

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMPHENOL CORP.,
Petitioner,

v.

PPC BROADBAND, INC.,
Patent Owner.

Case IPR2023-01363
Patent No. 9,008,483 B2

**PATENT OWNER
RESPONSE**

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EXHIBIT LIST

EXHIBIT	DESCRIPTION
EX-1001	U.S. Patent No. 9,008,483
EX-1002	Prosecution History for the '483 Patent
EX-1003	Declaration of Dr. Sayfe Kiaei
EX-1004	U.S. Patent Application Publication No. 2009/0202214 to Holmberg et al. ("Holmberg")
EX-1005	U.S. Patent Application Publication No. 2008/0112681 to Battey et al. ("Battey")
EX-1006	U.S. Patent No. 6,721,484 to Blankenship et al. ("Blankenship")
EX-1007	U.S. Patent No. 8,965,168 to Cowen et al. ("Cowen")
EX-1008	U.S. Patent No. 7,346,253 to Bloodworth et al. ("Bloodworth")
EX-1014	International Publication No. WO 2010/040256 to Castonguay et al. ("Castonguay")
EX-1015	U.S. Patent No. 7,088,893 to Cooke et al. ("Cooke")
EX-2001	Declaration of Dr. Charles A. Eldering in Support of Patent Owner Preliminary Response ("Eldering") (¶¶1-91)
EX-2005	The Fiber Optic Association, Inc. Reference for Fiber Optics – Installing Fiber Optic Cable – Midspan Access (https://www.thefoa.org/tech/ref/install/midspan_access.html#) (last accessed June 5, 2024)
EX-2006	Transcript of Deposition of Dr. Sayfe Kiaei (May 23, 2024)
EX-2007	Declaration of Dr. Charles A. Eldering in Support of Patent Owner Preliminary Response ("Eldering") (¶¶92-259)

I. INTRODUCTION

The Petition failed to establish that the Challenged Claims (*i.e.*, claims 1, 2, and 10-13 of U.S. Patent No. 9,008,483 (“’483 Patent”) (EX-1001)) are unpatentable for a number of reasons.

First, regarding independent claim 1, Petitioner relied upon an erroneous and hindsight driven theory that a person of ordinary skill in the art (“POSITA”) would be motivated to replace Holmberg’s unhinged and stationarily fastened splice tray with a different splice tray design that instead is hinged and is rotationally coupled. In doing so, Petitioner not only failed to even try to provide any support for the proposed replacement, but also ignored the fact that the prior confirms that a POSITA would not have been motivated to make the proposed replacement for a number of reasons. For instance, such a replacement would change the prior art splice tray’s basic principle of operation and render it inoperable for its intended purposes. Moreover, Petitioner’s proposed replacement theory (*i.e.*, replacing an unhinged and stationarily fastened splice tray with a hinged and rotatably coupled splice tray to allegedly provide open or unblocked access behind the splice tray) should be rejected because Petitioner’s own prior art confirms that the unhinged and stationarily fastened splice tray at issue was specially designed to block, and not open up, access behind the splice tray. And if the prior art unhinged and stationarily fastened splice tray were somehow replaced with a hinged and rotatably coupled

splice tray, that replacement would cause the stored fibers and the splices located on the splice tray to be damaged. Accordingly, Petitioner's proposed modification should be rejected.

Second, regarding dependent claim 2, which adds the "wherein the fiber storage panel further includes an adapter bracket configured to hold one or more adapters" limitation, Petitioner resorted to another erroneous and hindsight driven theory that did not even attempt to explain why it would be obvious for the "fiber storage panel" in Holmberg to include an adapter bracket as expressly required by the claim. Instead, Petitioner made the fundamental mistake of simply speculating that adapter brackets were generally known without providing any evidence or arguments regarding why it would have been obvious to modify Holmberg's splice tray to include such an adapter bracket. Making matters worse for Petitioner, Petitioner ignored the fact that Holmberg already discloses a solution that uses adapters in its enclosure that are not located on the storage panel, as required by dependent claim 2. Since Petitioner ignored the express claim language and express disclosure in the prior art primary reference, its challenge to dependent claim 2 also should be rejected.

Finally, regarding dependent claim 10, which adds the "wherein the drop cable retaining mechanisms in the base unit comprise storage clips positioned on opposing sides of the base unit" limitation, Petitioner resorted to yet another

erroneous and hindsight driven theory that ignored the undisputed fact that Holmberg already solves Petitioner's alleged problem, thus demonstrating that a POSITA would not have been motivated to adopt Petitioner's proposed modification. Moreover, not only was Petitioner's proposed modification to the prior art not needed, it would have resulted in a more complicated and less effective solution than what Holmberg already provides. Accordingly, Petitioner's challenge to dependent claim 10 also should be rejected.

The Board should reject Petitioner's factually and legally incorrect arguments and conclude that Petitioner has failed to establish that the Challenged Claims are unpatentable.

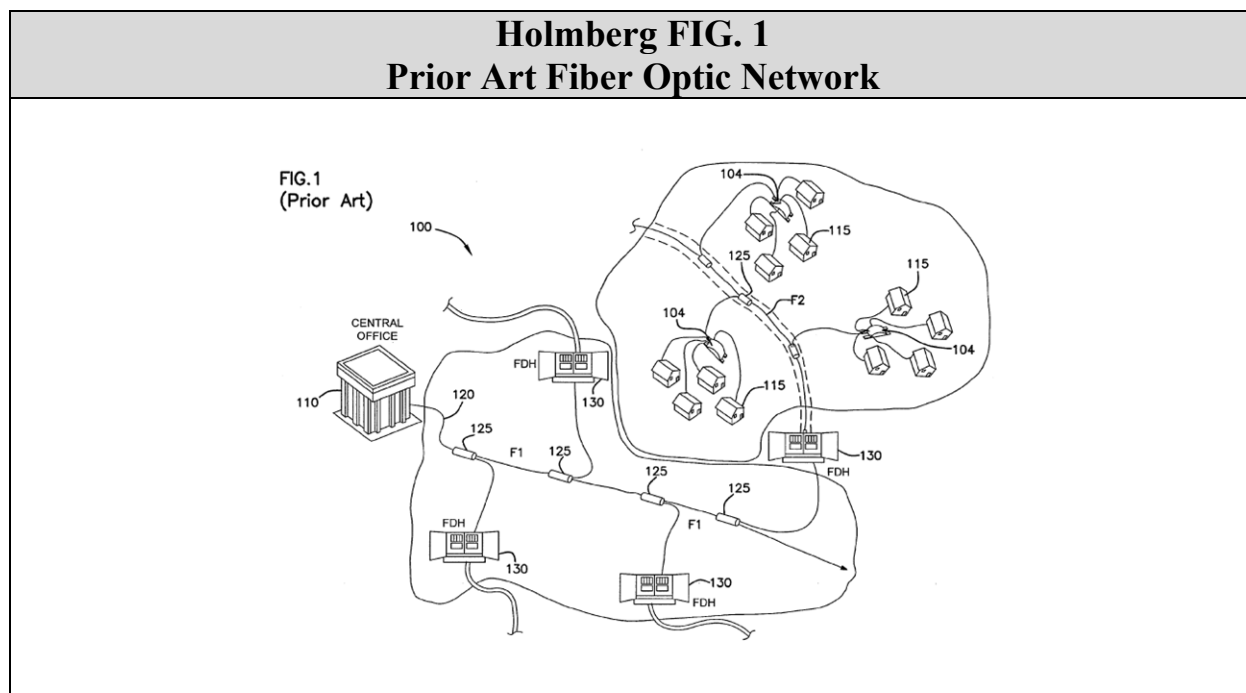
II. TECHNOLOGY OVERVIEW

A. Fiber Optic Networks Provide A Number Of Different Interconnection Points For Delivering Network Access To Subscribers.

By the time of the filing of the '483 Patent (2011), "[o]ptical fiber [was] increasingly being used for a variety of broadband applications including voice, video and data transmissions." Battey (EX-1005) ¶[0005]; *see also* Castonguay (EX-1014) ¶[0002]; Bloodworth (EX-1008) 1:13-16; Cooke (EX-1015) 1:24-26. As explained in the '483 Patent, "[o]ptical fiber is used in different delivery topologies to provide network access, for example internet access, to homes, businesses and other premises. Fiber to the x (FTTx) is a collective term for various

optical fiber delivery topologies that are categorized according to where the fiber terminates.” ’483 Patent 1:28-38. Examples of such “FTTx” optical networks included “fiber optic networks ... that deliver ‘fiber-to-the-curb’ (FTTC), ‘fiber-to-the-business’ (FTTB), ‘fiber-to-the-home’ (FTTH), or ‘fiber-to-the-premises’ (FTTP).” Battey ¶[0005]; *see also* Castonguay ¶[0002]; Blankenship (EX-1006) 1;14-18; Cooke 1:29-33; Bloodworth 1:35-40; Eldering ¶¶111-114.¹

FIG. 1 of Holmberg (shown below) discloses a prior art fiber optic network.



¹ References to “Eldering” are to the Declarations of Dr. Charles A. Eldering in Support of (i) Patent Owner Preliminary Response (EX2001 ¶¶1-91) and (ii) Patent Owner Response (EX-2007 ¶¶92-259).

Holmberg FIG. 1; *see also* Castonguay FIG. 1; Eldering ¶¶115-116.

In the conventional prior art fiber optic network disclosed in Holmberg, a main fiber cable (or “feeder cable”) with a high number of optical fibers from a central office 110 provides service to a large number of subscribers 115 (or end users). Holmberg ¶¶[0004], [0005], FIG. 1; *see also* Castonguay ¶[0002], FIG. 1. “To provide these services to the subscriber, FTTx *networks must include a large number of interconnection points, referred to herein as 'tap points,' at which one or more optical fibers of a [main] cable are interconnected or mated to optical fibers of one or more [drop] cables leading to a subscriber location.*”² Cooke 1:33-38; Eldering ¶¶117-118.

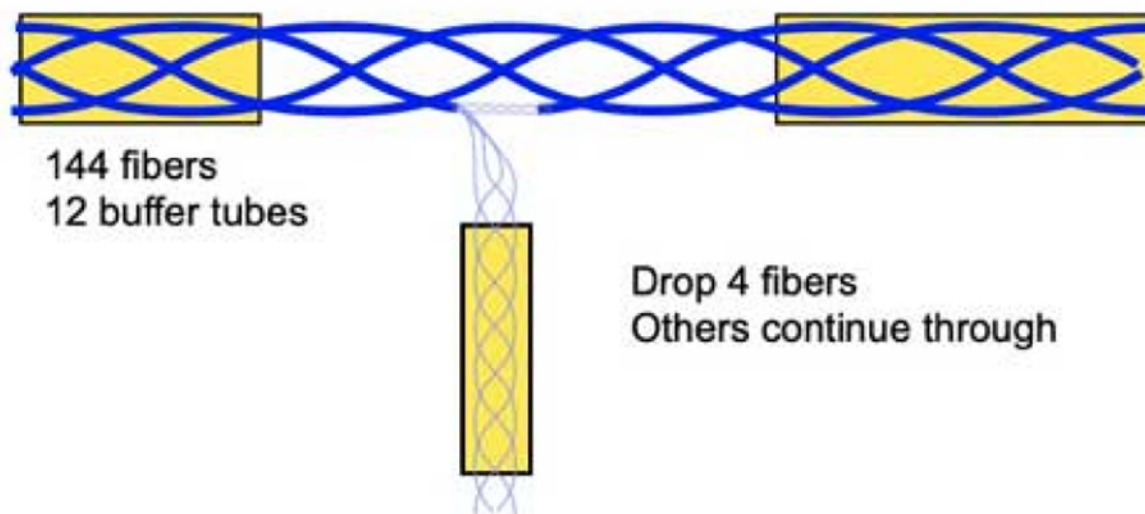
B. Mid-Span Access Location Enclosures, Like Those Disclosed In Holmberg And Battey, Separate Branch Cables From The Main Fiber Cable To Drop A Selected Number Of Fibers At Subscriber Locations.

Break-out (or mid-span access) locations 125 are used to separate branch (or “drop” cables) from the main fiber cable. Holmberg ¶¶[0005]-[0006], FIG. 1; *see also* Battey ¶[0005] (“[F]iber optic networks typically include a large number of mid-span access locations at which one or more optical fibers are branched from a [main] cable. These mid-span access locations provide a branch point from the [main] cable leading to an end user, commonly referred to as a subscriber”);

² Unless otherwise noted, all emphasis is added.

Eldering ¶¶120-121.

“[T]o perform a mid-span access of a [main] cable, a field technician first removes a section of the cable sheath at a convenient location along an installed [main] cable” (Cooke 1:47-50) as illustrated below in the example of a 144-fiber main fiber cable.

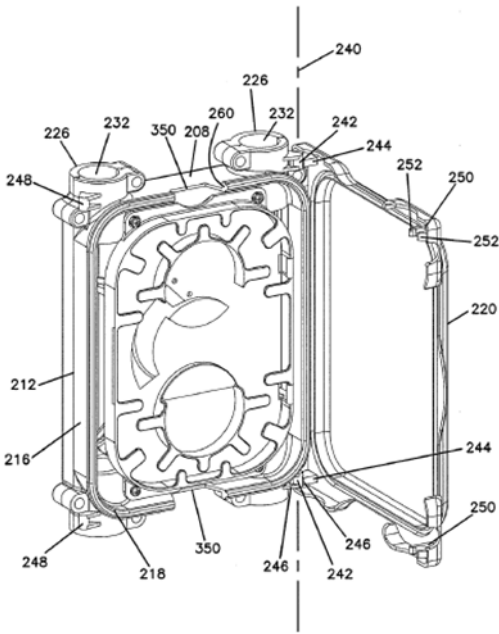
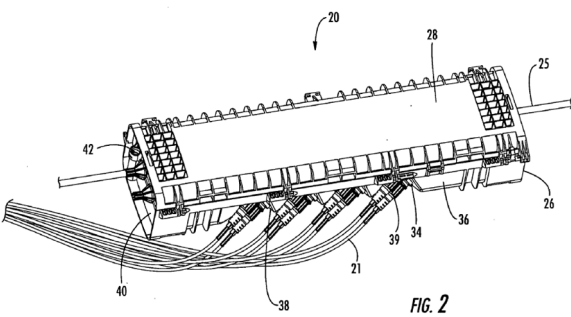


EX-2005 1-2. “Once the sheath is removed, the technician gains access to pre-selected optical fibers through the cable sheath, severs the accessed optical fibers and withdraws a useable length of the terminated optical fibers from the [main] cable.” Cooke 1:50-54; EX-2005 1; Eldering ¶¶122-123.

As shown in the figure above, the fibers from the high fiber count main cable that are not severed will continue (or “pass”) through the mid-span access location. EX2005 1-2 (Main “cables of 144-288 fibers are common and larger ones are becoming more common too. Drop cables are often only 2-12 fibers, meaning *most fibers are continuing straight through the drop point.*”). “The useable length of

the terminated optical fibers provides the field technician with sufficient length to splice one or more optical fibers of a cable comprising a lesser amount of optical fibers than the [main] cable (typically referred to as a ‘drop cable’) to the pre-selected optical fibers of the distribution cable.” Cooke 1:54-59. “After splicing is completed, the mid-span access location is typically covered using an enclosure designed to *protect the splices and the exposed section of the [main] cable*.” Cooke 1:59-62; Eldering ¶¶124-126.

Holmberg (EX-1004), entitled “Wall Box Adapted To Be Mounted At A Mid-Span Access Location Of A Telecommunications Cable,” and Battey (EX-1005), which Petitioner relied upon in combination for each of its five Grounds, both disclose *mid-span access location enclosures*, in which input or main fiber cable passes through the enclosure while selected fibers are spliced to the output or drop cable. Eldering ¶127.

Holmberg (EX-1004) Mid-Span Access Location Enclosure	Battey (EX-1005) Mid-Span Access Location Enclosure
FIG. 4 	 FIG. 2

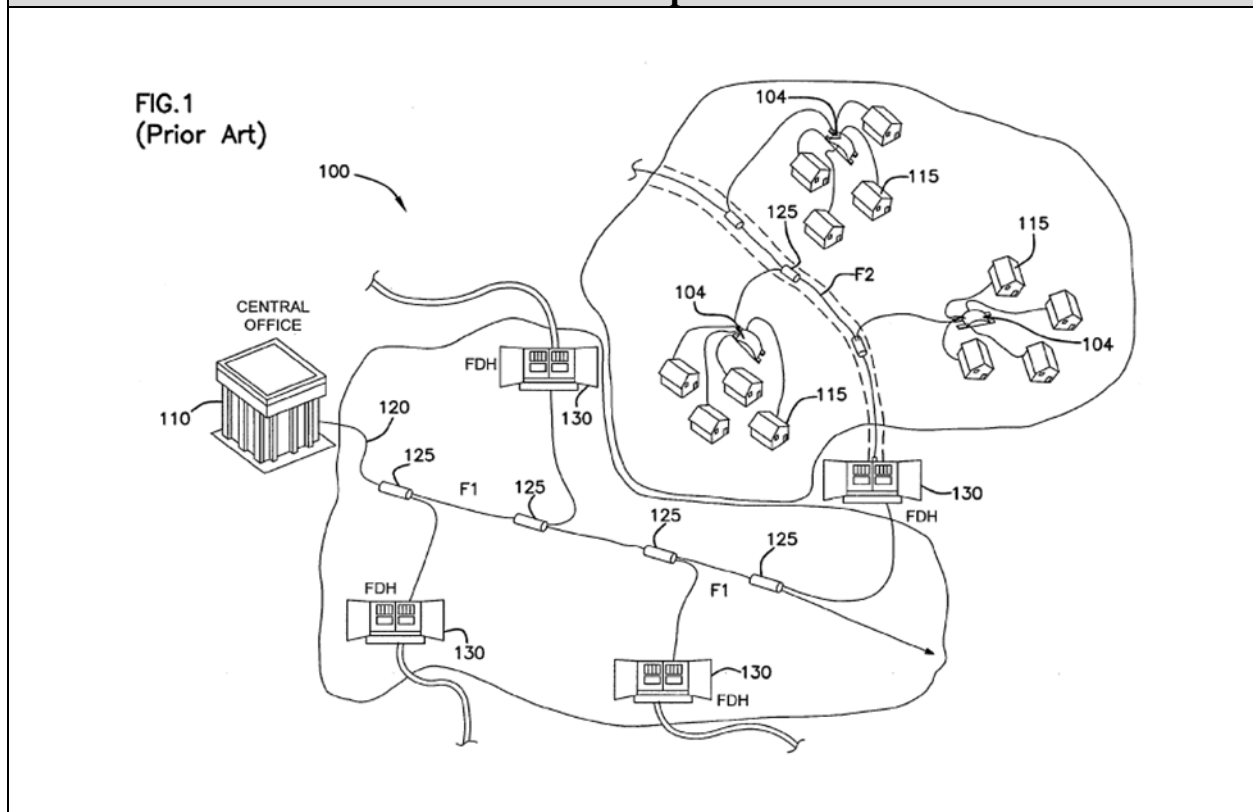
As explained *infra*, given the purpose and function of these break-out or mid-span access location enclosures, including those disclosed in Holmberg and Battey, in which the large majority of fibers of the main fiber cable pass through to further, downstream break-out or mid-span access locations, a POSITA would understand that the *enclosures were designed to restrict access to those pass-through fibers of the main fiber cable* that were not being cut and spliced or dropped at that particular location. Eldering ¶128.

C. Network Interface Devices, Like Those Disclosed In The '483 Patent, Distribute The Branch Or Drop Cables At A Subscriber Location.

Returning to Holmberg's illustration of a prior art fiber optic network of FIG.

