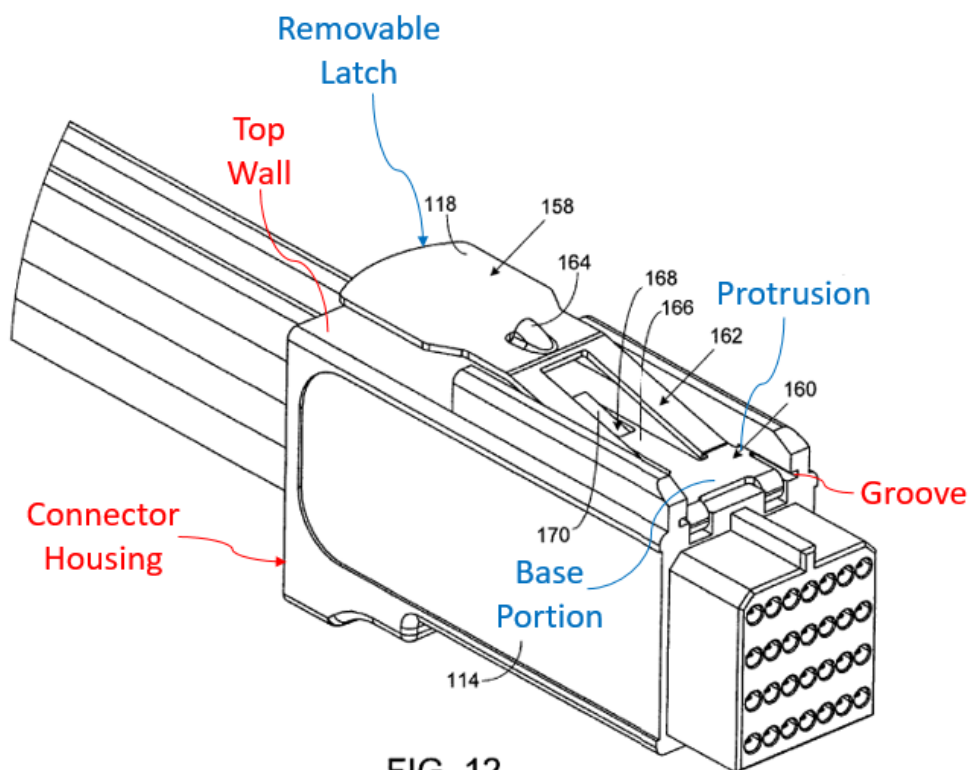


FIG. 15



EX1017, FIGS. 15 and 12 (annotated-partial).

(c) MTC

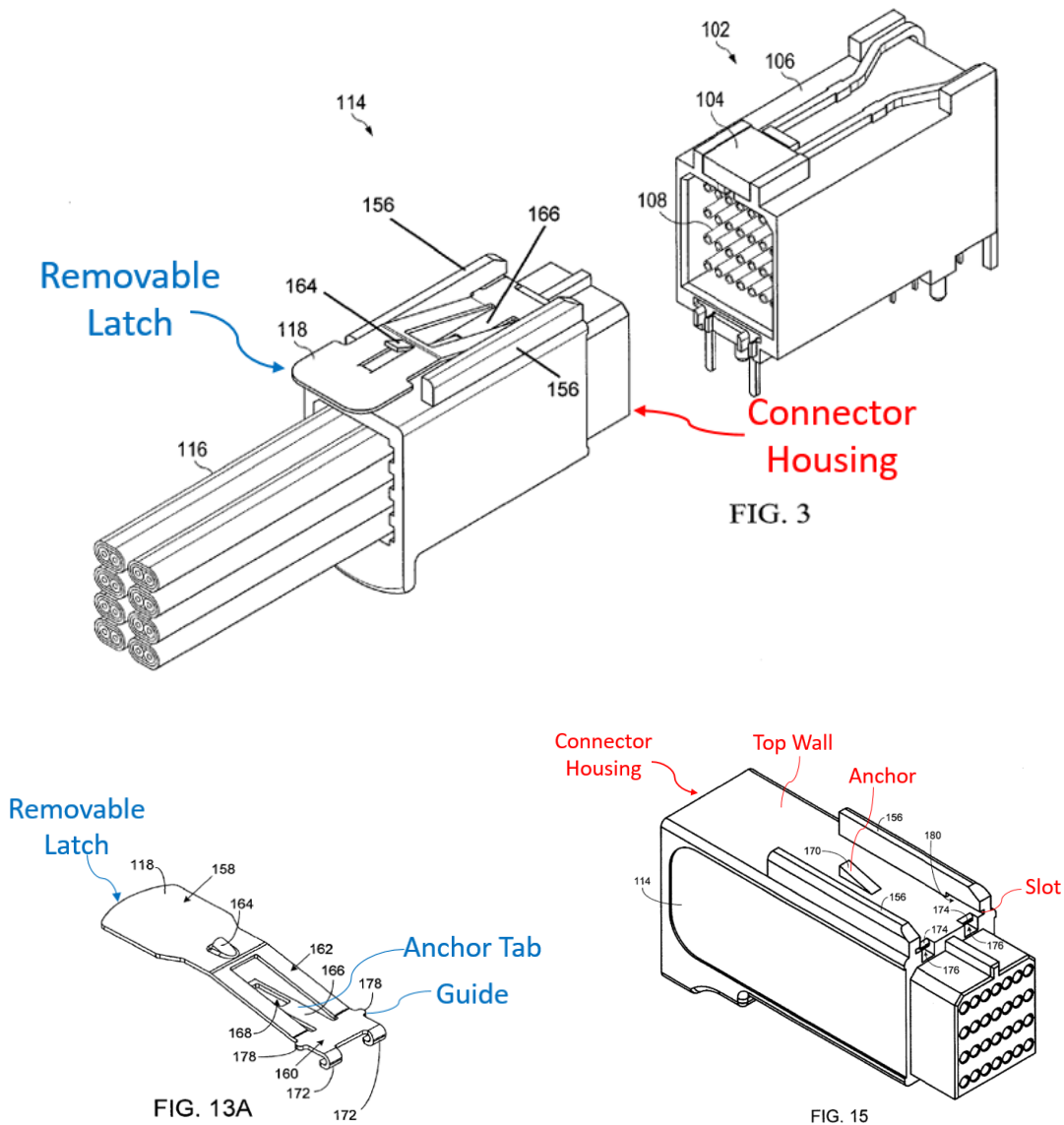
A POSITA would have sought to combine Soubh's slot/guide interface with Nehler-Limbert to simplify the assembly process. §§XIII.A; EX1004, ¶522.

Thus, the Nehler-Limbert-Soubh combination renders claim 30 obvious.

XIV. NEHLER-LIMBERT-SOUBH IN VIEW OF SUZIC RENDERS OBVIOUS CLAIM 26

A. Motivation to Combine Soubh with Nehler-Limbert

A POSITA would have found it obvious to combine Nehler, Limbert, and Soubh to arrive at claim 26 prior to the '230 patent filing date. When combining the teachings of Limbert's removable latch with Nehler, a POSITA would have been motivated to implement another type of fastening structure—Soubh's groove/protrusion interface—for securing Nehler's locking device 2 to housing 1 that would expedite the assembly process. §XIII.A; EX1004, ¶¶524-527.



EX1017, FIGS. 3, 13A, and 15 (annotated).

B. Reasonable Expectation of Success in Combining Soubh with Nehler-Limbert

A POSITA would have had a reasonable expectation of success in implementing the teachings of Soubh's latch coupling interface with Nehler-Limbert because doing so would still allow Nehler's actuation bar 4 to releasably mate with an adapter. §XIII.B; EX1004, ¶¶528-529.