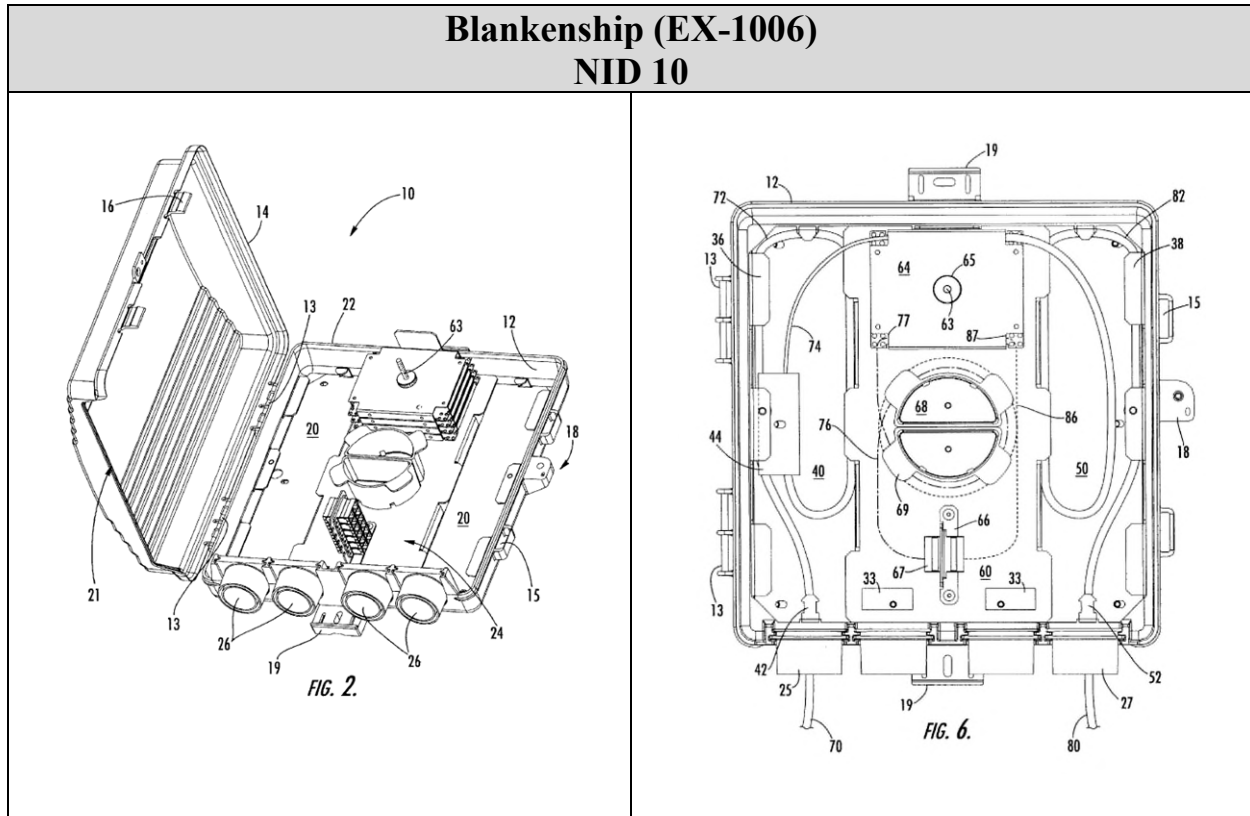
1, the “[b]ranch [or drop] cables [extending from the break-out or mid-span access locations 125] are often connected to drop terminals 104 that include connector interfaces for facilitating coupling the fibers of the branch cables to a plurality of different subscriber locations.” Holmberg ¶[0006], FIG. 1; *see also* Castonguay ¶[0003], FIG. 1; Eldering ¶129.

Holmberg FIG. 1
Prior Art Fiber Optic Network



These drop terminals 104 or network interface devices (“NIDs”) in the fiber optic network are “located at the subscriber premises that permits the service provider direct access to the optical connections between the network and the subscriber. *The NID provides access to the optical connections for installation,*

reconfiguration and test operations.” Blankenship 1:18-24, 8:6-13. Blankenship, entitled “Fiber Optic Network Interface Device,” which Petitioner relies upon in Grounds 2, 3, and 5, discloses an NID as shown in the figures below.



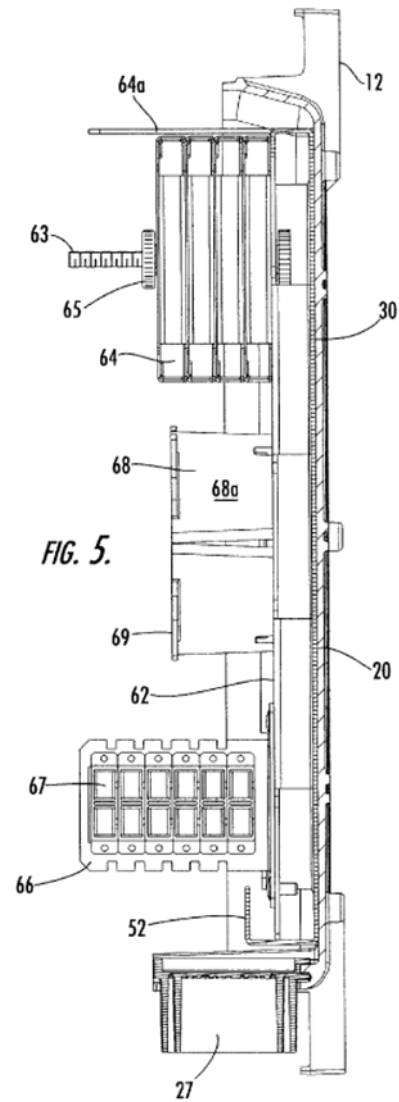
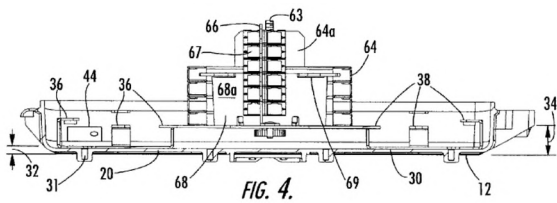
Blankenship (EX-1006) FIGS. 2, 6; *see also* Blankenship 1:7-10 (“More particularly, the invention is a network interface device (NID) for connecting an optical fiber of a feeder cable to an optical fiber of a distribution cable at a subscriber premises.”), 2:32-34, 6:28-33; Bloodworth Abstract, 7:5-10, FIG. 2; Eldering ¶¶130-132.

In the Blankenship NID, as was typical, the input or “[f]eeder cable 70 is a drop cable from a fiber optic closure, remote terminal, or other local access point in

an optical network” including a mid-span access location (Blankenship 6:33-35, FIG. 6), while the output is a distribution cable 80 to a subscriber outlet (Blankenship 7:17-18, FIG. 6). *See also* Bloodworth Abstract, 7:5-10 (“In one example, a fiber optic drop cable may be used to optically connect a network interface device (NID) located at a subscriber premises to a connectorized fiber optic distribution cable at a connection terminal, such as an aerial closure, an above-ground telecommunications pedestal or a buried closure.”), FIG. 2; Eldering ¶¶133-134

As explained in the Background of the ’483 Patent, “a feed or drop optical fiber cable is provided to a premises, by an optical fiber service provider, from a larger distribution point or connection (*e.g.*, a pole mounted distribution point)” like a mid-span access location. ’483 Patent 1:39-42. To allow the “optical fiber of the distribution cable 80 to be optically joined to an optical fiber of the feeder cable 70 quickly, accurately, and conveniently” in a “plug-and-play” configuration in the NID, the feeder (drop) cable 70 and output (distribution) cable 80 are spliced to jumpers or pigtails with connectors 76, 86 which are attached to adapters 67 on adapter bracket 66 to make the optical connections. Blankenship 5:64-6:11, 6:57-7:16, 7:44-8:1-6.

Blankenship (EX-1006)
Adapter Bracket 66 with Adapters 67 for Plug-And-Play Connections



Blankenship FIGS. 3-6; *see also* '483 Patent 1:46-49 ("Individual distribution fiber cables from inside each living or workplace unit are connected with adapters to the individual feed fiber optical cable connections from the multi-fiber drop cable."); Elderling ¶¶135-136.

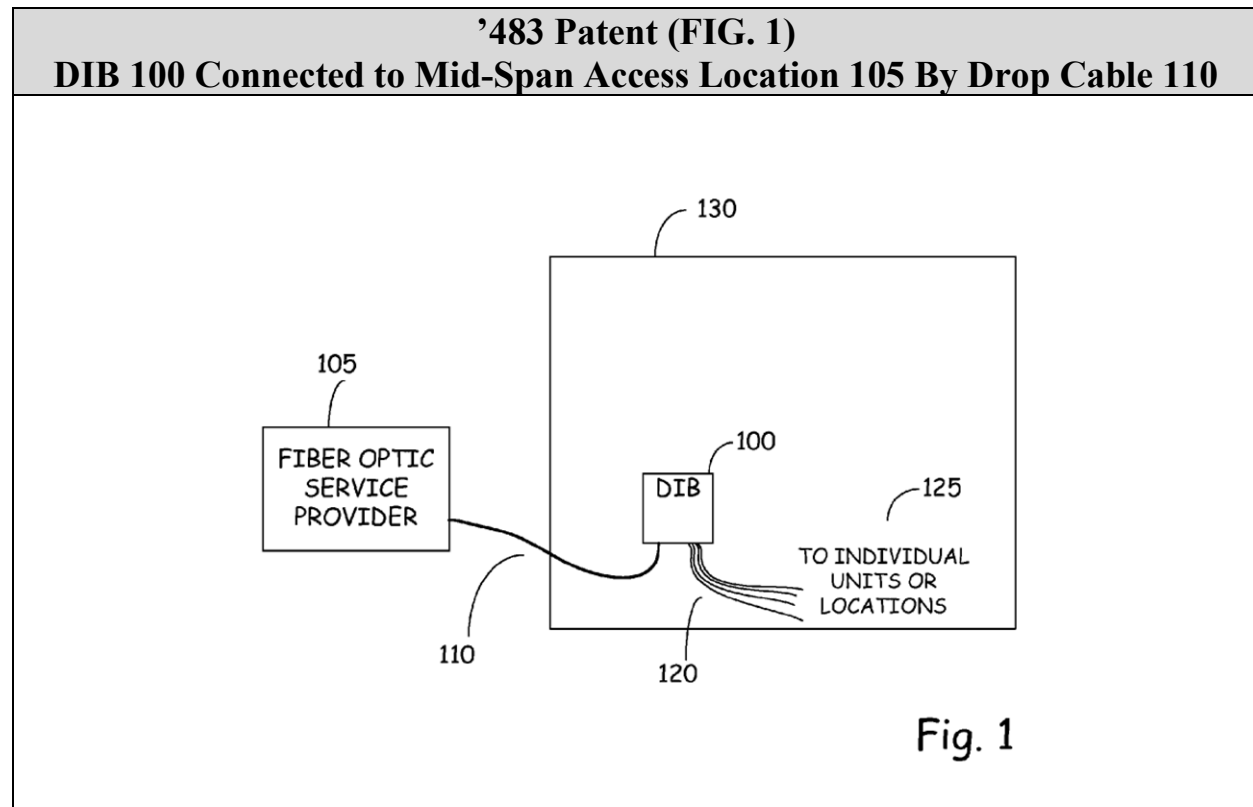
Importantly, unlike break-out or mid-span access location enclosures—including those disclosed in Holmberg and Battey in which the enclosures were designed to limit access to pass-through fibers that were not being cut and spliced or dropped at a particular location—a POSITA would understand that *NIDs are where drop cable fibers are terminated (i.e., there are no pass-through fibers or cables) and are connected to distribution fibers at subscriber locations, and were designed to allow easy access* and connection to the terminated fibers to be able to connect and disconnect new subscribers as needed. Eldering ¶137.

The '483 Patent, which will be discussed next, discloses such an NID (referring to the enclosure as a “drop interface box” (“DIB”)). '483 Patent Title, Abstract, 2:3-6. Eldering ¶138.

III. THE '483 PATENT

The '483 Patent discloses a drop interface box (“DIB”) for “connection of an optical fiber feed or ‘drop’ cable from an optical fiber service provider to a distribution point at a residence, dwelling or other building, such as a multi-unit dwelling.” '483 Patent 1:15-28, Title (“Optical Fiber Cable Drop Interface Box”), Abstract, 2:3-6, 3:17-23, FIGS. 1-2-2. As shown in FIG. 1 below, “DIB 100 is configured to receive and partially house a hardened ‘drop’ cable 110 from an optical fiber service provider distribution point 105, which can be, for example, a pole mounted box connected to the provider's network” at a mid-span access

location. '483 Patent 3:24-27, 3:58-61, 4:58-62, 5:21-23, FIG. 1. “Inside of DIB 100, drop cable 110 is ...[connected to] multiple distribution cables 120 which are connected in or to the individual units or locations 125 of premises 130.” '483 Patent 3:27-31; Eldering ¶¶139-140.



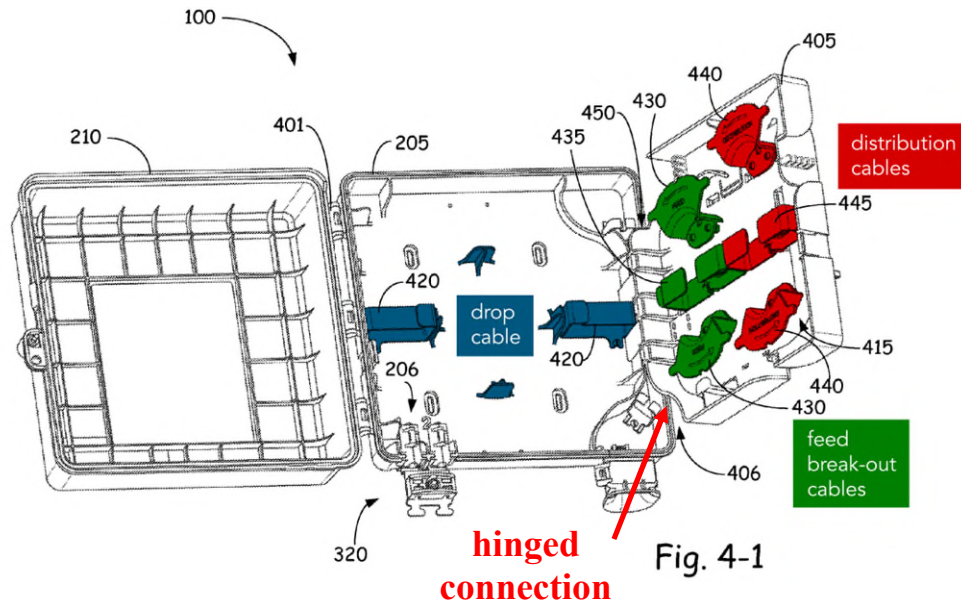
As explained in the Background, at the time of the filing of the '483 Patent, “[i]ncreasingly, optical fiber cables are pre-connectorized--that is they are shipped from a factory with terminating connectors already installed. This can lead to the need for installers to deal with excess optical fiber cable length in many instances.” '483 Patent 1:50-54. But “[s]torage of the excess cable length can be problematic, as can organization of the drop optical fiber cable, the multiple

individual feed optical fiber cables, and the multiple individual distribution optical fiber cables which are connected to the individual living or workplace units.” ’483 Patent 1:55-59. Accordingly, the problem addressed by the ’483 Patent was storage of excess fiber optic cables in a DIB, which “provides organized drop, feed and distribution fiber cable storage and routing in a manner which does not cross different cables types when additional cables are added, and which maintains minimum bend radius of the cables and inhibits cable strain.” ’483 Patent Abstract, 2:6-10; Eldering ¶¶141-143.

The DIB 100 disclosed in the ’483 Patent includes: (i) a hinged base unit 205 for storing the excess or “slack” drop cable, where the base unit 205 has a hinged connection 401 to the cover 210, and (ii) a *hinged fiber storage panel 405* for storing the excess or “slack” feed break-out cables and distribution cables, where the fiber storage panel 405 has a hinged connection 406 to an opposing side of the base unit 205. ’483 Patent 4:49-53, 2:33-35 (“a base, cover and hinged fiber storage panel”), 3:35-39 (“a base unit 205 and a door or cover 210 which has a hinged connection to the base unit”), FIGS. 2-1, 2-2, 4-1-5-4, 6-1, 6-4; Eldering ¶144.

The “hinged fiber storage panel [405] includes spools, cable clips and integrated cable channels that maintain cable radius during transitions of cables from a storage side or plane of the panel to a connector side or plane of the panel.” ’483 Patent Abstract, 2:10-14., FIG. 4-1; Eldering ¶145.

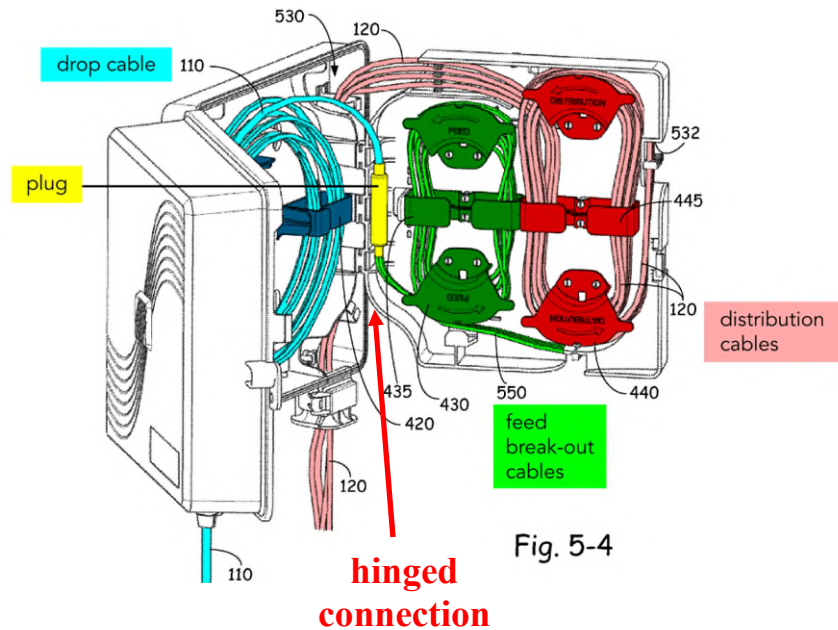
'483 Patent FIG. 4-1 (Annotated)
Hinged Storage Panel 405 – Rear Side 415



Fiber storage “panel 405 is hinged [406] to provide convenient access to both sides of the panel” in the DIB 100. ’483 Patent 5:32-34; Eldering ¶146.

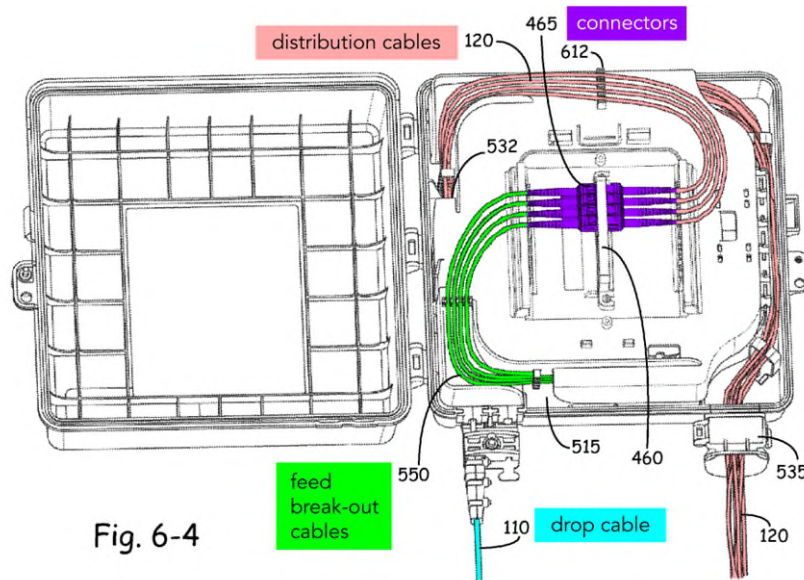
“On the rear side 415 of the hinged fiber storage panel 405, there are two sets of spools 430 and 440 and two sets of corresponding storage clips 435 and 445. Spools 430 and storage clips 435 store feed cables 550 (shown in FIG. 5-4). Spools 440 and clips 445 store distribution cables 120.” ’483 Patent 4:62-66, FIGS. 4-1, 5-4; Eldering ¶147.