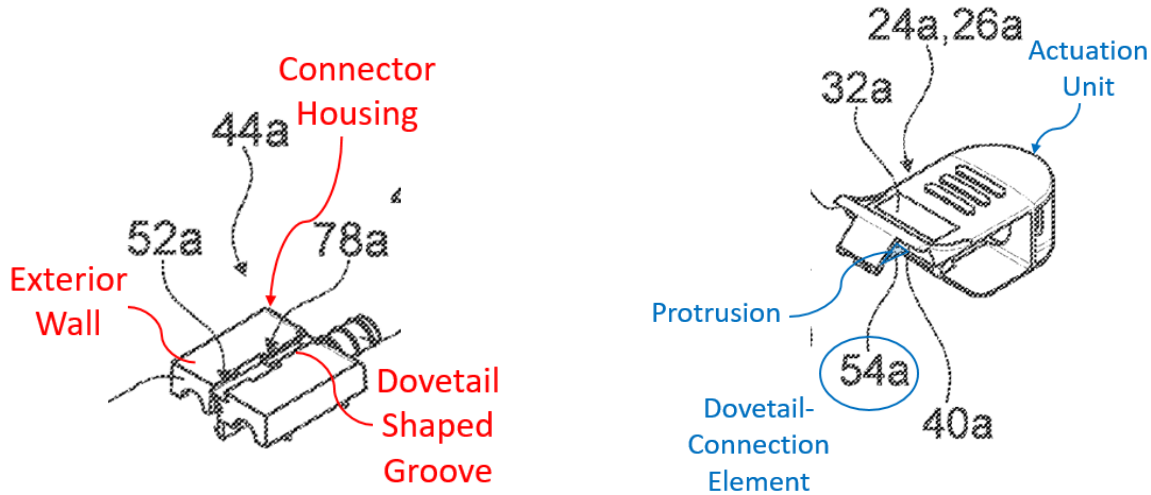
C. Motivation to Combine Suzic with Nehler-Limbert-Soubh

A POSITA would have found it obvious to combine Nehler, Limbert, Soubh and Suzic to arrive at the claimed subject matter addressed below prior to the '230 patent filing date. Particularly, a POSITA would have been motivated to modify the shape of the protrusion of the Nehler-Limbert-Soubh combination to be dovetail shaped, as taught by Suzic, to minimize inadvertent sliding between Nehler's locking device 2 and housing 1. EX1004, ¶530.

The Nehler-Limbert-Soubh combination is silent about the protrusion being dovetail shaped.

Suzic describes a dovetail connection between holding unit 44a and actuation unit 22a. §IX.A; EX1010, ¶¶38-45; EX1004, ¶531. A POSITA would have recognized that Suzic's holding unit 44a is analogous to Nehler's modified housing 1 and that Suzic's actuation unit 22a is analogous to Nehler's modified locking device 2. EX1004, ¶531.





EX1010, FIGS. 1 and 3 (annotated-partial).

A POSITA would have understood that the dovetail shape of Suzic's connector elements provides a "form-fit" coupling that minimizes inadvertent sliding. §IX.A; EX1010, ¶41; EX1004, ¶¶532-533. Accordingly, a POSITA would have been motivated to modify the shape of the latch's projection and the housing's track in the Nehler-Limbert-Soubh combination to be dovetail, as taught by Suzic, to provide a form-fit coupling that generates more resistance against inadvertent sliding. EX1004, ¶533.

D. Reasonable Expectation of Success in Combining Suzic with Nehler-Limbert-Soubh

A POSITA would have had a reasonable expectation of success in combining the teachings of Suzic's dovetail connection with Nehler-Limbert-Soubh because doing so would still allow Nehler's actuation bar 4 to releasably mate with an adapter while maintaining a sliding coupling arrangement between the latch and the housing. EX1004, ¶534. A POSITA would have understood to modify the shape of

the tracks added to Nehler's housing and the projection added to Nehler's locking device 2 to have corresponding dovetail-shaped surfaces. *Id.* This modification would have simply been applying one known coupling technique (Suzic's dovetail-shaped coupling surfaces) to a similar device (Nehler's modified connector), yielding the predictable result of removably securing the latch to the housing. EX1004, ¶¶534-535.

E. Claim 26

1. [26.1]

Once the Nehler-Limbert-Soubh combination is made, Soubh discloses a receiving track in the form of slots 180. §XIII.D.1; EX1004, ¶¶537-539; EX1017, ¶60.

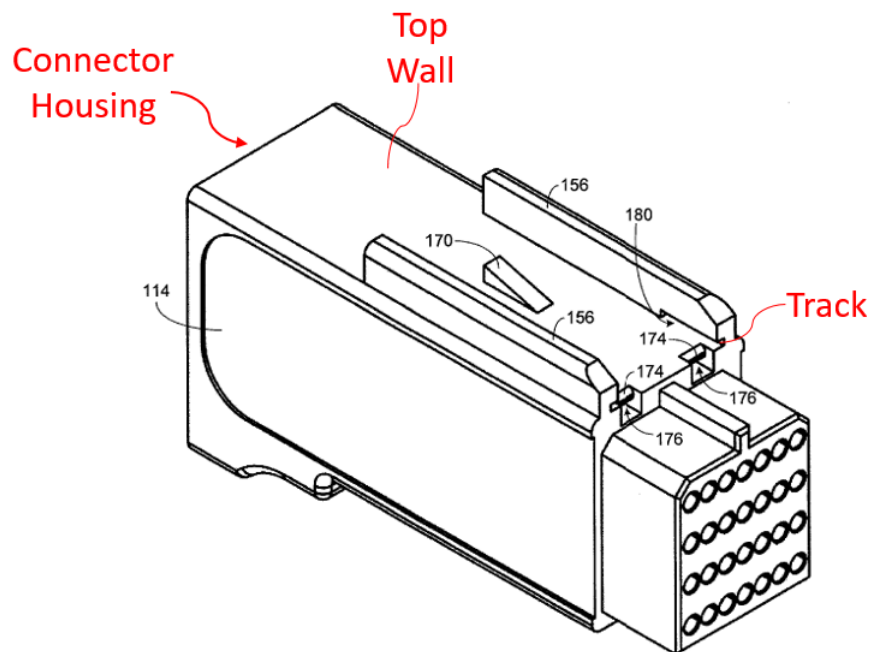


FIG. 15

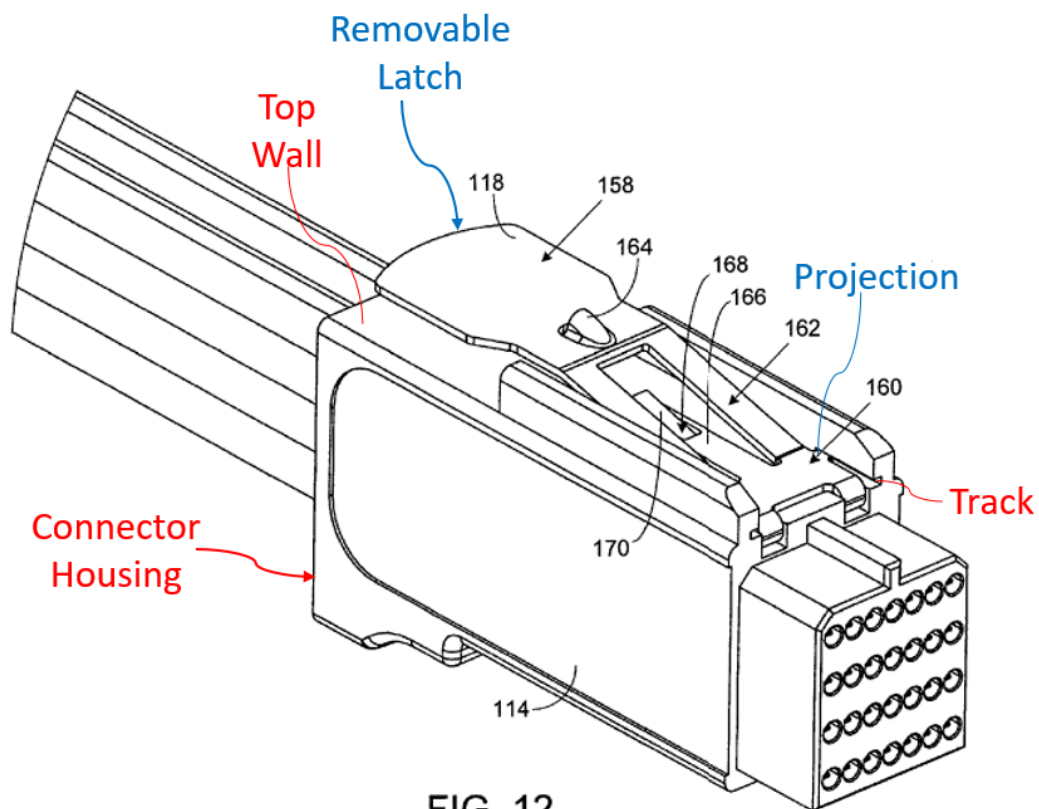
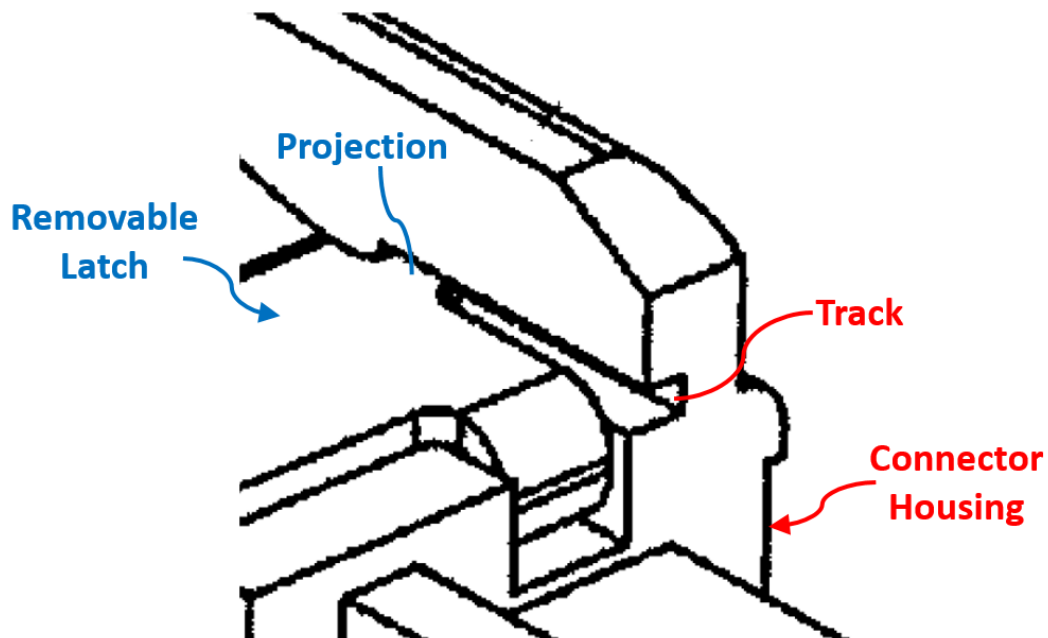


FIG. 12



EX1017, FIGS. 15 and 12 (annotated-partial).

2. [26.2]

Once the Nehler-Limbert-Soubh combination is made, Soubh discloses a projection in the form of guides 178. §XIII.D.2; EX1017, ¶¶60; EX1004, ¶¶540.

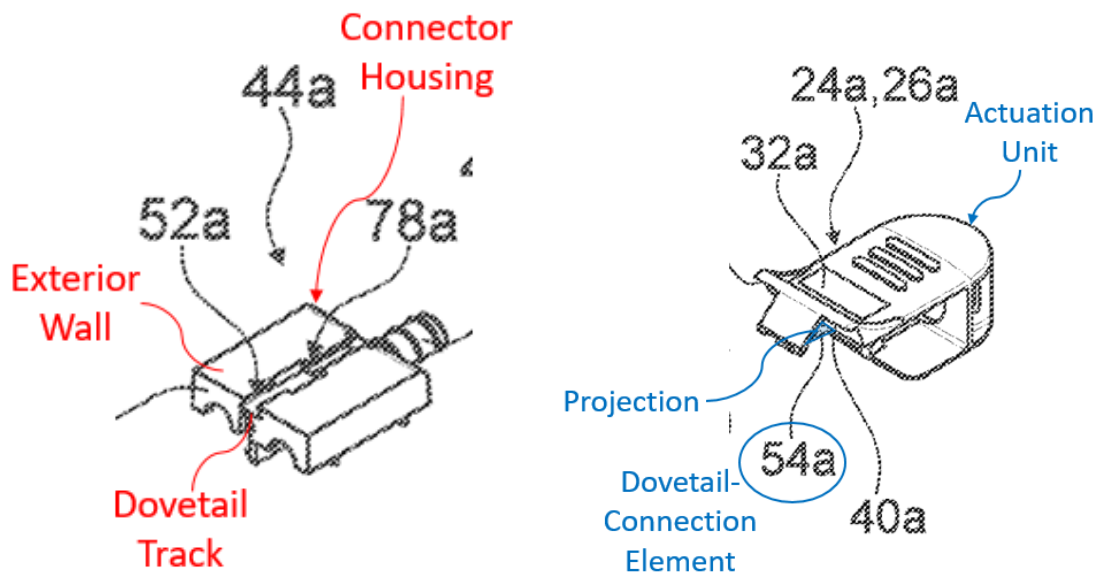
3. [26.3]

(a) Nehler-Limbert-Soubh

Senko may argue that the projection of the Nehler-Limbert-Soubh combination is not dovetail shaped.

(b) Suzic

Suzic discloses a dovetail-shaped projection in the form of dovetail connection 54a. EX1010, ¶¶43; EX1004, ¶¶541-543.



EX1010, FIG. 3 (annotated-partial).

(c) MTC

A POSITA would have been motivated to combine the teachings of Suzic's dovetail connection with Nehler-Limbert-Soubh to prevent inadvertent latch movement. §XIV.A; EX1004, ¶¶544-545.

Thus, the Nehler-Limbert-Soubh-Suzic combination renders [26.3] obvious.

XV. NEHLER-LIMBERT IN VIEW OF LEE RENDERS OBVIOUS CLAIMS 28-29

A. Motivation to Combine

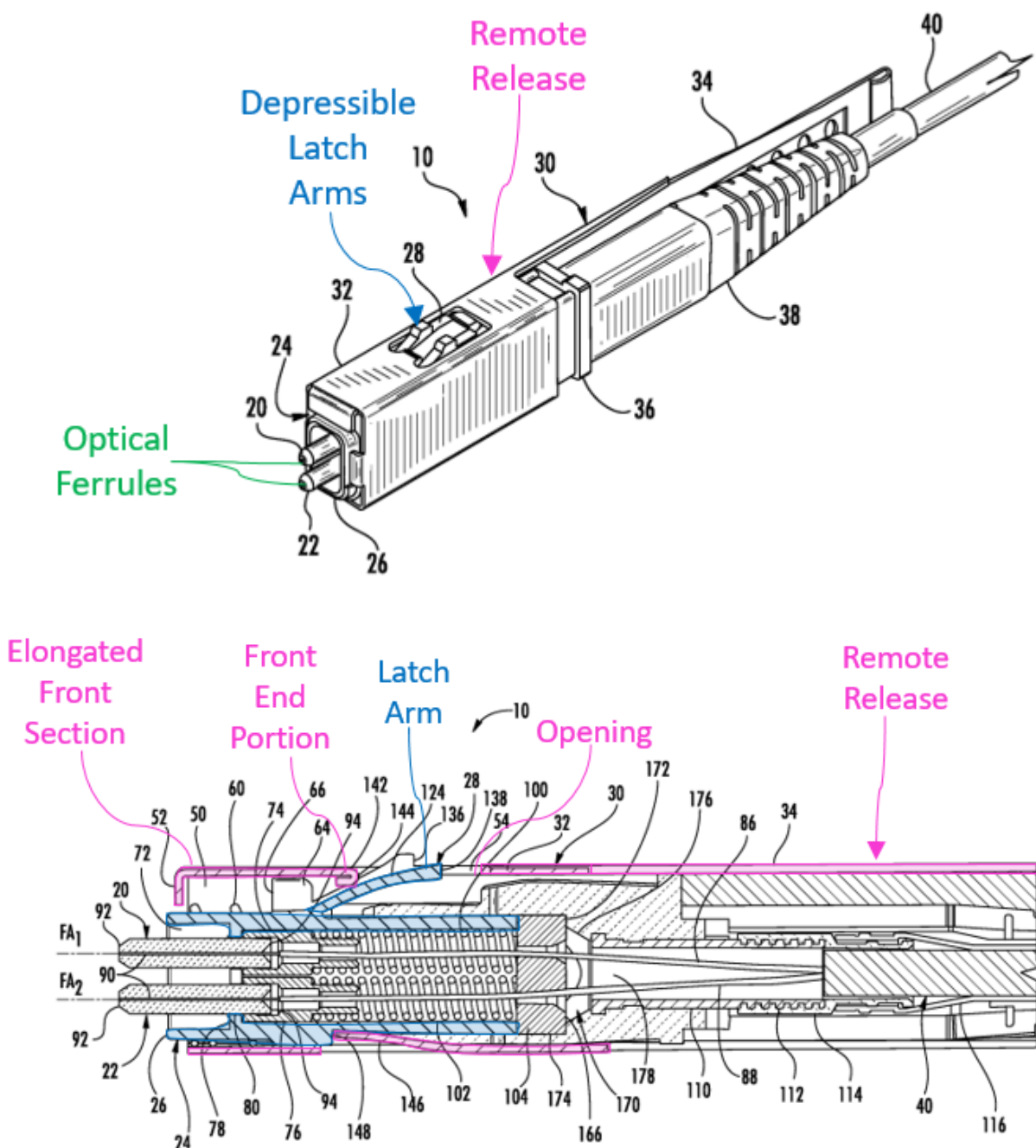
A POSITA would have found it obvious to combine Nehler, Limbert, and Lee to arrive at the claims addressed below prior to the '230 patent filing date. Particularly, a POSITA would have been motivated to combine teachings of Lee's remote release with Nehler-Limbert to activate Nehler's locking device without directly manipulating Nehler's connector. EX1004, ¶¶546-547; EX1009, ¶¶6, 66.