'483 Patent FIG. 5-4 (Annotated)
Hinged Storage Panel 405 – Rear Side 415



“On the front side 410 of hinged fiber storage panel 405 is an adapter bracket 460 which holds one or more connectors or adapters 465, such as four-to-eight port adapters. Adapters 465 convert between the feed cables 550 and the distribution cables 120.” ’483 Patent 5:3-7, FIGS. 4-2, 6-4 (annotated); Eldering ¶148.

'483 Patent FIG. 4-1 (Annotated)
Hinged Storage Panel 405 – Front Side 410



Consistent with this disclosure, independent claim 1 of the '483 Patent is directed to a “drop interface box comprising” “a *fiber storage panel having a hinged connection to the base unit* on a side opposite the hinged connection of the cover to the base unit” (claim 1(c)) and “the fiber storage panel having first spools positioned to store a plurality of feed break-out cables coupleable to the drop cable, the fiber storage panel further having second spools positioned to store a plurality of distribution cables coupleable to the plurality of feed break-out cables” (claim 1(d)). '483 Patent 7:36-46. As explained *infra*, none of Petitioner’s grounds are sufficient to render obvious at least these claim elements. Eldering ¶¶149-150.

IV. CLAIM CONSTRUCTION

In its Petition, Petitioner proposed two alternative claim constructions of the

term “drop cable.” Pet. 9-16. First, Petitioner proposed a narrow construction to require that “the drop cable retain its external jacket as it is routed internally” for its proposed Grounds 3-5. Pet. 10-13. And second, Petitioner proposed to construe it to allow for “the external jacket to be removed as the drop cable enters the DIB and the fibers routed inside the box without the external jacket” for proposed Grounds 1 and 2. Pet. 10-11, 13-16. Although Patent Owner disagrees with Petitioner’s first proposed claim construction, the Board need not resolve this claim construction dispute because Petitioner’s proposed Grounds 1-5 are all insufficient under either construction.

V. THE CHALLENGED CLAIMS ARE NOT OBVIOUS

A. Independent Claim 1 Is Not Obvious (Grounds 1 And 3)

Petitioner has challenged independent claim 1 of the ’483 Patent, the only independent claim in the Challenged Claims, based on Ground 1 (combination of Holmberg and Battey) and Ground 3 (combination of Holmberg, Battey, and Blankenship). But these asserted combinations of Holmberg and Battey, *which both teach mid-span access location enclosures and not the claimed drop interface boxes (or NID’s)*, cannot render obvious the ’483 Patent’s claimed “drop interface box comprising” “a fiber storage panel having a hinged connection to the base unit on a side opposite the hinged connection of the cover to the base unit” (claim 1(c)) and “the fiber storage panel having first spools positioned to store a plurality of feed

break-out cables coupleable to the drop cable, the fiber storage panel further having second spools positioned to store a plurality of distribution cables coupleable to the plurality of feed break-out cables” (claim 1(d)). Eldering ¶150.

As explained *infra*, Petitioner’s theory that it would have been obvious to replace Holmberg’s *unhinged* and *stationarily fastened* (alternatively referred to as “*fastener mounted*”) splice tray with a *hinged* and *rotationally coupled* (alternatively referred to as *rotationally hinged*) splice tray is not only driven by improper hindsight reasoning, but is also contradicted by the record evidence that demonstrates that a POSITA³ would not have been motivated to make such a replacement. The Federal Circuit has consistently “rejected obviousness determinations based on conclusory and unsupported expert testimony ... [that] use[d] the challenged patent as a roadmap to reconstruct the claimed invention using disparate elements from the prior art—*i.e.*, the impermissible *ex post* reasoning and hindsight bias that *KSR* warned against.” *TQ Delta, LLC v. Cisco Sys.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019). The Board should do the same here.

³ All references to a POSITA herein refer to a “person of ordinary skill in the art” at the time of the claimed invention (2011). Eldering ¶¶19-26. Any differences between the parties’ proposals definitions of POSITA (Pet. 7-8) are insubstantial and do not impact the analysis of the issues presented.

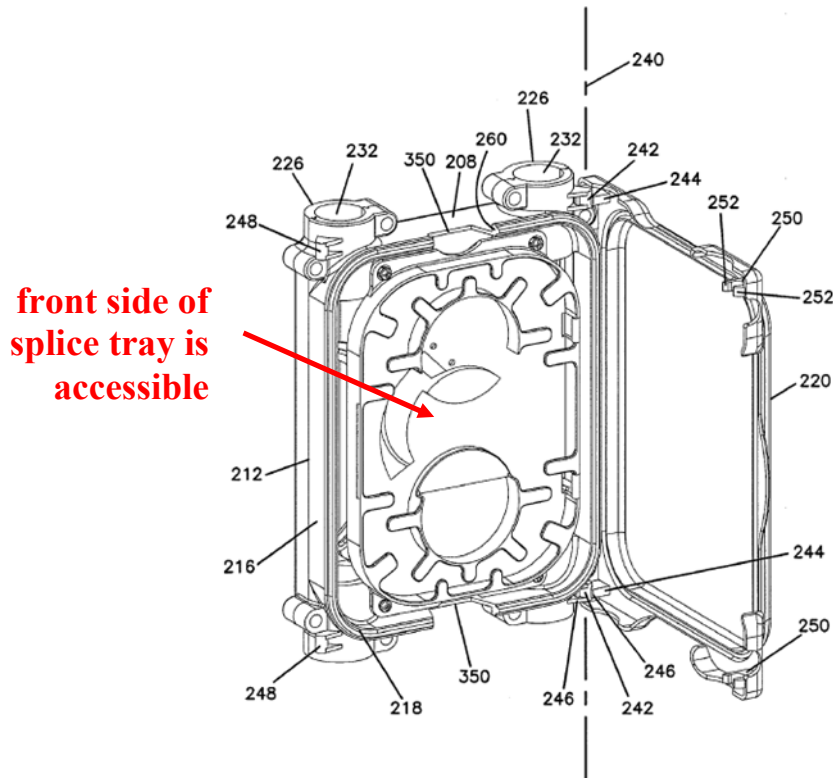
1. *A POSITA Would Not Be Motivated To Replace An Unhinged And Stationarily Fastened Splice Tray, Which Is Designed To Protect Fibers And Splices, With A Hinged And Rotatably Coupled Splice Tray That Would No Longer Protect Such Fibers And Splices.*

Petitioner theorized that “a POSITA would have been motivated to modify Holmberg to utilize a hinged splice tray in light of Battey’s teachings instead of a fastened connection for splice tray 230 because such a modification would have advantageously resulted in providing *convenient access* to the splice tray, as Battey expressly teaches.” Pet. 40-41; EX-1003 ¶90 (“Such a modification would have advantageously provided convenient access to both sides of Holmberg’s splice tray, which is an express advantage taught by Battey”). But a POSITA would not be motivated to provide such convenient access since the splice tray 230 disclosed in Holmberg was intentionally designed to block or restrict such access to the rear side of the splice tray 230. Eldering ¶151.

As for accessing the first or front side of Holmberg’s splice tray 230, hinging the splice tray 230, as Petitioner proposed, would not be required to provide convenient access since that side, which provides access to the splice sleeve holders 294, was already fully accessible in Holmberg’s existing fastener mounted splice tray 230 once the hinged cover 210 is opened, as illustrated in FIGS. 4 and 12. Eldering ¶152.

Holmberg FG. 4
Front Side Of Splice Tray 230 Accessible

FIG. 4



In contrast, in Battey’s mid-span access location enclosure design, the splice tray is not accessible until the hinged shelf 54 is opened. Battey ¶[0038], FIG. 3. Petitioner did not even attempt to explain how adding a hinge to splice tray 230 would provide any additional access to the front side of the splice tray 230. Eldering ¶152.

As for accessing the rear side of the splice tray 230, Petitioner and its expert pre-suppose, without any support, that providing “easier access to the rear side of the splice tray and components located behind the splice tray, such as the” input

main fiber cable⁴ would have “advantages.” Pet. 43-44. But, as will be explained *infra*, a POSITA would not be motivated to unblock or provide more convenient hinged access to the rear side of the splice tray 230 (*i.e.*, more convenient than removing the four fasteners 276 disclosed in Holmberg) since ***Holmberg’s mid-span access location enclosure was specifically designed to block, restrict, or limit access to the input main fiber cable by requiring intentional removal of those fasteners.*** Eldering ¶¶153, 155.

Petitioner and its expert appear to have made the fundamental mistake of adopting the position that because the hinged storage panel 405 in the DIB 100 disclosed in the ’483 Patent (where there were no splices, no pass-through main fiber cable, etc.) provides more convenient access to both sides of the hinged storage panel 405, such access would also be desirable to a POSITA in the mid-span access location enclosure in Holmberg. But such a position improperly ignores the significant differences between the DIB 10 disclosed in the ’483 Patent and the mid-

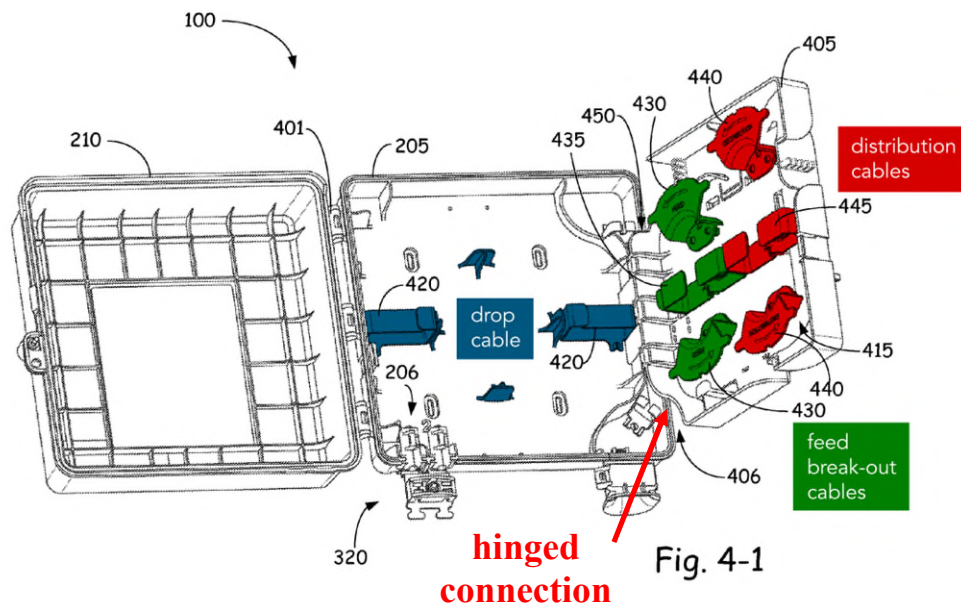
⁴ Petitioner refers to Holmberg’s input main fiber cable as a “drop cable.” Holmberg refers to the input cable to the mid-span access locations as the “main cable” or the “feeder fiber,” and the output cables as “branch cables [that] can also be referred to as drop cables, drop lines, breakout cables or stub cables.” Holmberg ¶¶[0005], [0006], FIG. 1; Eldering ¶154.

span access location enclosure disclosed in Holmberg, which is specifically designed to be mounted on a pass-through main fiber cable (*e.g.*, removeable cable covers 226 to allow the box to be mounted directly onto the main fiber cable and avoid threading the cable through the box (Holmberg ¶[0037], FIGS. 4-11)). Given these significant differences between NIDs (or the DIB disclosed in the '483 Patent) and Holmberg's mid-span access location enclosures, a POSITA would not be motivated to use Holmberg's wall box as an NID, and there is nothing in Holmberg to suggest otherwise. *See Adidas AG v. Nike, Inc.*, 963 F.3d 1355, 1359 (Fed. Cir. 2020) ("Fundamental differences between the references are central to this motivation to combine inquiry."). Eldering ¶156.

Returning to the '483 Patent, the DIB 100 disclosed in the '483 Patent includes a ***hinged*** fiber storage panel 405 for storing the excess or "slack" feed break-out cables 550 and distribution cables 120, where the fiber storage panel 405 has a ***hinged connection*** 406 to an opposing side of the base unit 205. '483 Patent 4:49-53, 2:33-35 ("a base, cover and ***hinged*** fiber storage panel"), 3:35-39, FIGS. 2-1, 2-2, 4-1-5-4, 6-1, 6-4; Eldering ¶157.

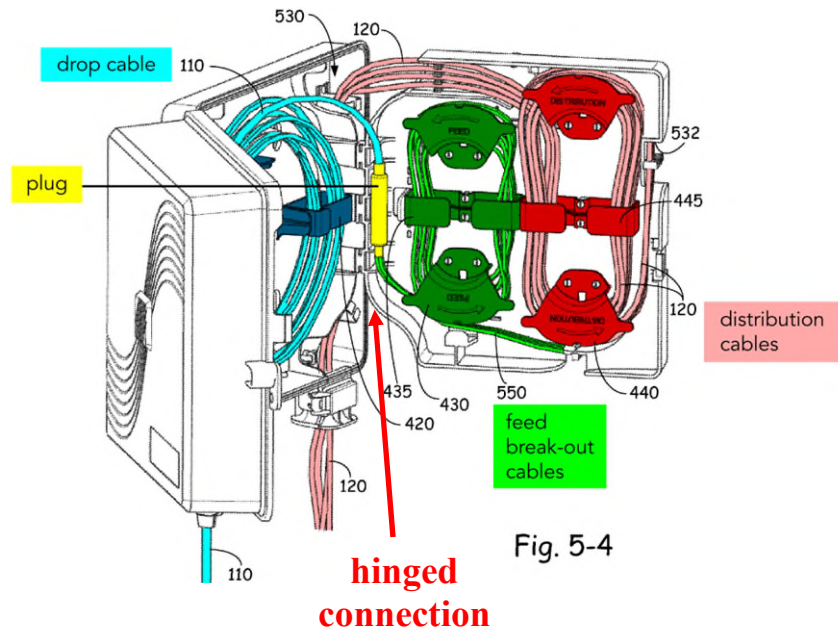
The "***hinged*** fiber storage panel [405] includes spools, cable clips and integrated cable channels that maintain cable radius during transitions of cables from a storage side or plane of the panel to a connector side or plane of the panel." '483 Patent Abstract, 2:10-14, FIG. 4-1; Eldering ¶158.

'483 Patent FIG. 4-1 (Annotated)
Hinged Storage Panel 405 – Rear Side 415



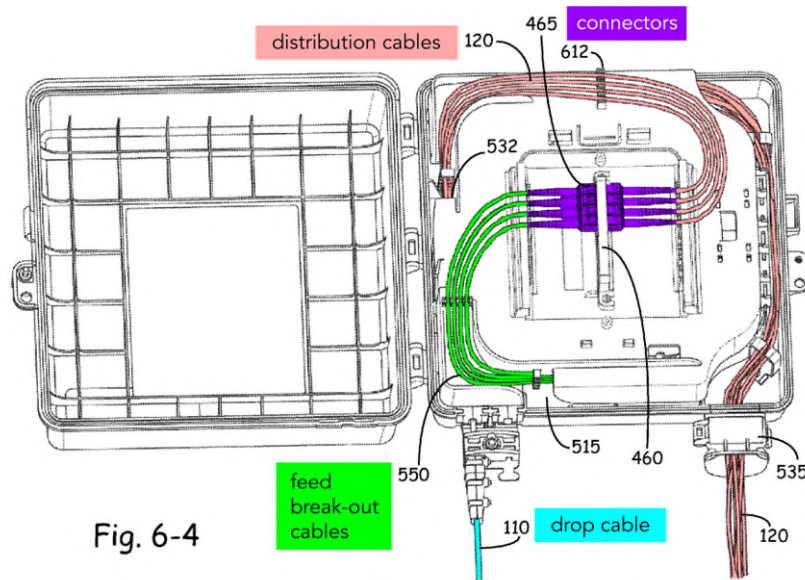
“On the rear side 415 of the hinged fiber storage panel 405, there are two sets of spools 430 and 440 and two sets of corresponding storage clips 435 and 445. Spools 430 and storage clips 435 store feed cables 550 (shown in FIG. 5-4). Spools 440 and clips 445 store distribution cables 120.” ’483 Patent 4:62-66, FIGS. 4-1, 5-4; Eldering ¶159.

'483 Patent FIG. 5-4 (Annotated)
Hinged Storage Panel 405 – Rear Side 415



“On the front side 410 of hinged fiber storage panel 405 is an adapter bracket 460 which holds one or more connectors or adapters 465, such as four-to-eight port adapters. Adapters 465 convert between the feed cables 550 and the distribution cables 120.” ’483 Patent 5:3-7, FIGS. 4-2, 6-4 (annotated); Eldering ¶160.

'483 Patent FIG. 4-1 (Annotated)
Hinged Storage Panel 405 – Front Side 410



The connectorized ends of the stored feed cables 550 and distribution cables 120 connect to the connectors or adapters 465 on the adapter bracket 460 to easily optically join select fibers from the feed cables 550 to select fibers from the distribution cables 120 in a “plug-and-play” configuration. '483 Patent 5:3-9, FIG. 6-4; *see also* Blankenship 5:64-6:11, 6:57-7:16, 7:44-8:1-6; Eldering ¶161.

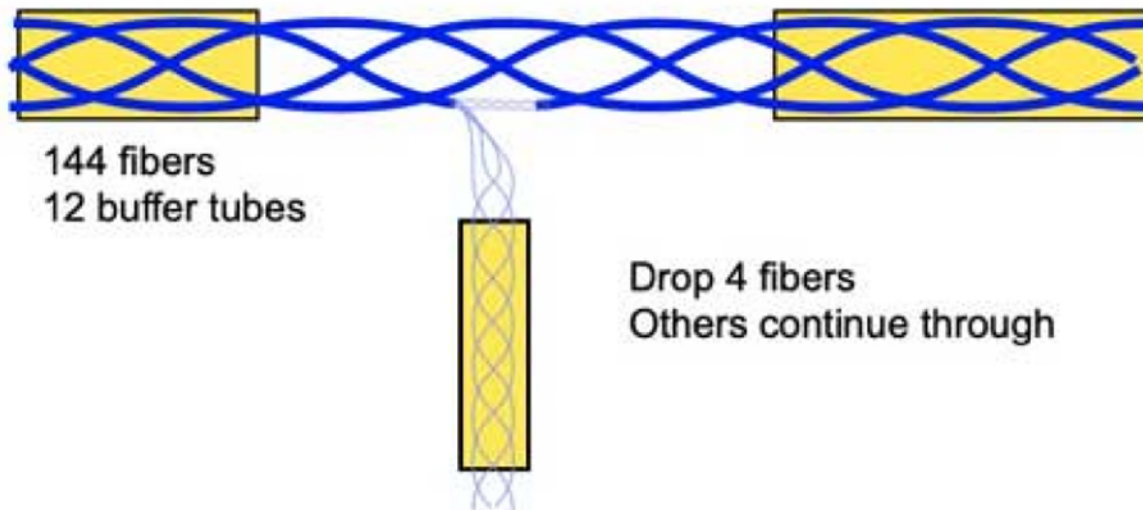
As discussed *supra* § II.C, in the DIB 100 disclosed in the '483 Patent, like other NIDs, the drop cable fibers are ***terminated*** (*i.e.*, there are no pass-through fibers or cables) and are connected to the distribution fibers at the subscriber locations, and are therefore ***designed to allow easy access and connection to the terminated fibers to be able to connect and disconnect new subscribers as needed.*** Accordingly, because of the need to frequently access and reconfigure the optical

connections in DIB 100 in the '483 Patent, having a hinged storage panel 405 in the DIB 100 was a desirable design feature “to provide convenient access to both sides of the panel” in the DIB 100. '483 Patent 5:32-34; Eldering ¶162.