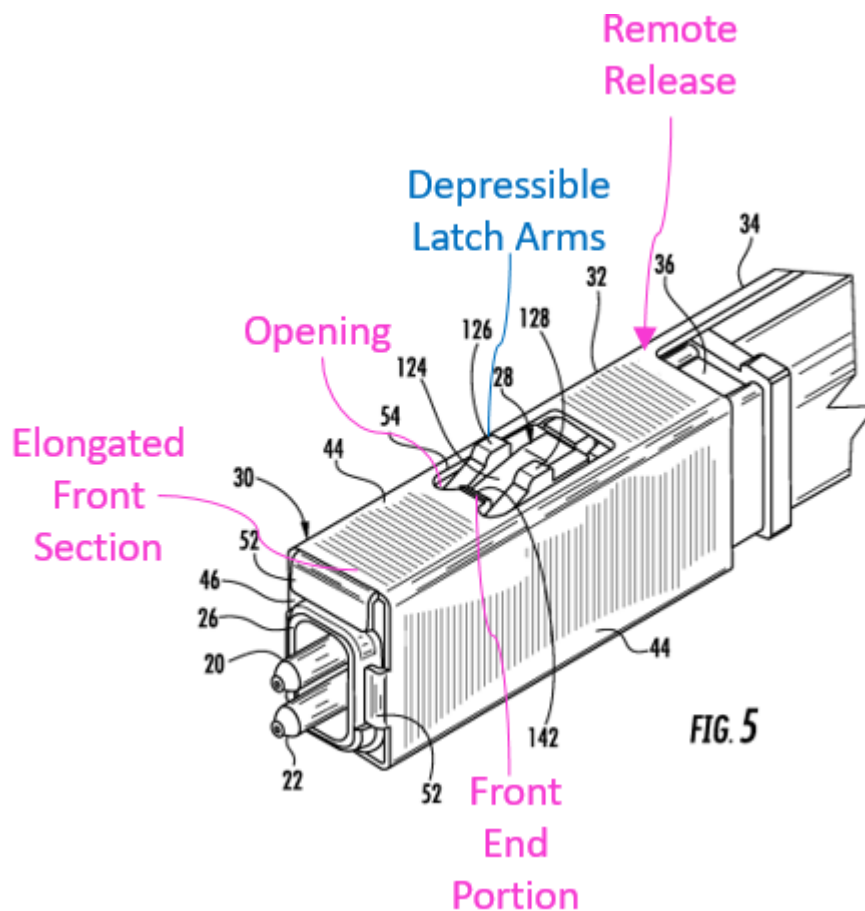
The Nehler-Limbert combination does not explicitly disclose a remote release as recited in claims 28 and 29.

Lee discloses a remote release in the form a handle 30 includes an elongated front section (housing portion 32) configured to extend longitudinally along a connector housing (inner connector body 24) and an elongated rear section (grip portion 34) extending rearward from housing portion 32. §§X.A-D; EX1004, ¶¶548-551; EX1009, ¶¶30, 47. Lee's handle 30 allows the fiber optic connector 10 to be removed from the adapter 12 by pulling grip portion 34, causing a pushing

feature 142 of housing portion 32 to depress a latch arm 28 of body 24. §§X.A-D;

EX1004, ¶¶552-553; EX1009, ¶47.





EX1009, FIGS. 1, 3, and 5 (annotated).

A POSITA would have been motivated to add a remote release with an elongate front section to engage Nehler-Limbert's locking device 2 and an elongate rear section to facilitate gripping by a user, as taught by Lee, to improve handling of Nehler-Limbert's modified connector, thereby easing push-pull latch activation. EX1009, ¶¶6, 66; EX1004, ¶¶554-555.

B. Reasonable Expectation of Success

A POSITA would have had a reasonable expectation of success in combining the teachings of Lee's handle with Nehler-Limbert's connector because Lee's handle 30 would function similarly with respect to Nehler's connector to actuate Nehler's

actuation bar 4. EX1004, ¶556. This modification would have simply been applying a known technique (Lee's handle 30) to a similar device (Nehler-Limbert's connector), yielding the predictable result of allowing Nehler-Limbert's connector to be push-pulled activated without directly handling the connector latch. EX1004, ¶¶557-558.

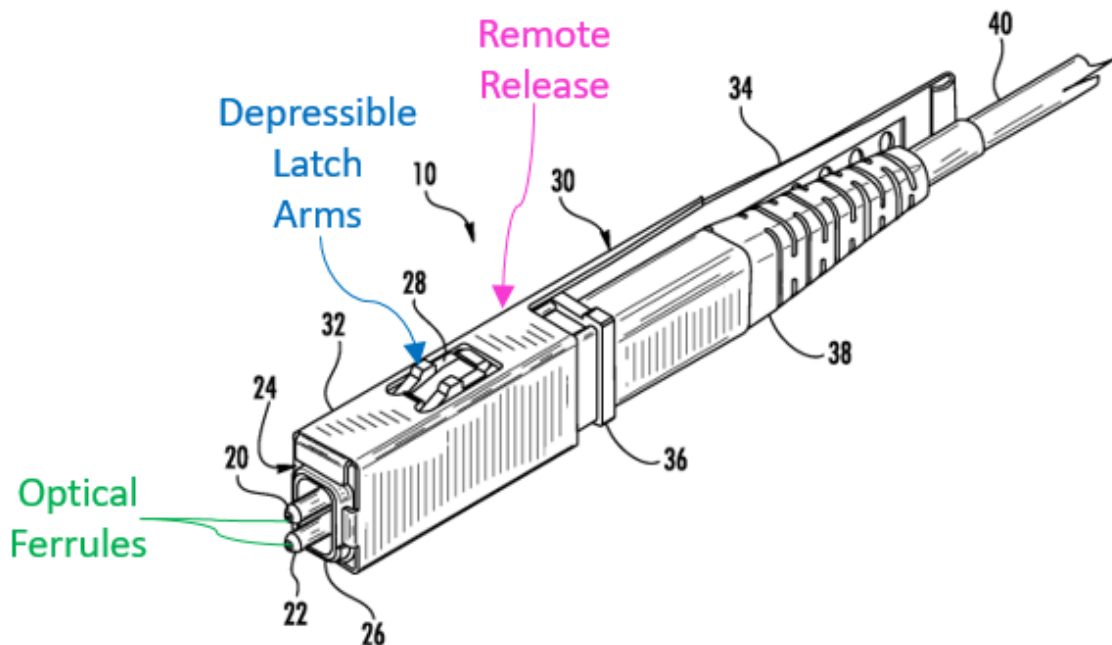
C. Claim 28

1. Nehler-Limbert

Senko may argue that the Nehler-Limbert combination does not expressly disclose the recited “remote release.”

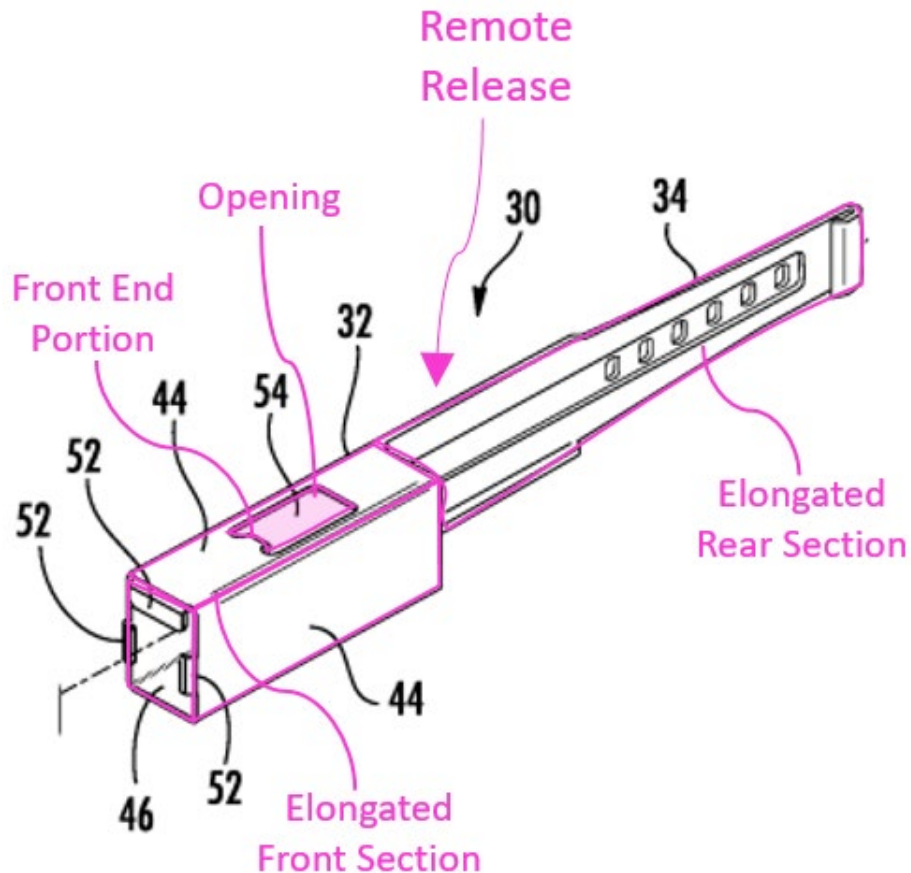
2. Lee

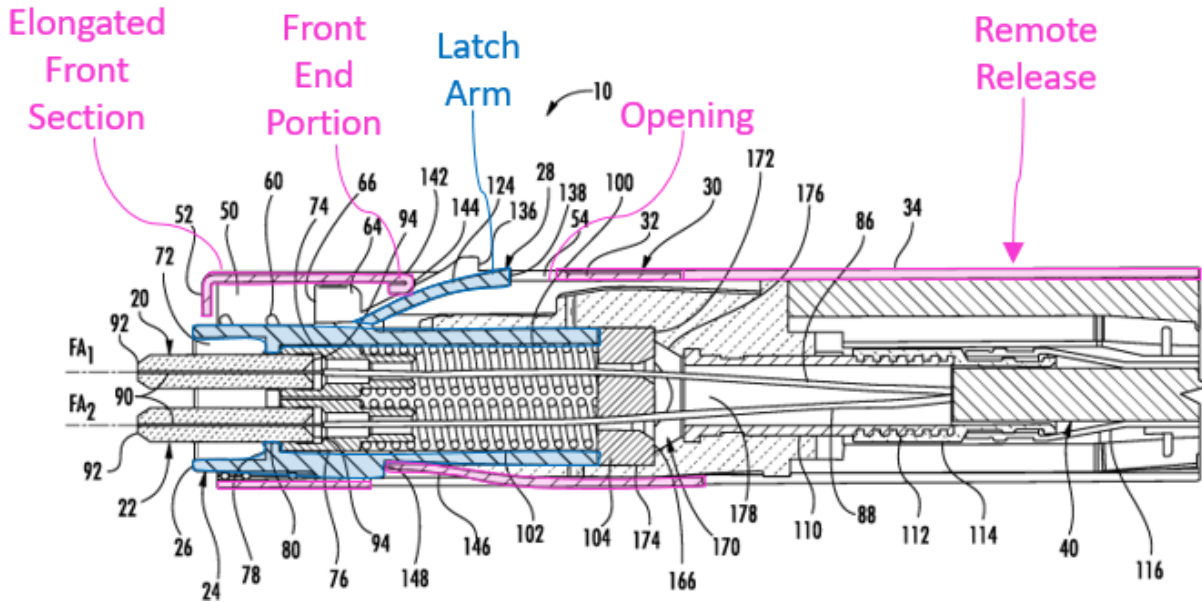
Lee discloses the recited “remote release” in the form of handle 30. EX1004, ¶¶559-566; EX1009, ¶30.



EX1009, FIG. 1 (annotated-partial).

Lee's handle 30 includes "an elongate front section configured to extend longitudinally along the connector housing and engage the depressible latch arm" in the form of housing portion 32 slidably coupled to connector body 24 to engage latch arm 28. EX1009, ¶¶30-31. Lee's handle 30 includes "an elongate rear section extending rearward from the elongate front section" in the form a grip portion 34. EX1004, ¶¶561-566; EX1009, ¶¶30-31.





EX1009, FIGS. 2-3 (annotated).

3. MTC

A POSITA would have sought to combine the teachings of Lee's handle 30 with Nehler-Limbert to provide push-pull latch activation without directly handling the latch. §XV.A; EX1004, ¶¶567-568.

Thus, the Nehler-Limbert-Lee combination renders claim 28 obvious.