On the other hand and contrary to Petitioner’s made-up theories, Holmberg and Battey expressly disclose mid-span access location enclosures⁵ in which *the large majority of fibers from the main fiber cable are not terminated and pass through to further downstream mid-span access locations, and are therefore designed to limit access to those pass-through fibers of the main fiber cable* that were not being spliced or dropped at that particular location. Eldering ¶163.

As explained *supra* § II.B, “to perform a mid-span access of a [main] cable, a field technician first removes a section of the cable sheath at a convenient location along an installed [main] cable” (Cooke 1:47-50) as illustrated below in the example of a 144-fiber main cable.

⁵ Petitioner incorrectly asserted that Holmberg and Battey are both directed to DIBs (Pet. 19-20.) As explained *infra*, they do not and instead clearly disclose mid-span access location enclosures. Eldering ¶¶166, 186.



EX-2005 1-2; Eldering ¶165.

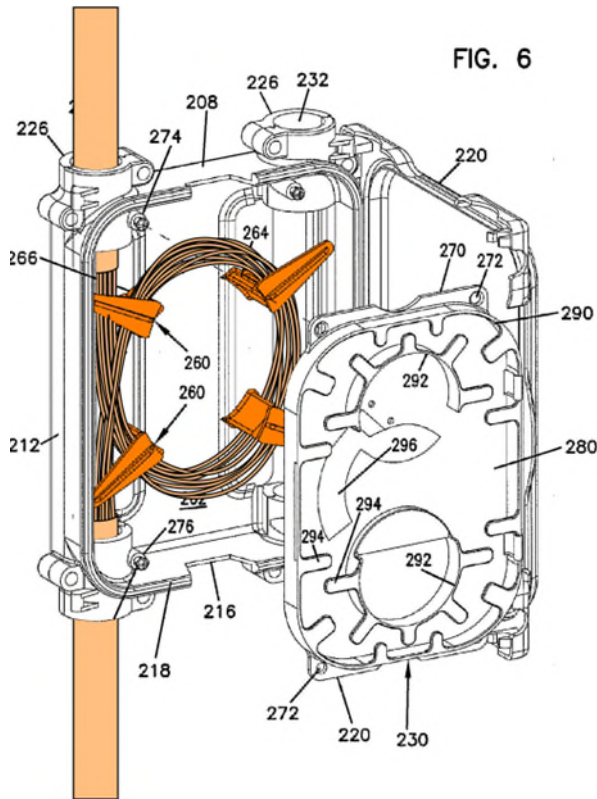
Holmberg, entitled “Wall Box Adapted To Be Mounted At A Mid-Span Access Location Of A Telecommunications Cable,” expressly discloses that its wall box 200 is for use in such mid-span access locations accessing the main fiber cable. Homberg Title, Abstract (“The present disclosure relates to a wall box adapted to be mounted at a *mid-span access location* of a fiber optic telecommunications cable.”), ¶¶[0008] (“The wall box can include structure that facilitates mounting the wall box at a *mid-span access location* of a fiber optic cable.”), ¶[0034] (“The present disclosure relates generally to wall boxes configured to be easily mounted at *mid-span locations* along the length of a fiber optic telecommunications cable. ... [W]all boxes in accordance with the principles of the present disclosure can be used for either indoor or outdoor applications wherever it is desired to easily mount an enclosure at a *mid-span location* of a telecommunications cable.”), [0037] (“The cable covers 226 are removable from the main body 216 of the enclosure 202 to

facilitate positioning the wall box 200 at a *mid-span access location* of a telecommunications cable. By re-moving one of the cable covers 226, a *mid-span location* of a telecommunications cable can be positioned within the enclosure 202 without requiring the telecommunications cable to be threaded lengthwise through the enclosure 202.”); Eldering ¶166.

Holmberg also expressly discloses the conventional technique of accessing and passing-through the fibers of the main fiber cable by stripping away about four feet of the outer jacket of the cable and spooling those exposed fibers around the bend radius limiters 264 provided within the main body 216, as shown in the annotated FIG. 6 below to add the stripped main fiber cable. Holmberg ¶[0053], FIG. 6 (annotated); Eldering ¶167.

Holmberg FIG.6 (Annotated) Stripped Pass-Through Main Fiber Cable

To mount the wall box 200 at a corresponding mid-span location of a cable, *the cable is initially prepared by stripping away the outer jacket of the cable for a desired length at the mid-span location. In one embodiment, about 4 feet of the outer jacket can be stripped.* One of the cable covers 226 is then removed from the main body 216 of the enclosure 202 so as to expose the underlying rear open region 222. The stripped portion of the cable can then be spooled around the bend radius limiters 264 provided within the main body 216. With one end of the stripped region located adjacent to one of the clamping portions 310 and the other end of the stripped region positioned adjacent to the corresponding clamping portion 310. Jacketed portions of the cable located adjacent to the stripped portion are preferably inserted within the clamping portions 310. Thereafter, the cable cover 226 is fastened to the main body 216 thereby covering the rear open region 222 and causing the jacketed portions of the cable to be clamped within the clamping portions 310. Holmberg ¶[0052].



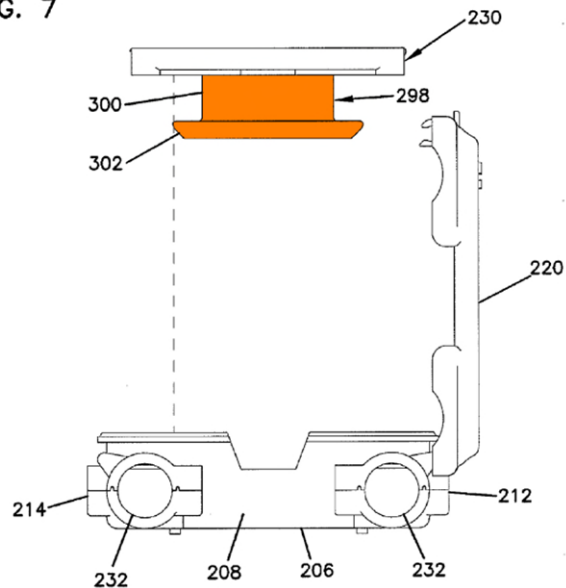
As shown in the annotated version of FIG. 6, the main fibers that are not cut and terminated or spliced (*i.e.*, they are passed-through) in the wall box 200, continue on in the fiber optic network to other further downstream mid-span access locations serving other locations and subscribers. Holmberg ¶[0046] (“Each of the rear open

regions 222 defined by the main body 216 is configured to allow a fiber optic cable to be *mounted in a ‘pass-through’ configuration* within the enclosure 202. In this ‘pass-through’ configuration, a mid-span access location of the cable is located within the enclosure 202, and *upstream and downstream portions of the cable are routed in and out of the enclosure 202* through two of the aligned cable enter/exit openings 232.”); Eldering ¶168.

After the main fiber cable has been spooled around the bend radius limiters 264, “selected fibers from the cable can be terminated (*i.e.*, cut) adjacent one of the clamping portions 310 so as to provide a length of terminated fiber within the enclosure 202. The length of terminated fiber can be spooled around the spool structure 298 of the splice tray 230 for storage purposes.” Holmberg ¶[0053]; *see also* Holmberg ¶[0045], FIGS. 5-7; Eldering ¶169.

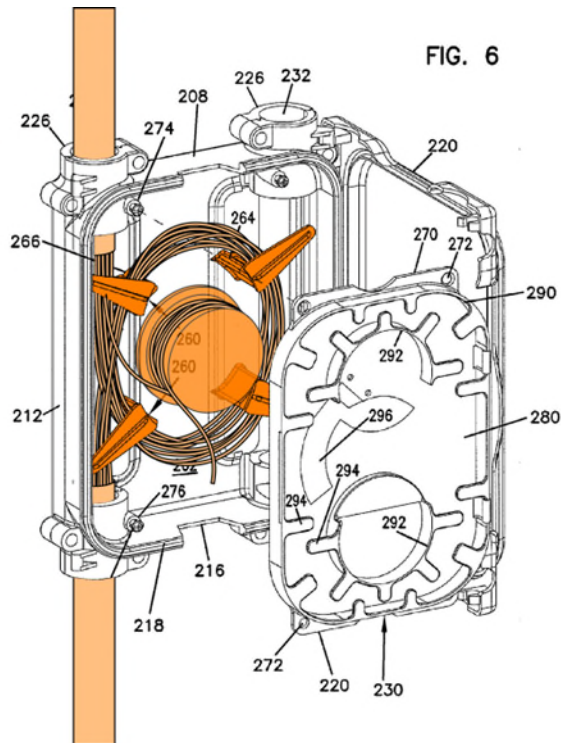
Holmberg FIG.6 (Annotated)
Terminated Fiber Spooled On Spool Structure 298

FIG. 7



As shown in the annotated figure below, the terminated fibers (showing just one) of the main fiber cable are spooled around the spool structure 298 on the back side of the splice tray 230, with the spool structure 298 shown superimposed inside the remainder of the drop cable fibers that were not terminated and are spooled around the radius limiters 264. Holmberg ¶¶[0045], [0052]-[0053], FIGS. 4-7; Eldering ¶170.

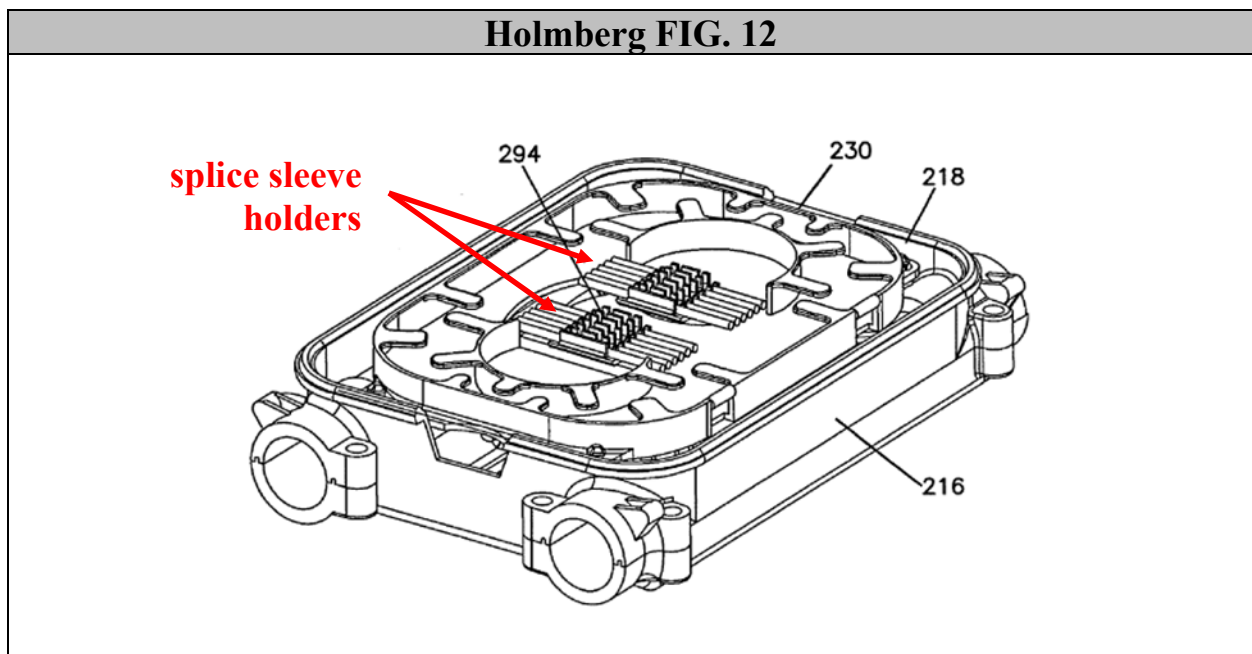
Holmberg FIG.6 (Annotated) Terminated Fiber Spooled On Spool Structure 298



In order to spool the high-fiber count main fiber cable around the bend radius limiters and then terminate select fibers for splicing, as shown in FIG. 6, *the splice panel 230 is advantageously not yet fastened to the enclosure 202 of the wall box 200, providing the technician with unobstructed access to the main body 216 of the interior of enclosure 202 to perform the spooling and terminating. See also Battey ¶[0039] (“Alternatively, the shelf 54 ... may be **removably attached to the base 26 to provide unobstructed access** to the interior cavity.”), FIG. 3); Castonguay ¶[0026] (“Alternatively, the transition panel 54 ... may be **removably attached to the base 32 to provide unobstructed access** to the interior cavity 40.”), FIG. 2; Eldering*

¶¶171-172.

In Holmberg, “[w]hen it is desired to splice one of the terminated fibers [of the main cable] to a [drop or output] cable, the terminated fiber can be accessed from the spool structure 298 and routed through one of the openings 296 in the splice tray 230 to the front side of the splice tray 230.” Holmberg ¶¶[0053], [0044], FIG. 6. “At the front side of the splice tray, the terminated optical fiber can be spliced to a corresponding fiber of another cable (*e.g.*, a [drop] cable) with the splice being mounted at the splice sleeve holder 294 as shown at FIG. 12.” Holmberg ¶¶[0053], [0044], FIGS. 4, 6, 12. The splice sleeve holders 294 are adapted for holding splice sleeves used to provide mechanical support to a fusion splice formed between two optical fibers.” Holmberg ¶[0044], FIG. 12; Eldering ¶¶173-175.



As shown in the annotated FIG. 4 below (adding the fibers and splice sleeve

Holmberg FIG.6 (Annotated)
Main Cable Fiber Spliced To Output Fiber

FIG. 4

This diagram shows an exploded perspective view of a fiber optic enclosure. The enclosure consists of a main body (212) and a door (220). The main body has a top flange (216) and a bottom flange (218). A main cable (226) enters the enclosure through a top port (240) and is spliced to an output fiber (232) inside the enclosure. The splicing is performed using a splice tray (242) and a splice sleeve (244). The output fiber (232) exits the enclosure through a side port (246). The enclosure is secured by a latch (250) and a hinge (252). The main cable (226) is shown in orange, and the output fiber (232) is shown in blue. The splice tray (242) and splice sleeve (244) are shown in a cross-section view. The enclosure is shown in an exploded view, with the door (220) and main body (212) separated. The main body (212) has a top flange (216) and a bottom flange (218). The door (220) has a top flange (248) and a bottom flange (248). The enclosure is secured by a latch (250) and a hinge (252). The main cable (226) is shown in orange, and the output fiber (232) is shown in blue. The splice tray (242) and splice sleeve (244) are shown in a cross-section view.

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wrapping the excess fiber around the fiber storage walls 292 at the front side of the splice tray 230.” Holmberg ¶[0053], FIGS. 4, 6; *see also* Holmberg ¶[0043] (“In use, excess fiber can be looped around the fiber storage walls 292 so as to form an elongated fiber storage loop at the front side of the main panel 280.”); Eldering ¶177.

Once the main cable fibers are spliced to the output or drop cable fibers, and the excess or slack fibers from main fiber cable (pass-through and terminated) and output cables have been securely spooled, the splice tray 230 is fastened to the enclosure 202 with four fasteners 276, intentionally restricting access to the rear side of the splice panel 230 and the main fiber cable. Holmberg ¶[0042], FIG. 4. Since Holmberg’s splices and splice sleeve holders 294 are readily accessible on the front of the splice tray 230 (Holmberg ¶¶[0044], [0053], FIG. 12), a POSITA would understand that splices could be repaired without necessarily having to access the rear side of the splice panel 230. Furthermore, as Petitioner’s expert admitted (EX-2006 59:9-60:11), the terminated fibers from the main fiber cable that are spooled on the back side of the splice tray 230 can be accessed by a technician through the opening 296 in the splice tray 230 (Holmberg ¶¶[0044], [0053], FIGS. 4, 6) without having to remove the splice tray 230. Eldering ¶179.

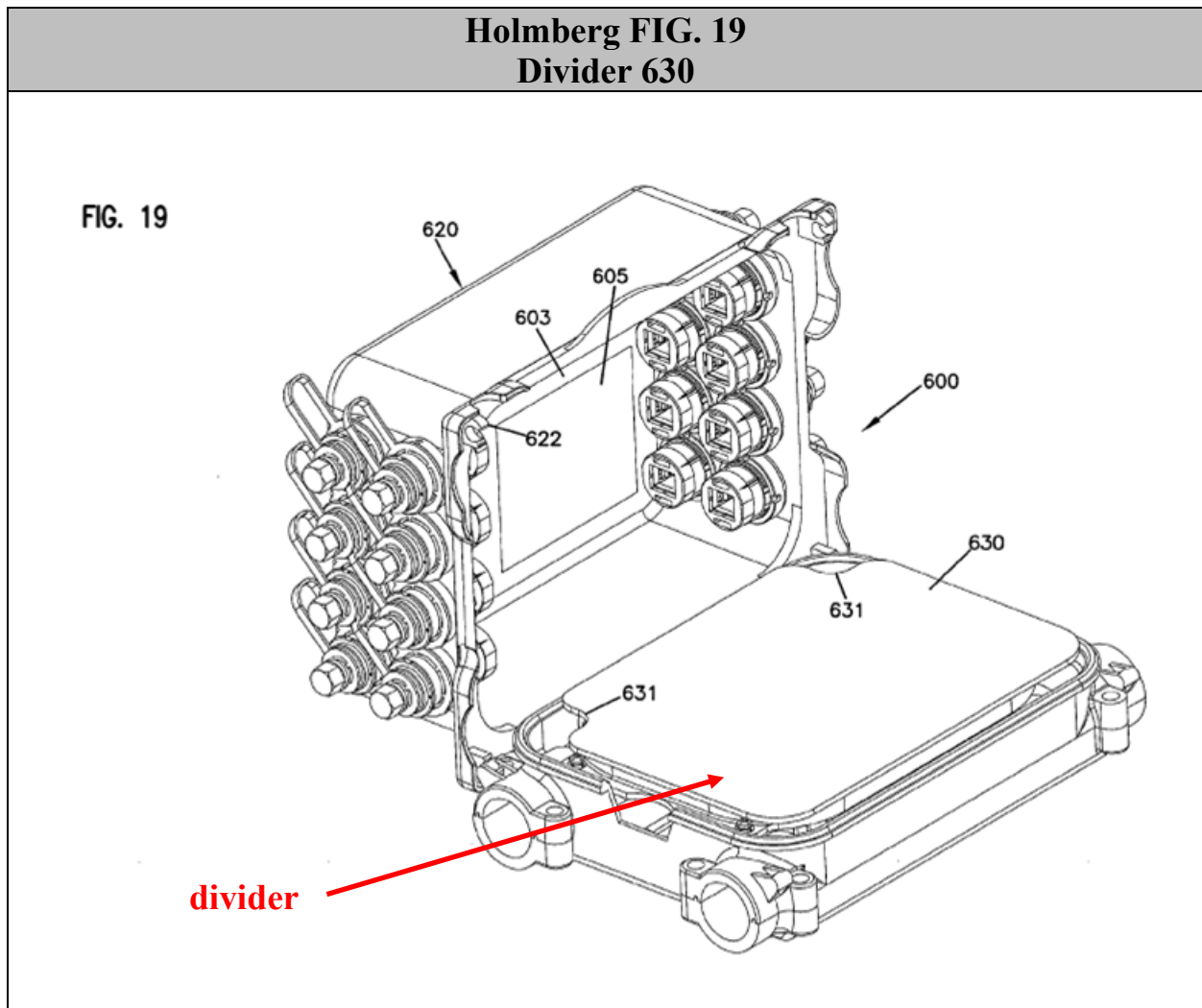
A POSITA would understand that once Holmberg’s mid-span access location enclosure was configured with the drop cable fibers spliced to the terminated fibers from the main cable and the remaining pass-through fibers from the main cable

continuing to downstream locations (*i.e.*, after the initial installation), it would not be advantageous to allow easy and convenient access to the main fiber cable at the rear side of the splice tray 230. For example, a POSITA would understand that if the pass-through fibers from the main fiber cable stored behind the splice tray 230 were inadvertently cut or otherwise disturbed after the initial installation, that would disconnect and disturb service to the numerous subscribers downstream of the mid-span access location. In fact, both Holmberg and Battey teach that *it was desirable to limit access to the main fiber cable in a mid-span access location enclosure after the initial installation*. Eldering ¶¶180-181.