D. Claim 29

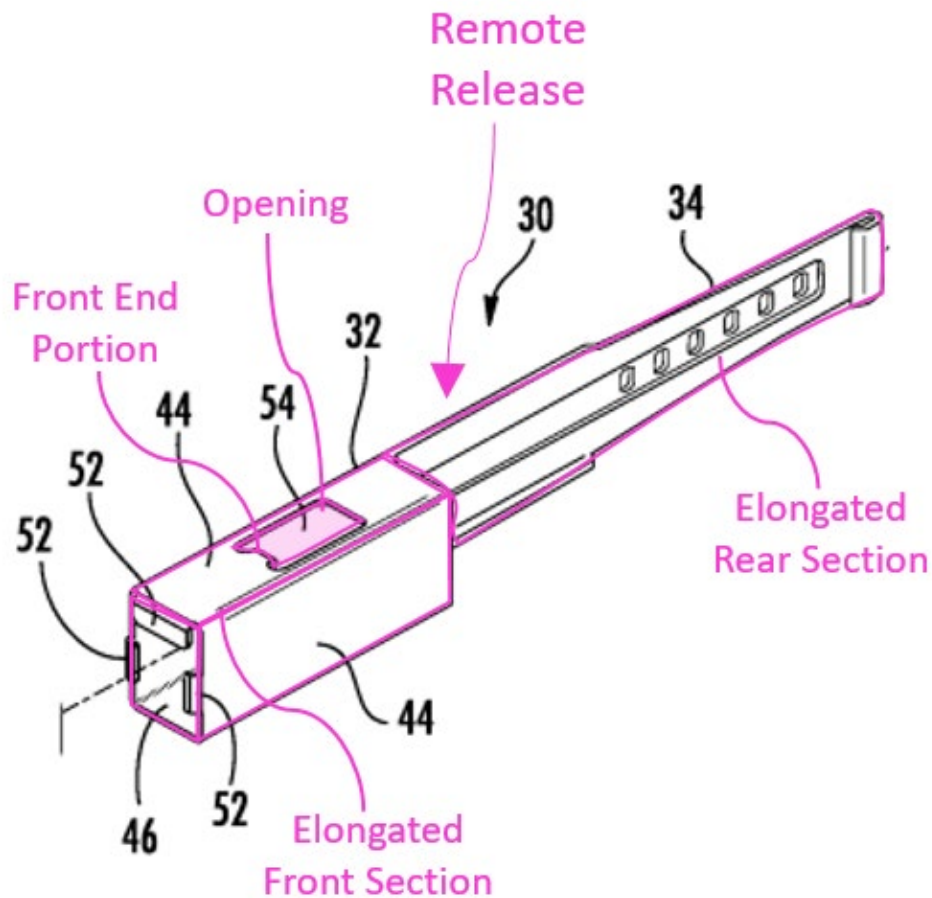
1. Nehler-Limbert

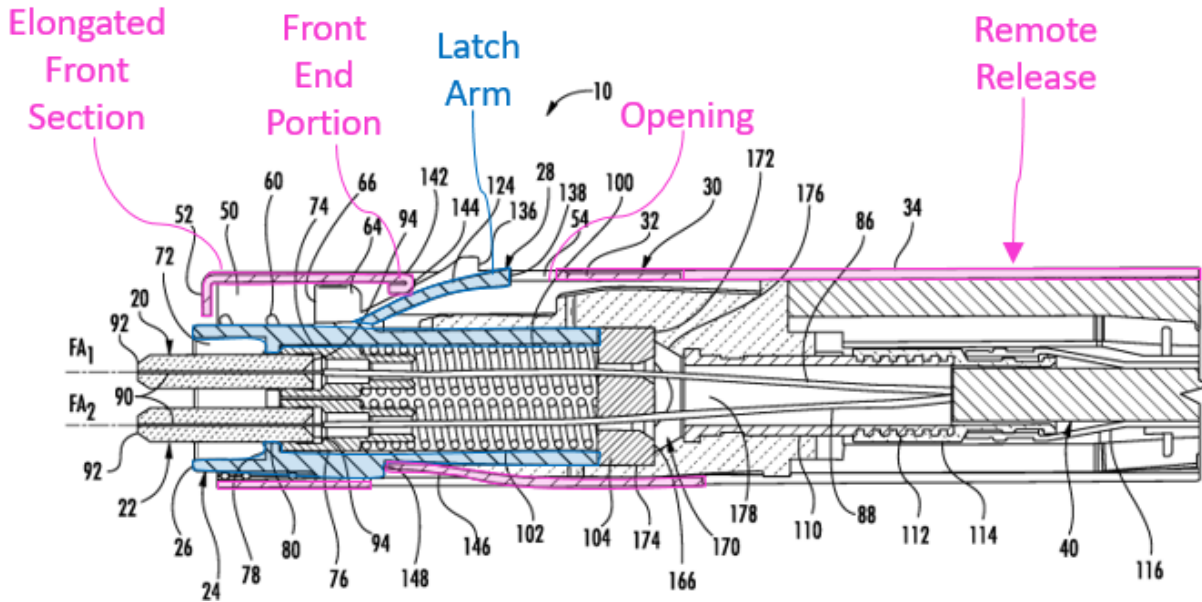
Senko may argue that Nehler-Limbert does not disclose an "elongate front section" as recited in claim 29.

2. Lee

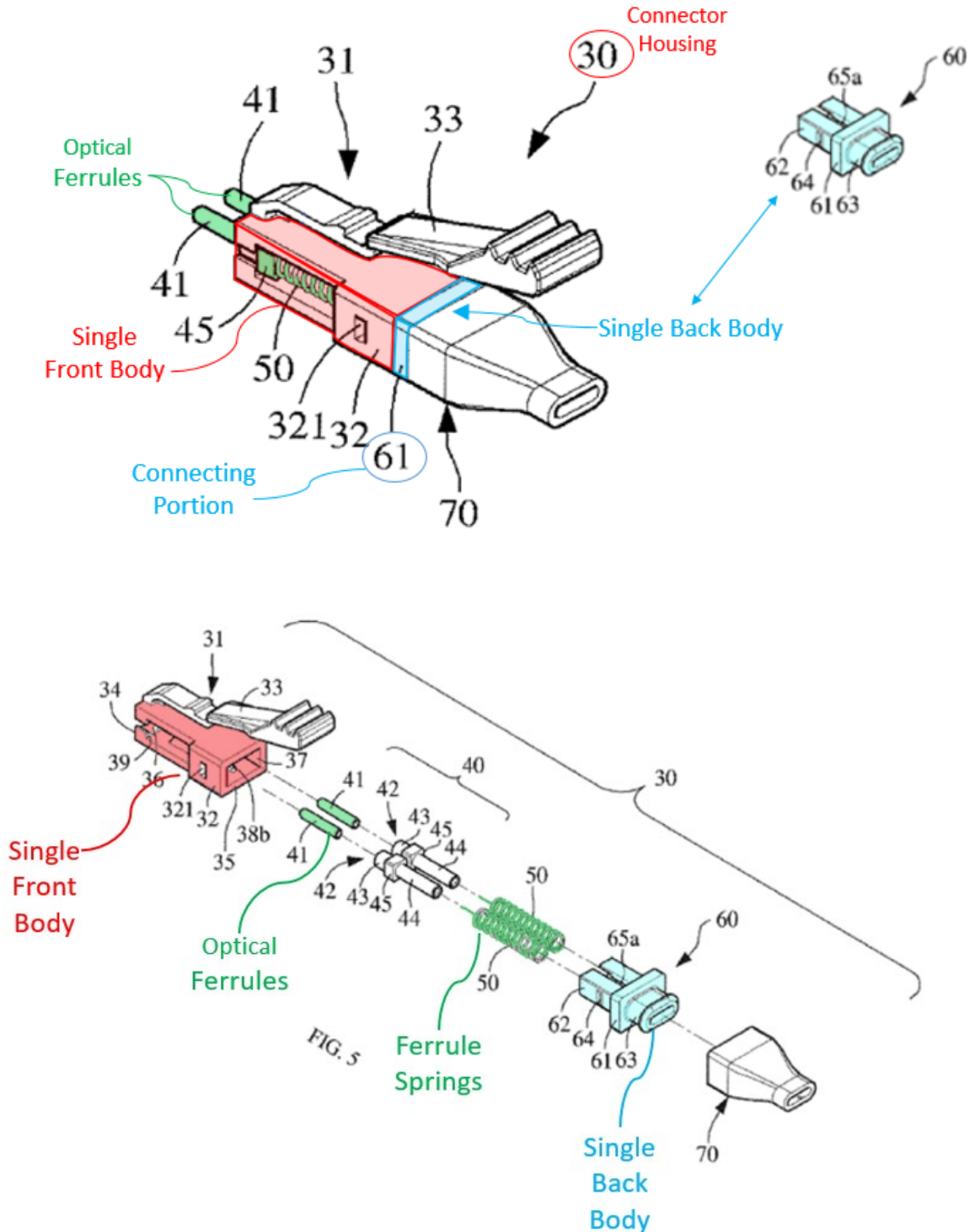
Once the Nehler-Limbert-Lee combination is made, Lee discloses an "elongated front section compris[ing] an opening configured to receive the

depressible latch arm” in the form of handle’s housing portion 32 including an opening 54 receiving latch arm 28, as annotated below. EX1004, ¶¶569-570; EX1009, ¶47. Lee discloses the recited “front end portion” of claim 29 in the form of pushing feature 142 located adjacent to opening 54 and configured to actuate latch arm 28. EX1004, ¶¶571-572; EX1009, ¶¶47, 65.





Peng discloses a connector housing (connector 30) comprising a single front body (shell 31) and a single back body (tail cover 60) to compress ferrule springs (elastic elements 50). §XI.A; EX1011, ¶¶28-30, 34; EX1004, ¶¶579-580.



EX1011, FIGS. 3 and 5 (annotated).