For example, Holmberg expressly teaches the use of fasteners 276 that would need to be unscrewed to remove the splice tray 230, which would prevent inadvertent or easy access to the rear side of the splice tray 230 and the stored main fiber cable. Holmberg ¶[0042], FIG. 4. And while Petitioner theorizes that Holmberg's disclosure of "a hinged connection for main body 216 and front cover 220" (Pet. 44) supports the notion that using a hinged connection for the splice tray 230 would be obvious, that fact actually demonstrates that Holmberg (knowing of a hinged connection) specifically *rejected* the idea of using a hinged splice tray 230, instead opting for a fastener mounted design. Eldering ¶¶182-183.

Furthermore, Holmberg discloses an alternate embodiment that expressly teaches to further restrict such access to the stored main fiber cable after the initial

installation. The mid-span access location wall box 600 of FIG. 19 “includes a divider 630 for separating the internal cavity 622 of the front cover 620 from the interior of the main body 216. As shown in FIG. 19, the divider 630 is an insert piece that is captured between the front cover 620 and the main body 216.” Holmberg ¶[0058], FIG. 19; Eldering ¶184.



The divider 630 restricts access so that only certain technicians would be authorized to access the front side of the splice tray 230, and even those technicians would still

need to remove the fasteners 276 to remove the splice tray 230. Holmberg ¶[0059], FIG. 19; Eldering ¶185.

Turning to Battey, Battey also discloses a mid-span access location enclosure. See Battey ¶¶[0006] (“mid-span access location”), [0009], [0010], [0036], FIGS. 1-4. In the Background and Brief Summary of the Invention, Battey discloses that it would “be desirable to be able to establish optical connections in a fiber optic communications network while *eliminating the need for entering the closure and performing splices or adapter sleeve connections after the initial installation.*” Battey ¶¶[0007], [0008]. Battey accomplishes this goal by routing “[o]ne or more pre-connectorized [output] drop cables ... to the connector ports from the outside of the closure at any time subsequent to the initial installation of the closure *without requiring access to the inside of the closure.*” Battey ¶[0026], [0027] (“The pre-connectorized drop cables may be readily connected to and disconnected from the connector ports of the optical connection closure, thus *eliminating the need for entering the closure* and splicing the optical fibers of the drop cables to respective optical fibers of the distribution cable.”), [0037] (“Once the connection closure 20 is initially installed, the field technician may also add, remove or rearrange optical connections between optical fibers of the drop cables 21 and the respective connector ports 34 from the exterior of the connection closure 20 *without the need for entering the closure 20.*”), FIG. 3; Eldering ¶¶186-188.

In Battey, “[s]ince the connection closure 20 *does not have to be entered to connect, disconnect or reconfigure* drop cables 21, additional drop cables can be connected without disturbing the previously installed drop cables 21 or the contents of the connection closure 20, particularly *the relatively delicate connectorized optical fibers 23 and the splice connections* between the optical fibers of the distribution cable 25 and the connectorized optical fibers 23.” Battey ¶[0037], FIGS. 1-4; Eldering ¶189.

In addition to the teachings in Holmberg and Battey that it was desirable to restrict access to the stored main fiber cable in mid-span access location, another prior art reference relied upon by Petitioner (Bloodworth (EX-1008)) also teaches that it was desirable to block or restrict access to stored drop cables in an NID. Eldering ¶¶190-192.

Bloodworth discloses several embodiments where “the drop cable slack is stored external to the NID in a concealed manner *to discourage unauthorized access, and to protect the drop cable slack from inadvertent damage* or direct exposure to adverse environmental conditions.” Bloodworth 3:35-39, 4:16-20, 5:16-20, 7:13-22, 10:6-10, 12:51-55, 15:34-38, FIGS. 1-6. As shown in FIG, 2, the NID 108 is mounted onto the separate slack storage receptacle 100 such that the technician does not have access the stored drop cable 102 when accessing the interior of the NID 108 to avoid any inadvertent damage to the drop cable 102. Bloodworth

Bloodworth (EX01008) FIG. 2

FIG. 2 is a perspective view of a medical device 10. The device 10 includes a main body 102 with a front panel 108 and a rear panel 106. A handle 48 is located on the rear panel 106. A latch 42 is located on the front panel 108. A strap 60 is attached to the front panel 108. Various components are labeled with reference numerals: 20, 32, 38, 24, 32, 102, 60, 10, 54a, 48, 108, 106, and 104.

Furthermore, since Petitioner and its expert provide no evidentiary support that such a modification would provide any advantages (Pet. 43-44; EX-1003 ¶¶90-92), but instead generally conclude that it would be advantageous without explaining

why or what those advantages would be, the proposed hindsight-driven modification should be rejected. *See K/S HIMPP v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1366 (Fed. Cir. 2014) (“[T]he Board **cannot** accept general conclusions about what is ‘**basic knowledge**’ or ‘common sense’ as a replacement for documentary evidence for core factual findings in a determination of patentability.”); *see also Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (Aug. 24, 2022) (precedential) (“Dr. Jones does not cite to any additional supporting evidence or provide any technical reasoning to support his statement. Thus, the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”).

Moreover, just because the fastener mounted splice tray 230 in Holmberg “could” conceivably have been replaced with a hinge mount does not provide a sufficient motivation to make that replacement, since that only concerns what “can” be done, not “why” a POSITA would have actually done it. The Federal Circuit is unambiguous that such rationales are insufficient. *See, e.g., Ex parte Gerlach*, 212 U.S.P.Q. 471 at 471 (P.T.A.B. 1980) (“There is nothing in the statutes or the case law which makes ‘that which is within the capabilities of one skilled in the art’ synonymous with obviousness.”); *Polaris Indus. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068-69 (Fed. Cir. 2018) (vacating Board’s obviousness determination since “the Board focused on what a skilled artisan would have been *able* to do, rather than what

a skilled artisan would have been *motivated* to do at the time of the invention.”)
(emphasis in original).

2. *Replacing Holmberg’s Unhinged And Stationarily Fastened Splice Tray With A Hinged And Rotationally Coupled Splice Tray Would Change The Splice Tray’s Basic Principle Of Operation And Render It Inoperable For Its Intended Purposes.*

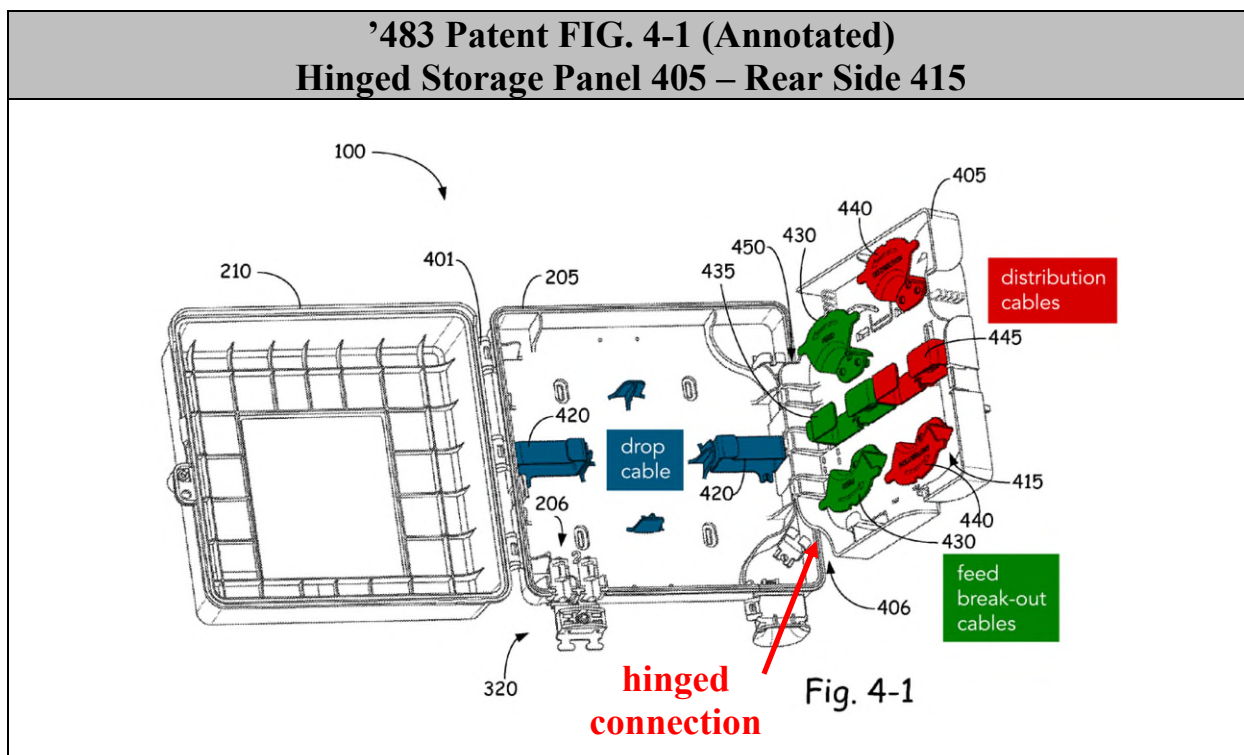
Petitioner theorized that “a POSITA would have been motivated to modify Holmberg to utilize a hinged splice tray in light of Battey’s teachings instead of a fastened connection for splice tray 230” “resulting in splice tray 230 moveable relative to main body 216 and configured to be stored between the main body 216 and cover 220.” Pet. 40-41. But neither Petitioner, nor its expert, ever even attempted to explain how Holmberg’s splice tray 230, which has terminated fibers from the main fiber cable spooled on spool structure 298 on the rear side of the splice panel 230, and fibers from the output cable spooled around fiber storage walls 292 on the front side of the splice panel 230, could be hinged and configured to provide convenient access. Eldering ¶194.

In reality, a POSITA would not have replaced Holmberg’s fastener mounted splice tray 230 with a hinged splice tray because such a modification would change the basic principle of operation of Holmberg’s splice tray and render it inoperable for its intended purpose (*i.e.*, to store cables and splices without detrimentally straining the terminated fibers of the drop cable and without severing any splices). *See, e.g., In re Fritch*, 972 F.2d 1260, 1265 n.12 (Fed. Cir. 1992) (“A proposed

modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose.”); *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984); *In re Ratti*, 270 F.2d 810, 813 (CCPA 1959) (finding no motivation to make suggested combination because it “would require a change in the basic principles under which [that reference’s] construction was designed to operate.”). As will be explained, unlike the ’483 Patent, which discloses several features that prevent the rotation of the hinged storage panel 405 from straining or otherwise compromising the stored fibers and splices, Petitioner and its expert failed to explain how a hypothetical hinged splice tray 230 in Holmberg would avoid such problems. Eldering ¶¶195-196.

Returning to the ’483 Patent, the DIB 100 includes: (i) a hinged base unit 205 for storing the excess or “slack” drop cable, where the base unit 205 has a hinged connection 401 to the cover 210, and (ii) a ***hinged fiber storage panel 405*** for storing the excess or “slack” feed break-out cables and distribution cables, where the fiber storage panel 405 has a hinged connection 406 to an opposing side of the base unit 205. ’483 Patent 4:49-53, 2:33-35, 3:35-39 (“a base unit 205 and a door or cover 210 which has a hinged connection to the base unit”), FIGS. 2-1, 2-2, 4-1-5-4, 6-1, 6-4. The “hinged fiber storage panel [405] includes spools, cable clips and integrated cable channels that maintain cable radius during transitions of cables from a storage side or plane of the panel to a connector side or plane of the panel.” ’483 Patent

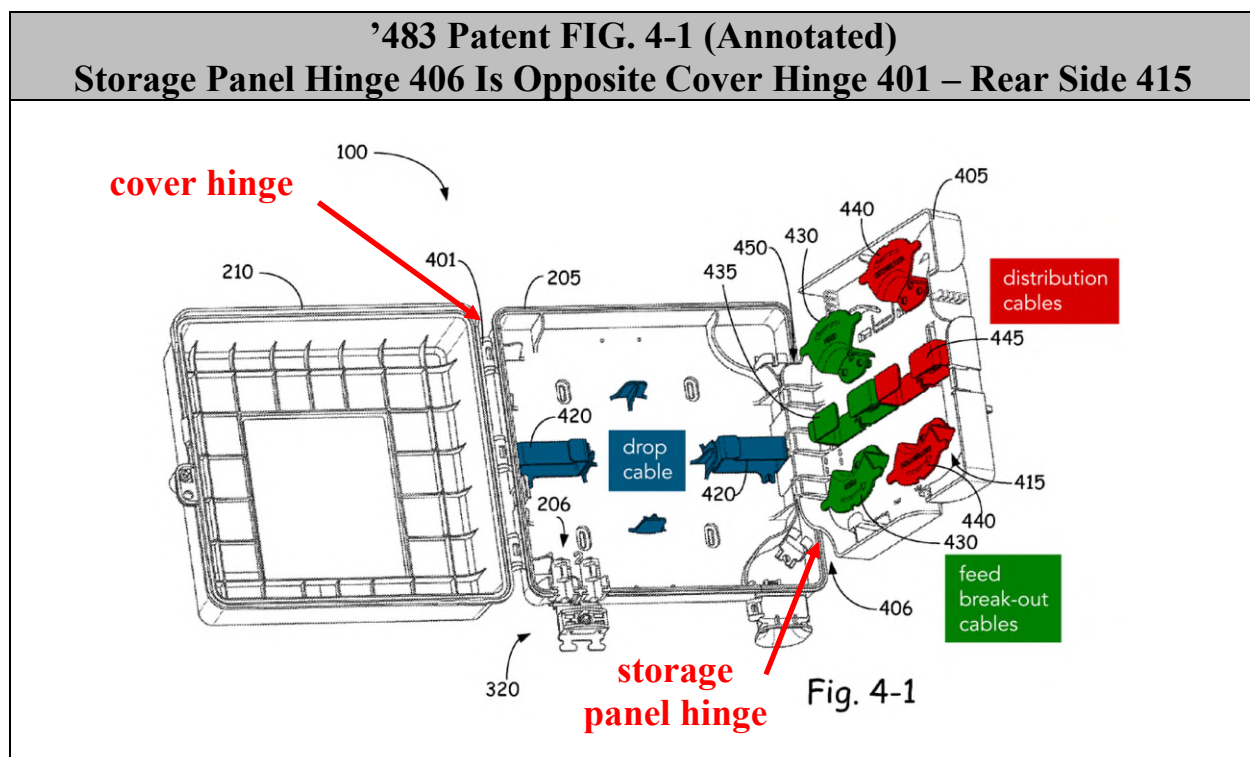
Abstract, 2:10-14., FIG. 4-1; Eldering ¶¶197-198.



In providing storage for the feed cables 550 and distribution cables 120 on the two sets of spools 430, 440 on the hinged storage panel 405, the '483 Patent's disclosure repeatedly emphasized that the DIB 100 design would need to "provide[] organized drop, feed and distribution fiber cable storage and routing in a manner which does not cross different cables types when additional cables are added, and which maintains minimum bend radius of the cables and inhibits cable strain." '483 Patent Abstract, 2:6-10; see also '483 Patent 1:62-64 ("Also, there is a need to *protect the optical fiber cables from excessive strain*, as well as from damage due to bending the cables at too small of a bend radius."), 2:29-32 ("*minimize strain* on fiber cables, and prevent cable damage due to bending"), 2:45-47 ("FIGS. 6-2 and

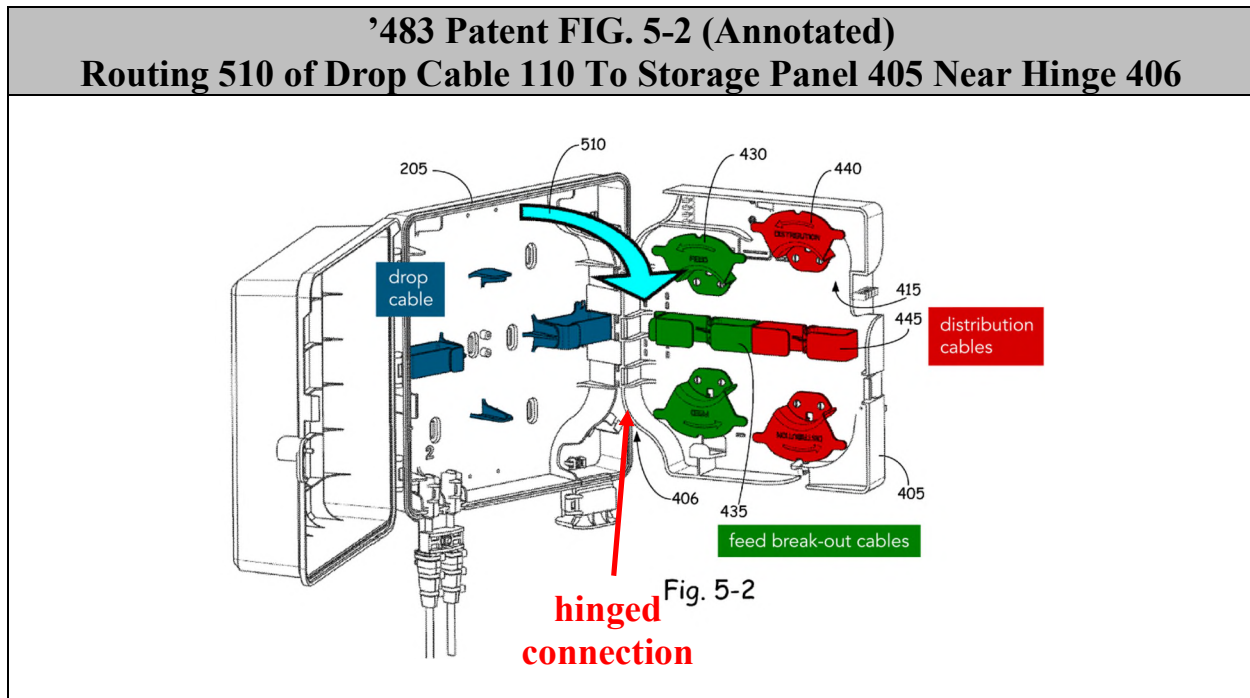
6-3 are diagrammatic illustrations of distribution cable entrance features which provide weather resistant sealing and *prevent cable damage due to bending.*”), 3:65-4:3 (“features that *prevent strain* or bending damage to the cables”); Eldering ¶199.

The '483 Patent includes a number of features of the DIB 100, including on the hinged storage panel 405, to accomplish those design goals. For example, the hinge (or hinge axis) 406 between the hinged storage panel 405 and the base unit 205 is located “on an opposing side of base unit 205” to “hinged connection 401 to cover 210.” '483 Patent 49-53, FIGS. 4-1, 4-2, 5-2, 5-3; Eldering ¶200.



“Referring now to FIG. 5-2, shown is arrow 510 representing the routing of cable 110 from base 205 to the rear side 415 of hinged fiber storage panel 405,” where the drop cable 110 is routed near the hinge 406 of the storage panel 405. '483

Patent 5:30-32, FIGS. 5-2, 5-4; Eldering ¶201.



Given this routing of the drop cable 110 near the storage panel hinge 406, a “break-out or furcation plug 450 positioned near the upper end of hinged connection 406 divides the drop feed cable 110 into multiple (*e.g.*, typically four) individual feed cables 550.” ’483 Patent 4:66-5:2; FIG. 5-4; Eldering ¶202.

'483 Patent FIG. 5-4 (Annotated)
Hinged Storage Panel 405 – Rear Side 415

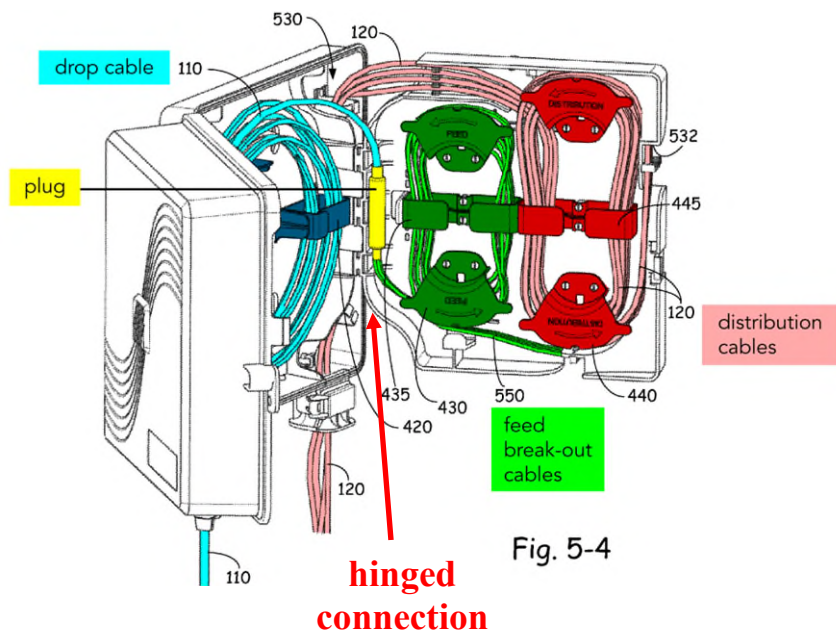
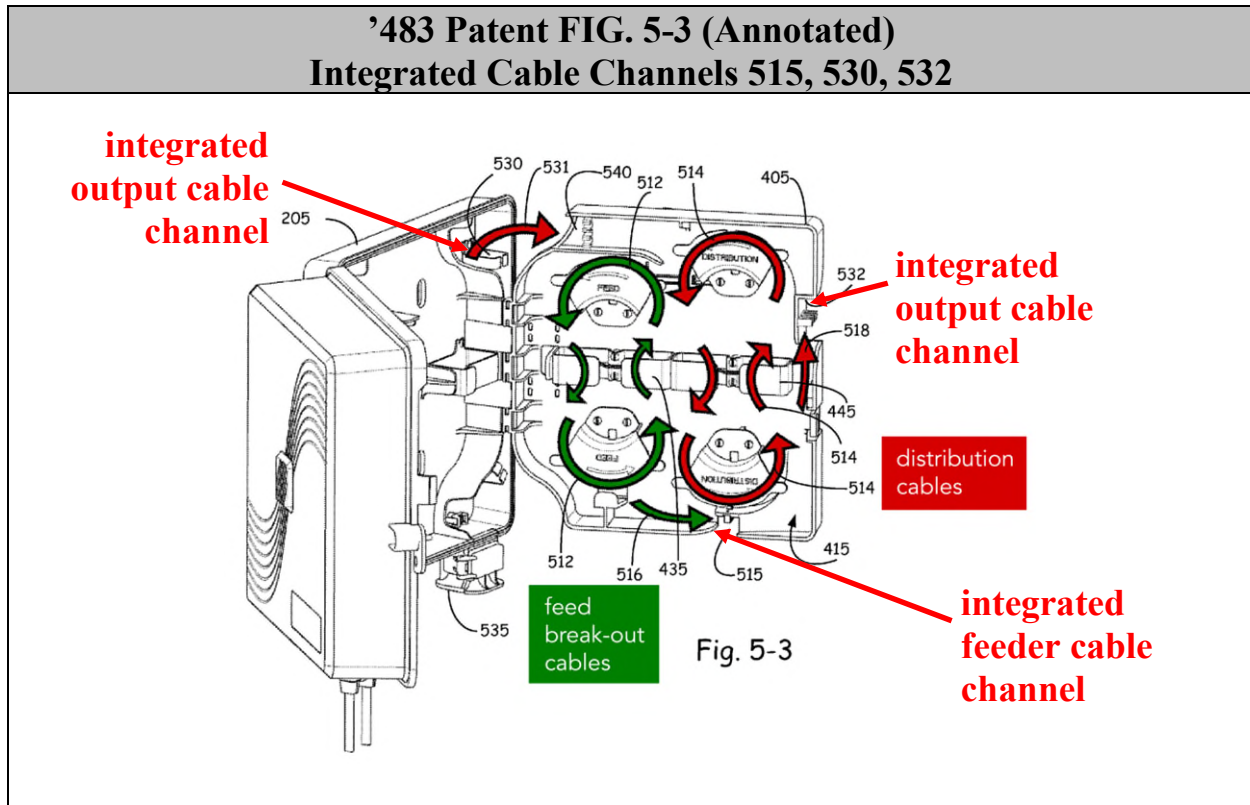


Fig. 5-4

The '483 Patent emphasizes that the “feeder cable breakout adapter storage area is located on the panel 405 nearest the hinge axis 406 and aligned with the hinge axis to allow easy transition of the drop cable 110 from the storage in the base 205 to the panel 405. The proximity and alignment to the hinge also allows the panel to be operated (open and closed) without excessive stress to the cable transition.” '483 Patent 5:43-50, FIG. 5-4. “The feeder breakout cable storage clips 435 are located in parallel to the breakout adapter storage 450 (see FIG. 4-1) to provide a convenient transition and to maintain minimum bend radius.” '483 Patent 5:53-55, FIGS. 4-1, 5-2, 5-4; Eldering ¶203-204.

“[T]he fiber storage panel 405 also incorporates an integrated cable channel

515 that maintains cable radius while transitioning the feeder cables from the storage clips 435 on the back 415 of the panel to the connectors 465 on the front 410 of the panel. Arrow 516 represents the transition of cables 550 into channel 515.” ’483 Patent 5:55-61, FIGS. 5-3, 5-4, 6-4; Eldering ¶205.



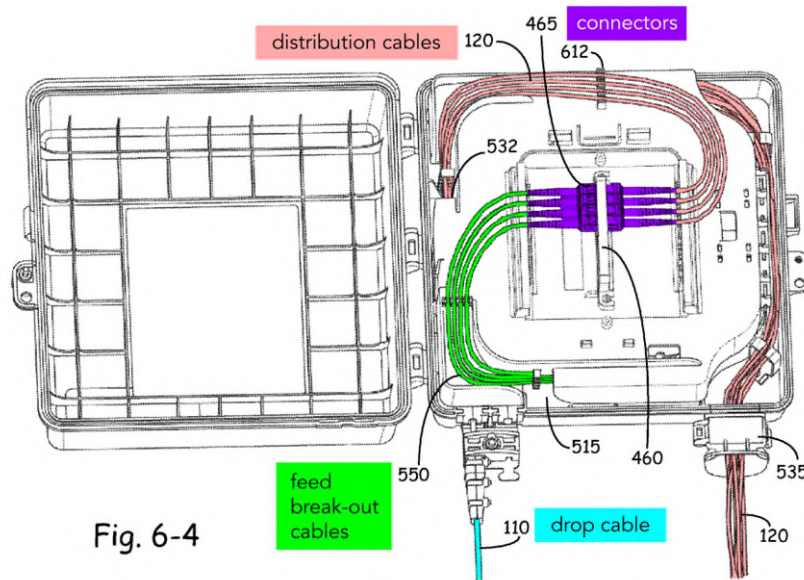
As also shown in FIG. 5-3, “[i]ntegrated cable channel 530 is positioned *parallel to the panel hinge 406* and located to the side edge of base 205 to allow the distribution cable 120 to be routed from the distribution cable entrance 535 to the top of the base and onto the panel 405 through opening 540 *without cross-over of the other cable types*. Arrow 531 represents the routing of distribution cables 120 from channel 530 onto panel 405.” ’483 Patent 5:63-6:3, FIGS. 5-3, 5-4, 6-4;

Eldering ¶206.

“The location of the cable clips 445 and cable channel 532 on the back side 415 of the panel allows the distribution cable 120 to transition from the backside 415 of panel 405 to the front side 410 of panel 405 *without causing unnecessary stress or bending during panel movement or operation*. The distribution cable storage clips 445 are oriented to provide a convenient transition and to *maintain minimum bend radius*.” ’483 Patent 6:3-10, FIGS. 5-3, 5-4, 6-4. “The integrated channel 532 on fiber storage panel 405 transitions the distribution cables 120 from the storage clips 445 on the rear side 415 to the adapters or connectors on the front 410 of the pane while maintaining an acceptable cable radius. Arrow 518 represents the transition into channel 532.” ’483 Patent 6:12-17, FIGS. 5-3, 5-4, 6-4; Eldering ¶¶207-208.

FIG. 4 illustrates DIB 100 “in its folded position (with front 410 of panel 405 shown facing out as the panel is stored in the base) with drop cable 110, feed cables 550 and distribution cables 120 routed and stored as described above, including the transition channels 515 and 532 as well as the cable adapters or connectors 465 positioned approximately at the center of panel 405.” ’483 Patent. 7:1-7, FIG. 6-4; Eldering ¶209.

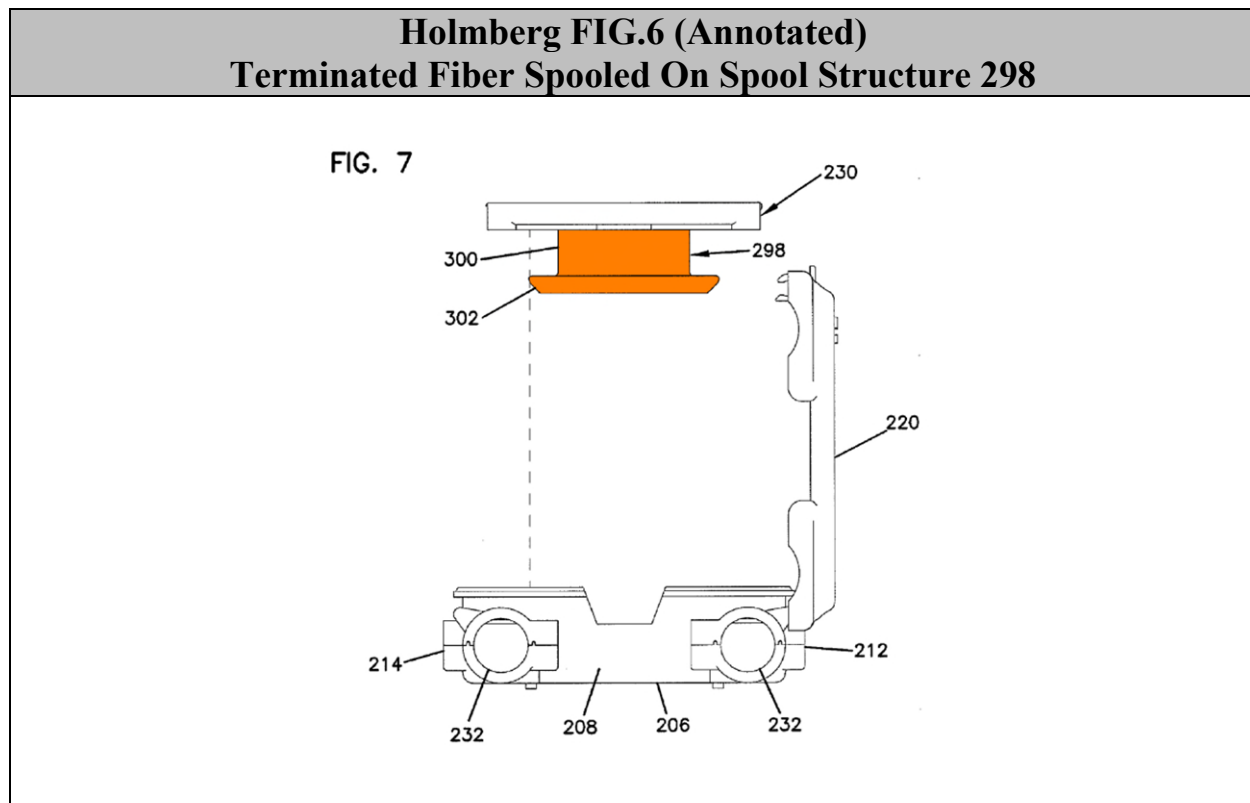
'483 Patent FIG. 4-1 (Annotated)
Hinged Storage Panel 405 – Front Side 410 – Transition Channels 515, 532



Accordingly, the '483 Patent identifies a number of features of the DIB 100, including of the hinged storage panel 405, that are required to *inhibit cable strain* when using a hinged panel to store excess fiber optic cables using sets of spools. But, importantly, the Holmberg splice tray 230 *does not include any such features that would allow it to be hinged and rotationally opened without detrimentally straining the fibers that are spooled and stored on the splice tray 230 and the splices*. Eldering ¶210.

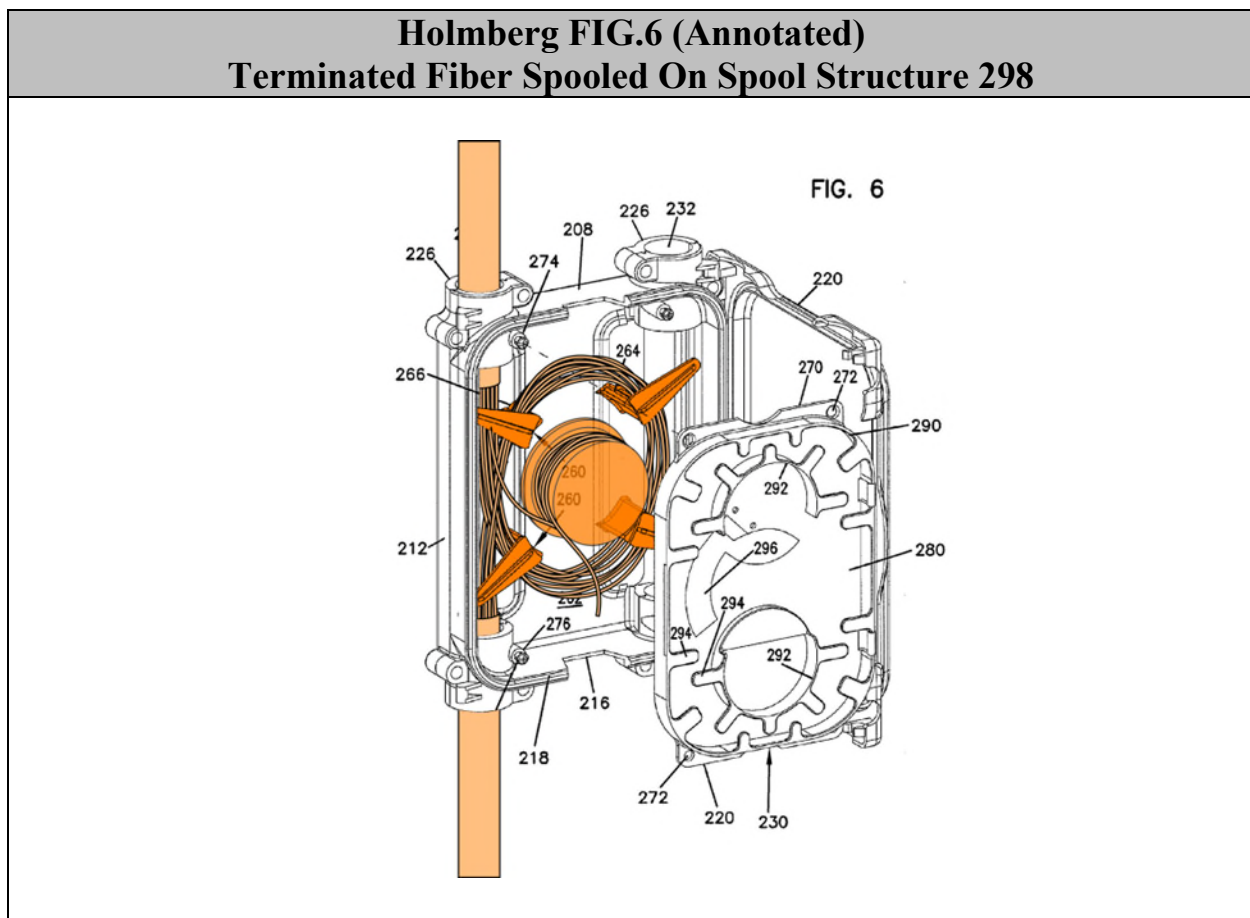
In Holmberg, after the main fiber cable has been spooled around the bend radius limiters 264, “selected fibers from the cable can be terminated (*i.e.*, cut) adjacent one of the clamping portions 310 so as to provide a length of terminated fiber within the enclosure 202. The length of terminated fiber can be spooled around

the spool structure 298 of the splice tray 230 for storage purposes.” Holmberg ¶¶[0053]; *see also* Holmberg ¶[0045], FIGS. 5-7; Eldering ¶211.



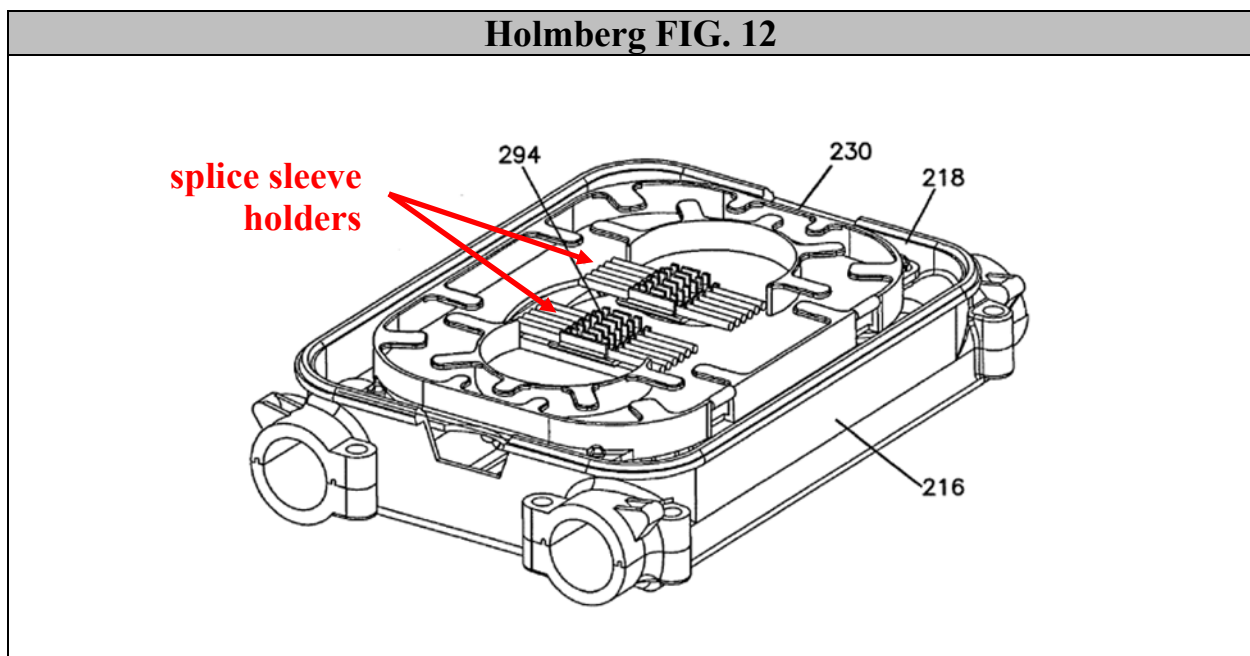
The “spool structure 298 ... projects rearwardly from the back side of the main panel 288 [and] includes a cylindrical spool 300 about which excess fiber can be wrapped.” Holmberg ¶[0045], FIG. 7. “The spool structure 298 also includes an annular flange 302 located at the rear end of the spool structure 298. The annular flange 302 assists in retaining fibers spooled about the spool 300 from sliding off the end of the spool. ... [and] is sized to nest inside the bend radius limiters 264 of the main body 216 of the enclosure 202 when the splice tray 230 is mounted within the enclosure 202.” Holmberg ¶[0045], FIGS. 4-7; Eldering ¶¶212-213.