Peng's two-piece housing—shell 31 and tail cover 60—provides a larger opening at second end 35 of shell 31 to load springs 50 into shell 31, thereby easing the assembling process for loading springs 50 in the connector housing. EX1004, ¶¶581-582. Accordingly, a POSITA would have been motivated to combine the teachings of Peng's front and back bodies with Nehler-Limbert to ease the loading of springs into the housing. EX1004, *Id.*

B. Reasonable Expectation of Success

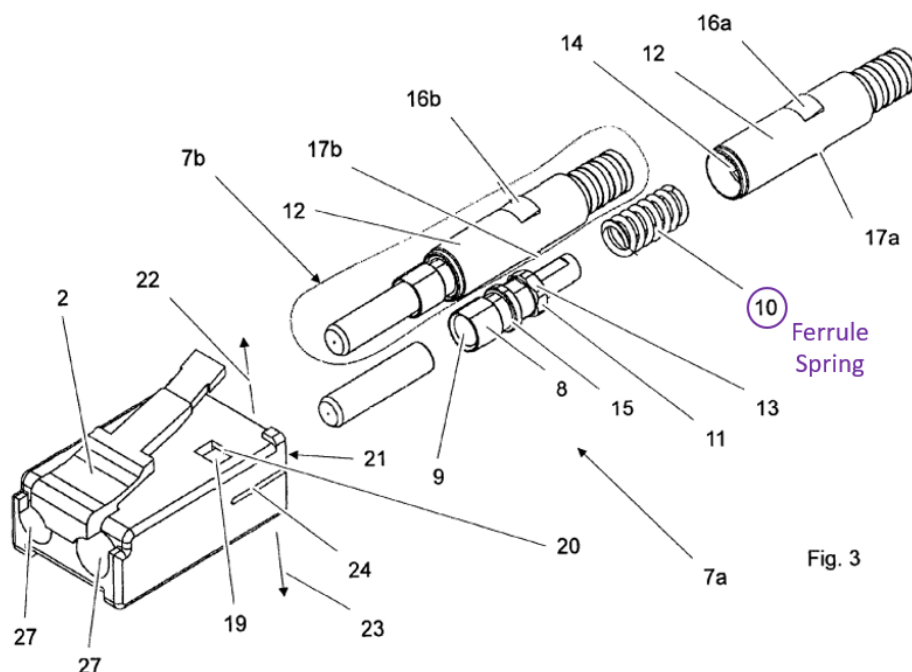
A POSITA would have had a reasonable expectation of success in combining the teachings of Peng's single front body and back body with Nehler-Limbert's modified connector because doing so would still allow the ferrule springs to be held close together, while allowing Nehler-Limbert's housing to contain ferrules 6a/6b as originally intended. EX1004, ¶¶582-583.

Thus, a POSITA would have found the combination had an expectation of success. EX1004, ¶584.

C. Claim 31

1. [31.1]

Nehler discloses “first and second ferrule springs received on the first and second ferrules” in the form springs 10 received on ferrules 6a/6b via ferrule holders 8. EX1012, 3:10-26; EX1004, ¶¶585-588.



EX1012, FIG. 3 (annotated).

Thus, Nehler discloses [31.1.]

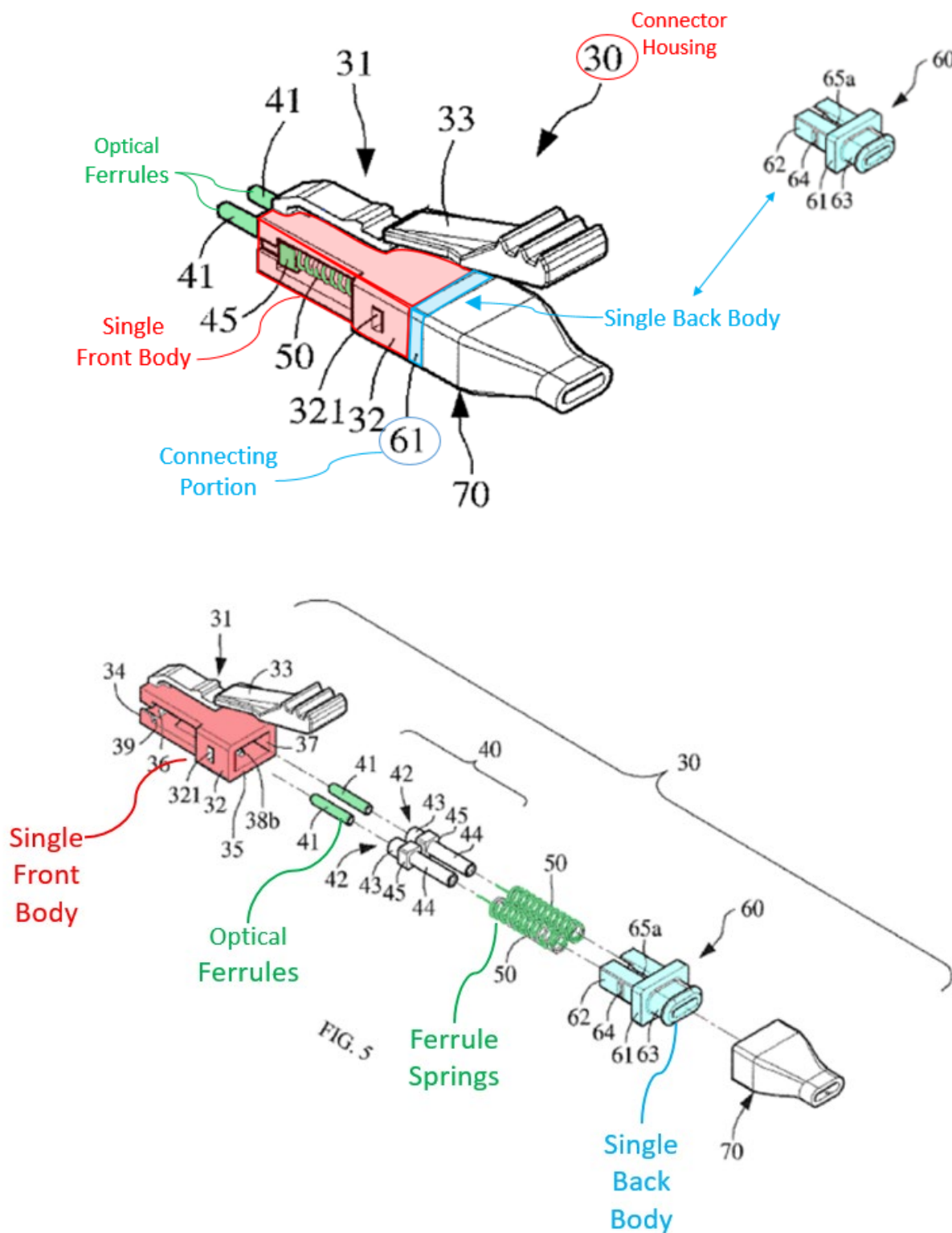
2. [31.2]

(a) Nehler-Limbert

Senko may argue that Nehler-Limbert combination does not disclose the recited “single front body” and “single back body” of [31.2].

(b) Peng

Peng discloses [31.2] in the form of shell 31 and tail cover 60. §XI.C.2
EX1004, ¶¶589-590; EX1011, ¶¶28-29, 34, 39.



EX1011, FIGS. 3 and 5 (annotated).

(c) MTC

A POSITA would have been motivated to combine the teachings of Peng's front and back bodies with Nehler-Limbert to ease the loading of springs into the housing. §XVI.A; EX1004, ¶¶591-592.

Thus, the Nehler-Limbert-Peng combination renders [31.2] obvious.

**XVII.DISCRETIONARY CONSIDERATIONS UNDER §§ 314(A) AND 325(D)
STRONGLY FAVOR INSTITUTION**

A. The *Fintiv* factors strongly favor institution.

The '230 patent is currently involved in a parallel district-court case that was filed on January 24, 2023. *Senko Advanced Components, Inc. v. US Conec, Ltd.*, No. 1:23-cv-00083 (D. Del. Jan. 24, 2023). Institution is appropriate under *Fintiv* for the following reasons. First, on July 6, 2023, the district court issued an order staying all deadlines. EX1021. Second, this Petition sets forth compelling unpatentability challenges. Third, if this proceeding is instituted, Petitioner stipulates not to pursue in the district court the grounds in the Petition or any ground that reasonably could have been raised in the Petition. Accordingly, the *Fintiv* factors favor institution. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (P.T.A.B. Mar. 20, 2020) (precedential).