As shown in the annotated figure below, the terminated fibers (showing just one) of the main fiber cable are spooled around the spool structure 298 on the back side of the splice tray 230, with the spool structure 298 shown superimposed inside the remainder of the drop cable fibers that were not terminated and are spooled around the radius limiters 264. Holmberg ¶¶[0045], [0052]-[0053], FIGS. 4-7; Eldering ¶214.



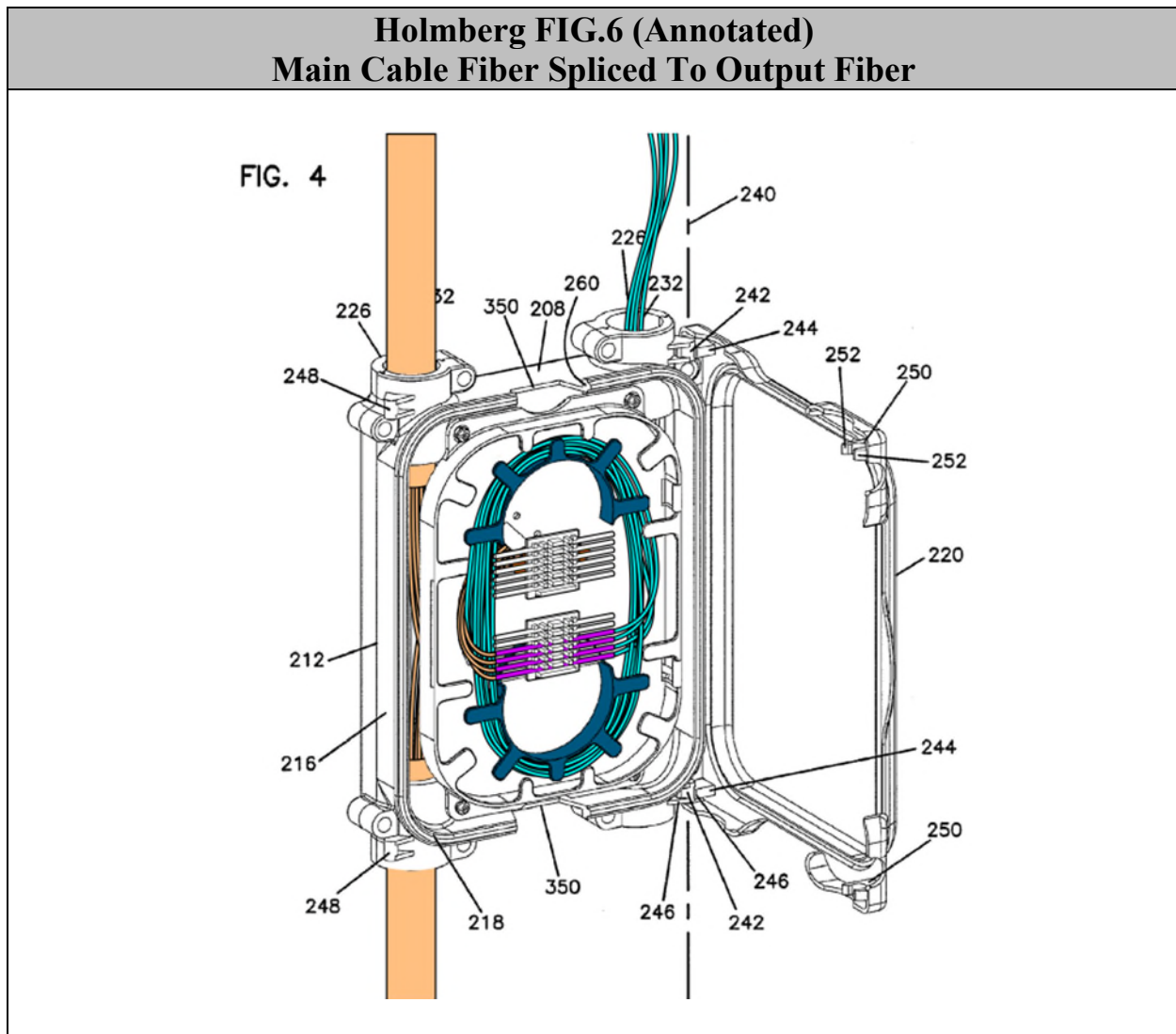
“When it is desired to splice one of the terminated fibers [of the main cable] to a [drop or output] cable, the terminated fiber can be accessed from the spool structure 298 and routed through one of the openings 296 in the splice tray 230 to

the front side of the splice tray 230.” Holmberg ¶¶[0053], [0044], FIG. 6. “At the front side of the splice tray, the terminated optical fiber can be spliced to a corresponding fiber of another cable (*e.g.*, a [drop] cable) with the splice being mounted at the splice sleeve holder 294 as shown at FIG. 12.” Holmberg ¶¶[0053], [0044], FIGS. 4, 6, 12. “The splice sleeve holders 294 are adapted for holding splice sleeves used to provide mechanical support to a fusion splice formed between two optical fibers.” Holmberg ¶[0044], FIG. 12; Eldering ¶¶215-217.



As shown in the annotated FIG. 4 below (adding the fibers and splice tray), showing the splicing of four fibers, “[t]he [drop] cable to which the terminated fiber is spliced is preferably routed into the wall box 200 through one of the unused openings 232, or through openings 350 located a mid regions of the top and bottom sides 208, 210 of the main body 216.” Holmberg ¶[0053]. “Excess fiber can be

stored by wrapping the excess fiber around the fiber storage walls 292 at the front side of the splice tray 230.” Holmberg ¶[0053], FIGS. 4, 6; *see also* Holmberg ¶[0043] (“In use, excess fiber can be looped around the fiber storage walls 292 so as to form an elongated fiber storage loop at the front side of the main panel 280.”); Eldering ¶¶218-219.



Once the main cable fibers are spliced to the output or drop cable fibers, and the excess or slack fibers from main fiber cable (pass-through and terminated) and

output cables have been securely spooled, *the splice tray 230 is fastened to the enclosure 202 with four fasteners 276, intentionally restricting access to the rear side of the splice panel 230 and the main fiber cable.* Holmberg ¶[0042], FIG. 4; Eldering ¶220.

The annotated figures above show the configuration of the splice tray 230 after the initial installation once the terminated fibers of the main fiber cable are spooled around the spool structure 298 on the back side of the splice tray 230, and the fibers from the output cable are spooled around fiber storage walls 292 on the front side of the splice panel 230. At this point, if the splice panel 230 were removed without unspooling the stored fibers, a POSITA would understand that such removal would detrimentally strain and perhaps sever the fibers and the splices. Eldering ¶221.

For example, with respect to the spliced fibers from the input main fiber cable and the output drop cable, those fibers are clamped by clamping portions 310 at the input/output openings 232 to the wall box 200. Holmberg ¶[0052], FIG. 5. Since the fibers are fixed at those openings 232, when the splice tray 230 is moved away from those points, the fibers and splices will experience strain unless the fibers are unspooled. *The fasteners 274 in Holmberg advantageously prevent inadvertent movement of the splice tray 230 (i.e., a technician would have to consciously remove the fasteners), thereby protecting the spooled fibers and splices from*

damage. But if the splice panel 230 were hinged as proposed by Petitioner, a POSITA would understand that technicians, including those that are unfamiliar with the configuration and spooling of the splice tray 230, would (unsuccessfully) attempt to swing open the splice panel 230 and strain and damage the spooled fibers and splices as the splice tray 230 is rotated away from the main body 216 of the enclosure 202. Furthermore, a POSITA would want to limit any unnecessary and/or frequent movement or bending of the fibers that could result in kinking of the fibers or violating the minimum bend radii which would damage the fibers. Eldering ¶¶222-223.

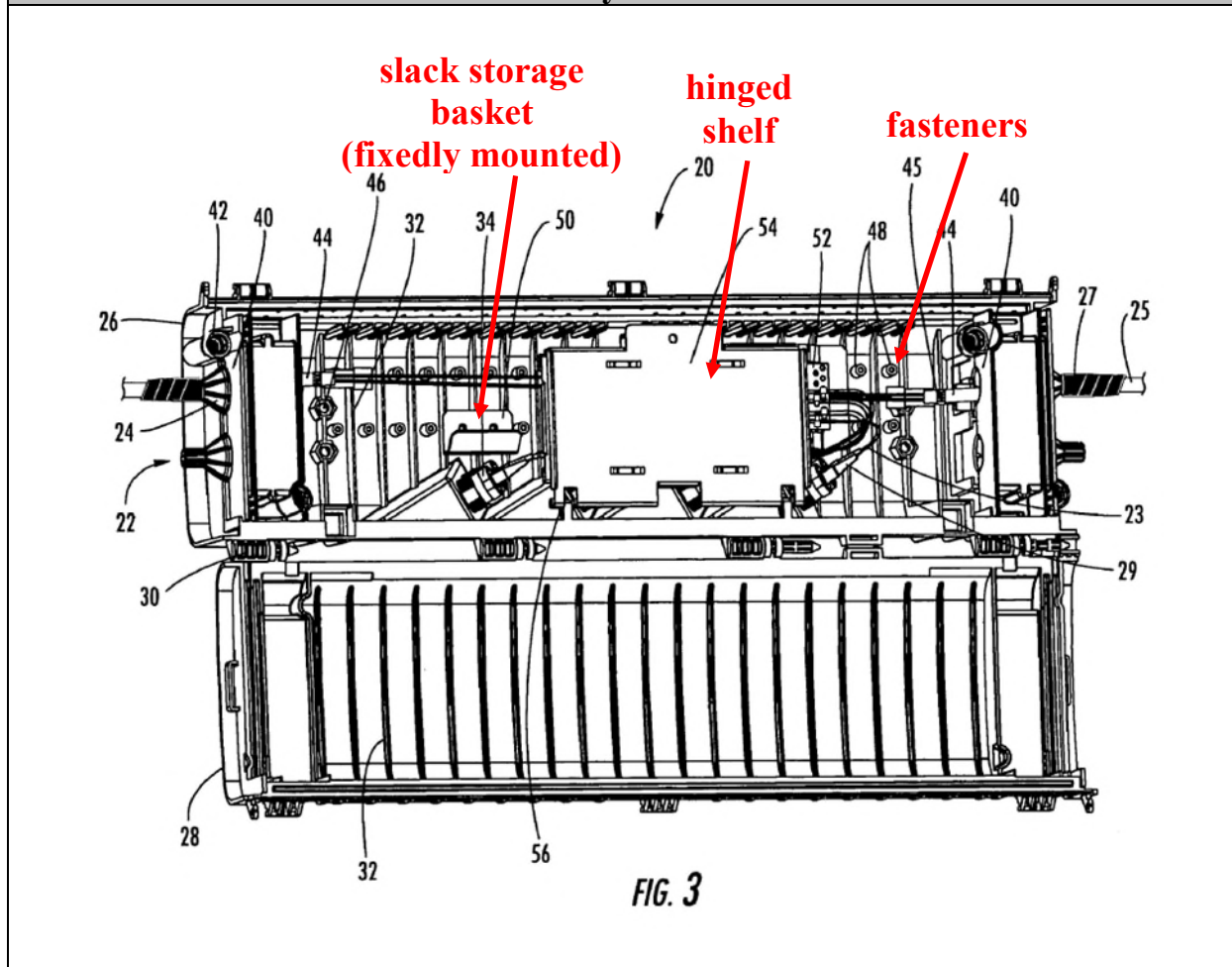
Unlike the design provided in the '483 Patent, which included several design features to allow for the storage panel 405 to be rotated without straining the fibers and without having to remove the stored fibers from the spools, if the splice tray 230 in Holmberg were hinged, at a minimum, ***the spooled fibers would need to be removed in order to allow for the splice tray 230 to swing open.*** Such removal of the spooled fibers from the splice tray 230 would be a cumbersome, time consuming, and delicate process (to avoid damaging the delicate splices) that would not provide any convenient access to the rear side of the splice tray 230 even if the splice tray 230 were hinged. See Battey ¶[0037] (“Since the connection closure 20 does not have to be entered to connect, disconnect or reconfigure drop cables 21, additional drop cables can be connected without disturbing the previously installed drop cables

21 or the contents of the connection closure 20, particularly *the relatively delicate connectorized optical fibers 23 and the splice connections between the optical fibers* of the distribution cable 25 and the connectorized optical fibers 23.”); Eldering ¶¶224-225.

In fact, the prior art relied upon by Petitioner for its allegation that hinged *splice trays* were known (*i.e.*, Battey and Castonguay) actually teach the use of fixed storage panels with spools to store cables. Eldering ¶226.

For example, Battey specifically provides *a fixed structure for storing excess or slack fiber optic cable and teaches that fiber optic cables should avoid contacting the hinged shelf 54*. For example, Battey expressly distinguishes its “splice trays,” which are mounted to the hinged shelf 54, from “slack storage guides,” which are fixedly mounted to the connection closure 20. Battey ¶[0033] (“The base 26 is generally box-shaped and defines an interior cavity for housing the express portion of distribution cable 25, connectorized optical fibers 23 and optical hardware, such as splice trays, couplers, adapters, optical fiber routing and slack storage guides and the like.”), FIGS. 1-3). More specifically, like Holmberg, Battey teaches that a “slack basket 50 may be fastened to the hardware mounting features 48 and operable for receiving and storing slack lengths of optical fibers and/or optical fiber buffer tubes.” Battey ¶[0036], FIG. 3; Eldering ¶¶227-228.

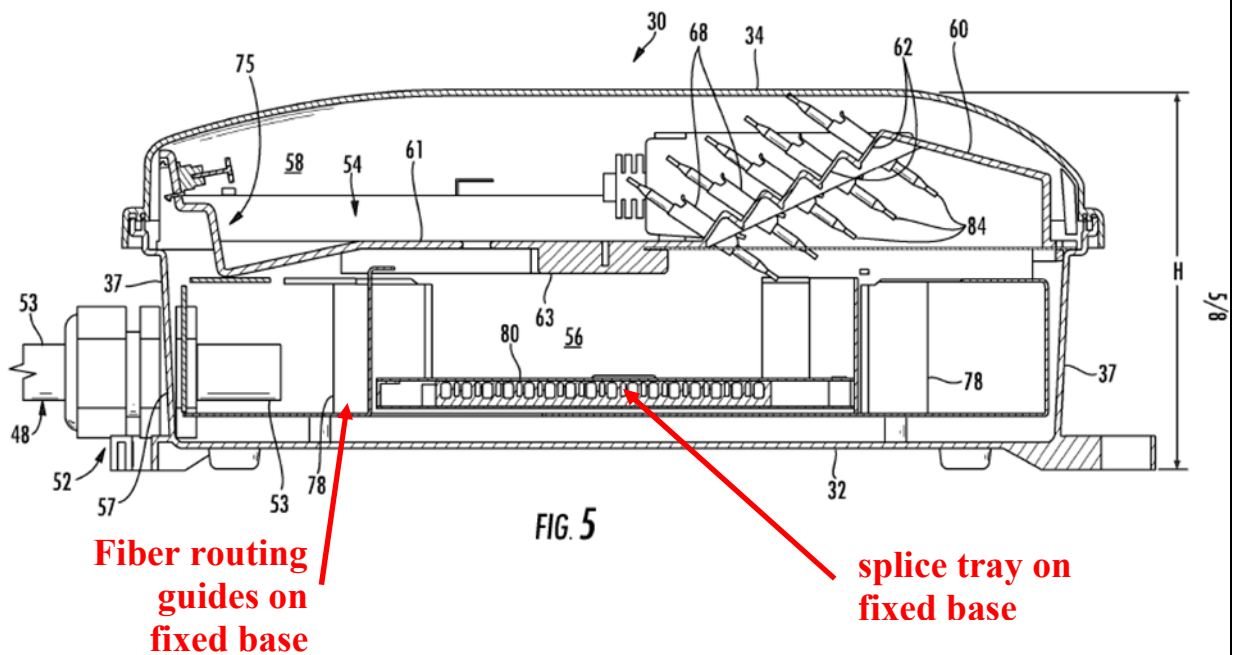
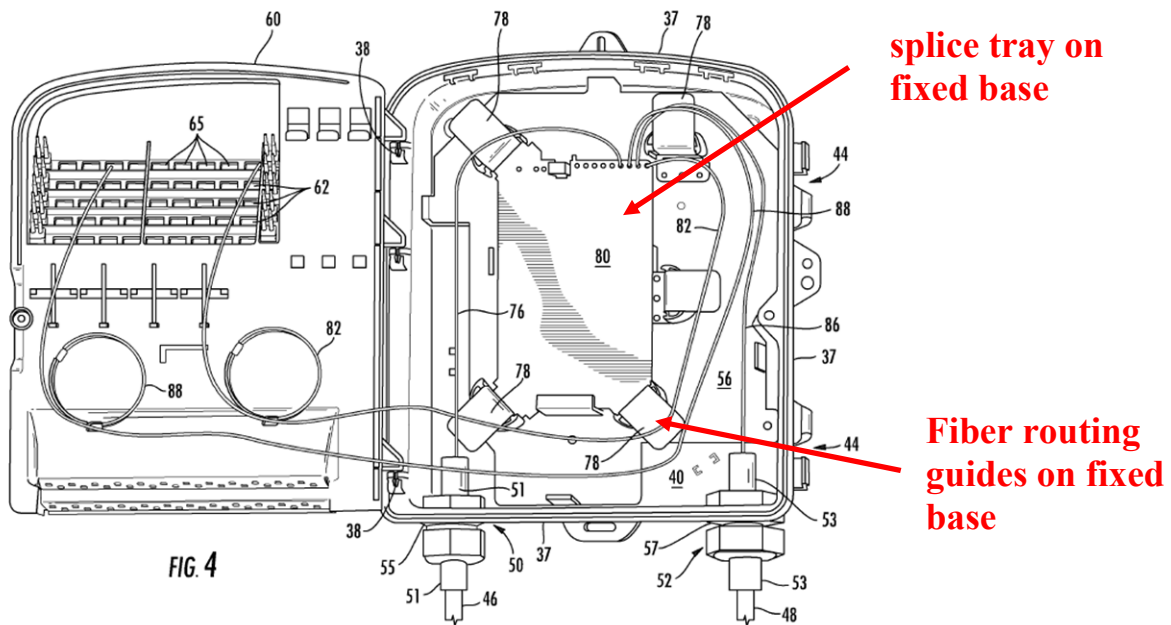
Battey FIG. 3



Similarly, while Petitioner's expert alleges that Castonguay (EX-1014) provides support that "[i]t was well known to use a hinged connection for a splice tray or fiber storage panel" (EX-1003 ¶¶ 39, 84, 90, 93), *neither the storage panel, nor the splice tray, disclosed in Castonguay are hinged*. Instead, they are both *fixedly mounted*. As shown in FIGS. 4 and 5 of Castonguay, the splice tray 80 and fiber routing guides 78 for storing excess fibers are mounted to the fixed base 32 and not to the hinged transition panel 54. Castonguay ¶¶[0033] ("The network-side fiber(s) 76 can be routed through the lower fiber management area 56 through one

or more fiber routing guides 78. The fiber routing guides 78 can route the network-side optical fiber(s) 76 and/or provide for slack storage of the network-side optical fiber(s) 76 if needed. The network-side fiber(s) 76 can then connect to a conventional splice tray 80.”), [0036] (“The subscriber-side fiber(s) 86 can also be routed through the lower fiber management area 56 through the one or more fiber routing guides 78. The fiber routing guides 78 can route the sub-scriber-side fiber(s) 86 and/or provide for slack storage of the subscriber-side fiber(s) 86 if need-ed. The subscriber-side fiber(s) 86 are then optically connected to the splice tray 80.”), [0037] (“Upon exiting the splice tray 80, the output pigtail 88 can be routed around one or more of the fiber routing guides 78 to the underside of the transition panel 54 to an output fiber optic adapter 68.”), FIGS. 4, 5; Eldering ¶229.