B. *Advanced Bionics* strongly favors institution.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 7-8 (P.T.A.B. Feb. 13, 2020) (precedential) likewise

strongly favors institution. The IPR grounds here present new art and evidence not previously presented to, or substantively considered by, the Office.

The Office has not considered any of the references asserted herein, with the exception of Limbert, which was cited during reexamination and found to disclose every limitation of claim 1 except for the added limitation—the exterior portion extending 360° about a space in which the optical ferrules are received. But this limitation—the principal reason that the '230 patent survived reexamination—is disclosed in Nehler and Nguyen, which were not presented to the Office. And the other references and Grounds asserted herein are not cumulative to any reference previously considered by the Office.

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

Real Party-in-Interest (37 C.F.R. § 42.8(b)(1)): The real party-in-interest is Petitioner US Conec Ltd. Petitioner US Conec Ltd. states that the following entities each own 10% or more of its stock: Corning Optical Communications, LLC; Fujikura Ltd.; and NTT Advanced Technology Corporation. This statement should not be interpreted as an admission or concession that the above-listed parties are real parties-in-interest or in privity with US Conec Ltd.

Related Matters (37 C.F.R. § 42.8(b)(2)): The '230 patent is asserted against US Conec Ltd. in *Senko Advanced Components, Inc. v. US Conec Ltd.*, No. 1:23-cv-

00083 (D. Del.), filed on January 24, 2023, stayed through at least December 20, 2023.

Lead and Back-up Counsel: Pursuant to 37 C.F.R. § 42.8(b)(3) and 42,10(a), Petitioner appoints Jason D. Eisenberg (Reg. No. 43,447) as its lead counsel, and John Higgins (Reg. No. 74,992) and William H. Milliken (Motion for *Pro Hac Vice* Admission to be submitted) as its back-up counsel, all at the address: STERNE, KESSLER, GOLDSTEIN & FOX PLLC, 1101 K Street NW, 10th Floor, Washington, DC 20005; phone number: (202) 371-2600; and facsimile: (202) 371-2540.

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

XIX. CONCLUSION

The Board should institute review of claims 1, 2, 6, 9, 11, and 26-34 because the merits are strong and discretionary considerations favor institution.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Jason D. Eisenberg/

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

John Higgins, Reg. No. 74,992

William H. Milliken (Motion for *Pro Hac Vice*
Admission to be submitted)

Counsel for Petitioner US Conec Ltd.

Date: December 22, 2023

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APPENDIX A: CHALLENGED CLAIMS

[1.P]	A reversible polarity fiber optic connector comprising:
[1.1]	at least first and second optical ferrules;
[1.2]	a connector housing having a longitudinal axis and comprising an exterior portion at least partially surrounding the first and second optical ferrules such that the exterior portion extends 360° circumferentially with respect to the longitudinal axis about a space in which each of the first and second optical ferrules are received, the exterior portion comprising a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules;
[1.3]	a latch coupling positioned on each of the first and second exterior walls of the connector housing;
[1.4]	a removable latch for engaging either of the first and second exterior wall latch couplings on the connector housing;
[1.5]	wherein positioning the removable latch on the first exterior wall of the connector housing yields a fiber optic connector with a first polarity and positioning the removable latch on the second exterior wall of the connector housing yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.
[2.P]	The reversible polarity fiber optic connector of claim 1, wherein
[2.1]	each of the latch couplings on the first and second exterior walls of the connector housing includes at least a recess with angled walls; and
[2.2]	the latch includes at least a protrusion with slanted edges for coupling with the angled walls of the recess on the first exterior wall when the fiber optic connector is configured in the first polarity or the angled walls of the recess on the second exterior wall when the fiber optic connector is configured in the second polarity.
[6.P]	The reversible polarity fiber optic connector of claim 1, wherein
[6.1]	each of the latch couplings on the first and second exterior walls of the connector housing includes a groove; and
[6.2]	at least a projection for coupling with the groove on the first exterior wall when the fiber optic connector is configured in the first polarity or the groove on the second exterior wall when the fiber optic connector is configured in the second polarity.

[9.P]	A reversible polarity fiber optic connector with exchangeable arms for changing connector type comprising:
[9.1]	at least first and second optical ferrules;
[9.2]	a common connector housing at least partially surrounding the first and second optical ferrules and having a first exterior wall positioned above the first and second optical ferrules and a second exterior wall positioned beneath the first and second optical ferrules;
[9.3]	a coupling surface positioned on each of the first and second exterior walls of the common connector housing;
[9.4]	a removable arm for engaging either of the first and second exterior wall coupling surfaces on the common connector housing, the removable arm including either a latch or a latch recess;
[9.5]	wherein positioning the removable arm on the first exterior wall of the common connector housing yields a fiber optic connector with a first polarity and positioning the removable arm on the second exterior surface of the common connector housing yields a fiber optic connector with a second polarity, the second polarity being opposite to the first polarity.
[11.P]	The reversible polarity fiber optic connector of claim 9
[11.1]	the housing includes a receiving track in the coupling surface
[11.2]	the removable arm includes a projection for engaging in the receiving track in the coupling surface.
[26.P]	The reversible polarity fiber optic connector of claim 1
[26.1]	wherein latch coupling includes a receiving track
[26.2]	the removable latch comprises a projection for engaging each receiving track
[26.3]	wherein the projection has a dovetail shape.
[27.P]	The reversible polarity fiber optic connector of claim 1
[27.1]	the removable latch comprises a base portion and a depressible latch
[27.2]	a depressible latch having a front end portion connected to the base portion, a free rear end portion spaced apart from the front end portion along the axis and being raised relative to the front end portion, and an outward facing longitudinal surface extending along the axis from the front end portion to the free rear end portion,

[27.3]	the removable latch being bendable such that the free rear end portion can be depressed toward the base portion.
28	The reversible polarity fiber optic connector of claim 27, further comprising a remote release including an elongated front section configured to extend longitudinally along the connector housing and engage the depressible latch arm and an elongate rear section extending rearward from the elongate front section, the elongate front section of the remote release being slidably connected to the removable latch such that the elongate front section can move rearward relative removable latch.
29	The reversible polarity fiber optic connector of claim 28, wherein the elongate front section comprises an opening configured to receive the depressible latch arm and a front end portion defining a front end of the opening, the front end portion of the front elongate section being configured to slide rearward along the outward facing surface of the depressible latch arm when the elongate front section moves rearward to depress the depressible latch arm.
30	The reversible polarity fiber optic connector of claim 27, wherein each latch coupling includes a groove having an open axial end and the removable latch comprises a protrusion on the base portion configured to be inserted into the groove through the open axial end.
[31.P]	The reversible polarity fiber optic connector as set forth in claim 1
[31.1]	first and second ferrule springs received on the first and second ferrules, respectively
[31.2]	the connector housing comprises a single front body and a single back body configured to attach to the single front body such that the first and second ferrule springs are compressed simultaneously between the single back body and the single front body.
32	The reversible polarity fiber optic connector as set forth in claim 1, wherein the first and second optical ferrules have a pitch of about 4.8 mm or less.
33	The reversible polarity fiber optic connector as set forth in claim 1, wherein the connector housing is a single combined housing for each of the first and second optical ferrules.

34	The reversible polarity fiber optic connector as set forth in claim 1, wherein the exterior portion of the housing radially overlaps a longitudinal segment of each of the first and second optical ferrules with respect to the axis.
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**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION,
TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS**

1. This Petition complies with the type-volume limitation of 14,000 words, comprising 13,761 words, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2010 in 14 point Times New Roman.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Jason D. Eisenberg/

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Registration No. 43,447
Counsel for Petitioner US Conec Ltd.

Date: December 22, 2023

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

The undersigned hereby certifies that on December 22, 2023, true and correct copies of the foregoing **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,191,230** and all associated exhibits were served in their entireties on the following party via FedEx Express®:

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