Castonguay (EX-1014) **Splice Tray 80 and Storage Guides 78 NOT on Hinged Panel 54**



Furthermore, in the rare instance after installation that the fastener mounted

splice tray 230 in Holmberg needs to be removed (*i.e.*, since splices could be repaired and terminated fibers accessed from the accessible front of the splice tray 230 as discussed above), a POSITA would understand that it would be advantageous to completely remove the splice tray 230 to provide unobstructed access to the main body 216 of the interior of enclosure 202. *See also* Battey ¶[0039] (“Alternatively, the shelf 54 ... may be ***removably attached to the base 26 to provide unobstructed access*** to the interior cavity.”), FIG. 3); Castonguay ¶[0026] (“Alternatively, the transition panel 54 ... may be ***removably attached to the base 32 to provide unobstructed access*** to the interior cavity 40.”), FIG. 2. And a POSITA would understand that removal of the splice tray 230 with the fasteners 276 would be easier than if the splice tray 230 was hinged and therefore fixed at one side, since the fully removed splice tray 230 could be maneuvered in three-dimensions to assist with unspooling the stored fibers and reducing stress on those same fibers and splices. Eldering ¶¶230-232.

Here, since the disadvantages of replacing the fastener mounted splice tray 230 with a hinged splice tray far outweigh any unidentified advantages, a POSITA would not be motivated to replace the fastener mount of the splice tray 230 with a hinged mount. Eldering ¶233.

B. Dependent Claim 2 Is Not Obvious (Grounds 2 and 3)

Claim 2 depends from claim 1 and adds the limitation “wherein ***the fiber***

storage panel *further includes an adapter bracket* configured to hold one or more adapters which couple the plurality of feed break-out cables to the plurality of distribution cables.” ’483 Patent 7:47-54. Petitioner admitted that Holmberg fails to disclose an adapter bracket configured to hold one or more adapters required by this dependent claim, and instead relied on Blankenship (EX-1006) and its disclosure of an “adapter bracket 66” for the added limitations of claim 2. Pet. 62-63; Eldering ¶¶234-235.

But ignoring the claim limitation that the adapter bracket must be ***located on the fiber storage panel***, Petitioner failed to even allege where in the Holmberg wall box a POSITA would have placed the Blankenship adapter bracket. This alone is fatal to Petitioner’s obviousness allegations. Eldering ¶¶236-237. Petitioner also failed to even attempt to address the fact that ***Holmberg itself already discloses the use of adapters*** to connect fibers to one another ***without using any adapter bracket***, and not on the storage panel as claimed. Relying solely on hindsight, Petitioner failed to provide any reason or explanation as to why a POSITA would ignore those teachings and place Blankenship’s adapter bracket on Holmberg’s alleged storage panel (*i.e.*, splice tray 230). Accordingly, because Holmberg already discloses a solution that uses adapters without the use of an adapter bracket located on a storage panel, there would be no need for, and a POSITA would not be motivated to, incorporate an additional and entirely unnecessary adapter bracket into Holmberg.

Eldering ¶238.

Petitioner's alleged combination is nothing more than hindsight reconstruction of the claimed invention and should be rejected.

1. *Petitioner Failed To Allege Or Explain Why A POSITA Would Be Motivated To Place The Blankenship Adapter Bracket On The Holmberg Splice Tray.*

Although claim 2 requires that the adapter bracket be included *on the fiber storage panel*, Petitioner failed to account for this limitation, and did not even propose placing the Blankenship adapter bracket onto the alleged fiber storage panel in Holmberg, namely splice tray 230. Petitioner generically theorizes that a “POSITA would have been motivated and found it obvious to modify *Holmberg-Batley* to utilize an adapter bracket holding one or more brackets to couple a plurality of feed break-out cables to a plurality of distribution cables for several reasons” (Pet. 65), without ever proposing where in Holmberg that adapter bracket would be located or providing any explanation why. For this reason alone, Petitioner failed to show how the alleged combination renders claim 2 obvious. Eldering ¶¶236-237.

2. *Petitioner Disregarded Holmberg's Undisputed Teaching To Mount Adapters On The Walls Of The Top Cover, Not On An Adapter Bracket Located On The Splice Tray.*

Failing to even specify a location for Blankenship's adapter bracket in Holmberg, let alone propose placing Blankenship's adapter bracket on Holmberg's splice tray, Petitioner further failed to explain why (other than employing hindsight)

a POSITA would have ignored Holmberg's undisputed teachings to mount adapters on the walls of the top cover and instead place Blankenship's adapter bracket on the splice tray. Eldering ¶238.

Regarding the alternative wall box 500 illustrated in FIGs. 16-18, Holmberg discloses that adapters are mounted to the *walls of the front cover* of the wall box—not any kind of adapter bracket, and not on the alleged Holmberg storage panel (*i.e.*, splice tray 230):

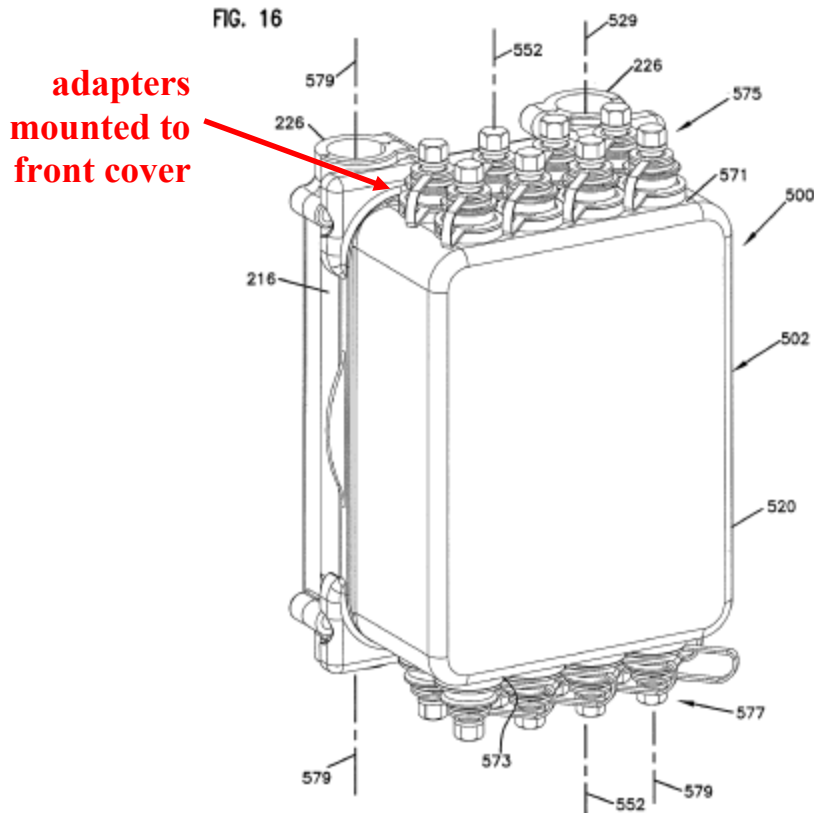
A plurality of fiber optic adapters 514 are mounted to the front cover 520. Each of the fiber optic adapters 514 includes an inner port 518 positioned inside the internal cavity 522 of the front cover 520, and an outer port 516 positioned at an outer surface of the front cover 520. In use of the wall box 500, fibers from a mid-span access location of a cable passed through the wall box 500 are spliced to a plurality of fiber optic pigtails having connectorized ends. The connectorized ends of the pigtails are preferably inserted within the inner ports 518 of the fiber optic adapters 514. By plugging a connectorized end of a drop cable into an outer port 516 of one of the fiber optic adapters 514, the drop cable can be optically connected to one of the fibers of the cable passed through the wall box 500.

Referring back to FIG. 16, ***the front cover 520 includes a first adapter mounting wall 571 that faces in a first direction and a second adapter mounting wall 573 that faces in a second direction that is opposite from the first direction. The adapter mounting walls 571, 573 define mounting openings in which the fiber optic adapters 514 are mounted.*** A first group 575 of the fiber optic adapters 514 is mounted at the first adapter mounting wall 571 while a second group 577 of the fiber optic adapters 514 is mounted at the second adapter mounting wall 573. The first and second adapter mounting walls 571, 573 are arranged in planes that are generally perpendicular to main cable routing axes 579 (see FIG. 16) that pass through the cable exit/enter openings 232 of the main body 216 of the enclosure 502. The fiber optic adapters 514 define adapter axes 552 that are generally parallel to the through-cable

routing axes 579. In this way, drop cables optically connected to the fiber optic adapters 514 can be routed away from the wall box 500 in directions generally parallel to a through-cable that passes through the wall box 500.

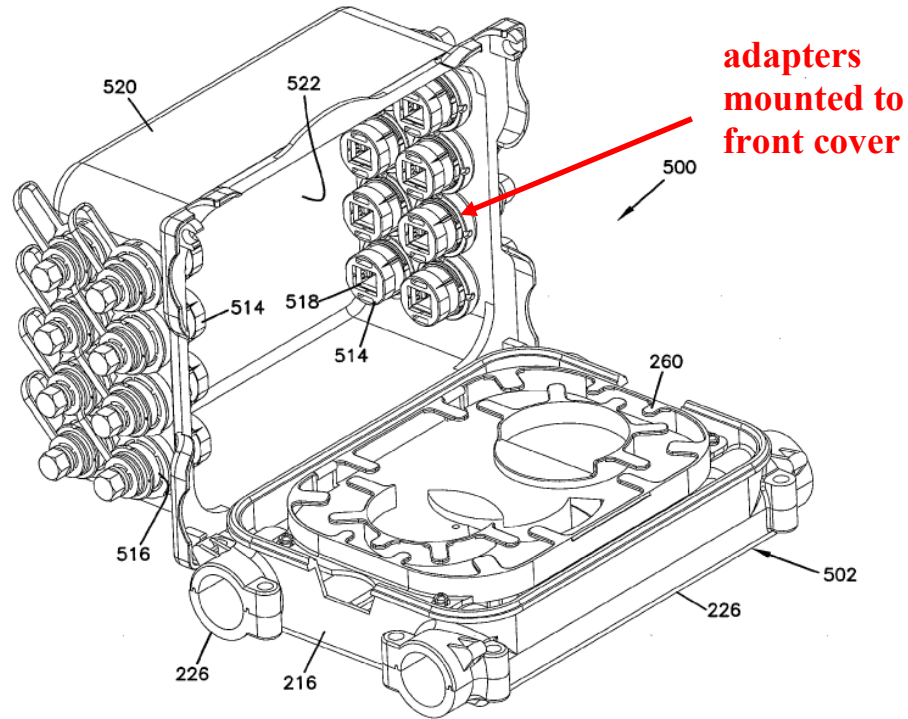
Holmberg ¶¶[0056]-[0057], FIGS. 16-18; Eldering ¶239.

Holmberg FIGs. 16 and 18

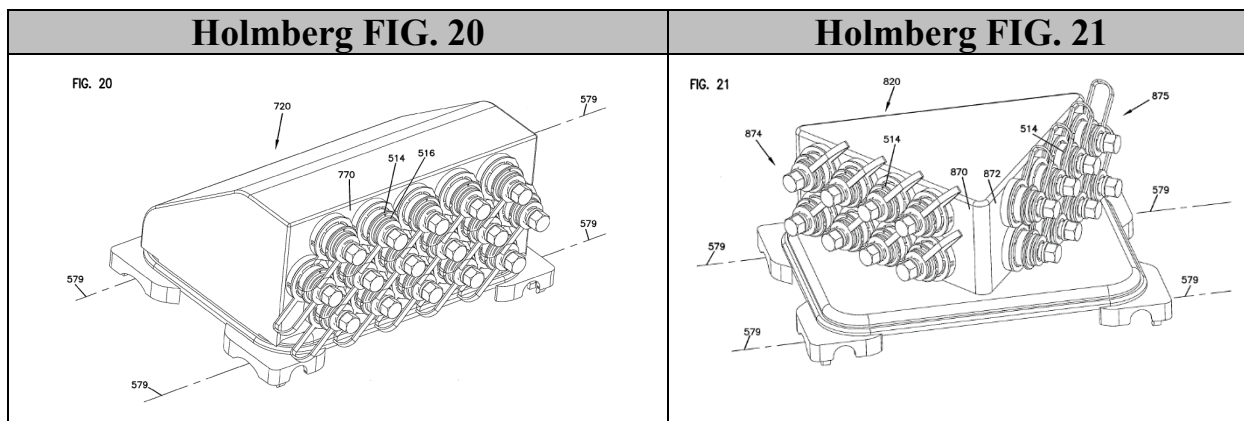


Holmberg FIGs. 16 and 18

FIG. 18



Holmberg further discloses additional embodiments in which adapters can be mounted to the walls of the top cover in various geometrical configurations—again, not on an adapter bracket, and not on the alleged storage panel. Holmberg ¶¶[0060] (“The front cover 720 includes an adapter mounting wall 770”), [0061] (“The front cover 820 includes a first adapter mounting wall 870 and a second adapter mounting wall 872.”), FIGS. 20-21; Eldering ¶240.



Accordingly, Holmberg discloses embodiments that all utilize the *walls of the top cover*—*not* an adapter bracket, and *not* on the alleged storage panel—to mount adapters in order to connect fibers to one another in different configurations. Holmberg’s use of the walls of the top cover to mount the adapters provides a robust mounting structure for the adapters and eliminates the need for a separate adapter bracket to provide such mount. Use of the top cover walls as the mounting structure also provides convenient access to the adapters both inside and outside the Holmberg box. Eldering ¶241.

When a primary prior art reference already provides a solution to the problem solved by the challenged patent, there would be no motivation to modify that primary reference to include an additional or redundant solution. *See, e.g., In re Anova Hearing Labs, Inc.*, 809 Fed. Appx. 840, 843 (Fed. Cir. 2020) (“The Board also does not explain why a person of ordinary skill in the art would be motivated to modify Brown, which already includes vents, to address occlusion effect.”); *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1368-69 (Fed. Cir. 2012)

(“Because each device independently operates effectively, a person having ordinary skill in the art, who was merely seeking to create a better device... would have no reason to combine the features of both devices into a single device.”); *South-Tek Sys. v. Engineered Corrosion Sols., LLC*, 748 Fed. Appx. 1003, 1007 (Fed. Cir. 2018). With an effective adapter mounting solution already in place in Holmberg, a POSITA would not be motivated to look to any other adapter mounting solutions, such as Blankenship’s adapter bracket 66, nor would a POSITA see any reason to incorporate Blankenship’s adapter bracket into the Holmberg solution, let alone place the adapter bracket on the storage panel as claimed. Eldering ¶242.

Petitioner and its expert never explained why a POSITA would have disregarded this express teaching in Holmberg of adapters mounted on the walls of the top cover and instead mount such adapters on an adapter bracket on the Holmberg splice tray. Petitioner’s allegation that a “POSITA would have been motivated and found it obvious to make such a modification to take advantage of well-known adapter brackets and adapters to provide simplified and robust optical connections” fails to acknowledge how existing adapter mounting solution in Holmberg already provides simplified and robust optical connections without the need for an adapter mounting bracket on the alleged storage panel. Pet. 66; Eldering ¶243. Furthermore, simply alleging that adapters brackets were “well-known” does not provide sufficient motivation to modify Holmberg to include an adapter bracket,

especially when it already includes a different solution. *See Virtek Vision Int’l ULC v. Assembly Guidance Sys., Inc.*, 97 F.4th 882, 888 (Fed. Cir. 2024) (“In short, this case involves nothing other than an assertion that because two coordinate systems were disclosed in a prior art reference and were therefore ‘known,’ that satisfies the motivation to combine analysis. That is an error as a matter of law. It does not suffice to simply be known. A reason for combining must exist.”).

For all of these reasons, claim 2 is not obvious over Holmberg, Battey and Blankenship.

C. Dependent Claim 10 Is Not Obvious (Grounds 4 and 5)

Claim 10 depends from claim 1 and adds the limitation “wherein the drop cable retaining mechanisms in the base unit comprise storage clips positioned on opposing sides of the base unit.” ’483 Patent 8:30-32. But here again, Petitioner ignored the solution already provided by the primary reference (Holmberg) and using hindsight attempted to combine a redundant solution from another reference (Cowan), to try and reconstruct the claimed invention. Eldering ¶¶244-245.

Petitioner admitted that Holmberg discloses “cable management members 260 . . . that are configured to **retain** a loop of stripped cable (‘drop cable’) wrapped around said cable management members 260 (‘drop cable **retaining** mechanisms’).” Pet. 82. Petitioner further admitted that “*Holmberg* teaches cable management members 260 include bend radius limiters 264 and **cable retention members 268**

within main body 216.” Pet. 82-83. Yet, despite the fact that Petitioner admitted Holmberg discloses “cable retention members 268” to retain a loop of stripped cable, Petitioner theorized that a POSITA would have either replaced or supplemented Holmberg’s cable management members 260 with “clips 292” from U.S. Patent No. 8,965,168 (EX-1007 (“Cowan”)). Eldering ¶246.

Once again, when a primary prior art reference already provides a solution to the problem solved by the challenged patent, there would be no motivation to modify that primary reference to include an additional or redundant solution. *See, e.g., In re Anova Hearing Labs*, 809 Fed. Appx. at 843 (“The Board also does not explain why a person of ordinary skill in the art would be motivated to modify Brown, which already includes vents, to address occlusion effect.”). Here, since Holmberg already provides the cable storage solution, a POSITA would not be motivated to modify Holmberg as proposed by Petitioner. Eldering ¶249.

Furthermore, use of Cowan’s clips in the Holmberg wall box would unnecessarily complicate the mid-span cable mounting process and result in a less effective solution. Eldering ¶256. *See, e.g., Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2009) (affirming Board finding of no motivation to combine when the proposed combination would result in additional complexity); *Provisur Techs., Inc. v. Weber, Inc.*, 2022 U.S. App. LEXIS 34590, *13 (Fed. Cir. Dec. 15, 2022) (affirming Board finding that “because of this increased complexity

[of the proposed modification], a person of ordinary skill in the art would have lacked motivation to combine the references and modify them”).

Petitioner’s alleged combination is nothing more than hindsight reconstruction of the claimed invention, using the claim language as a roadmap to piece together disparate elements of the prior art, and a POSITA would not have been motivated to combine Holmberg and Cowan as alleged.

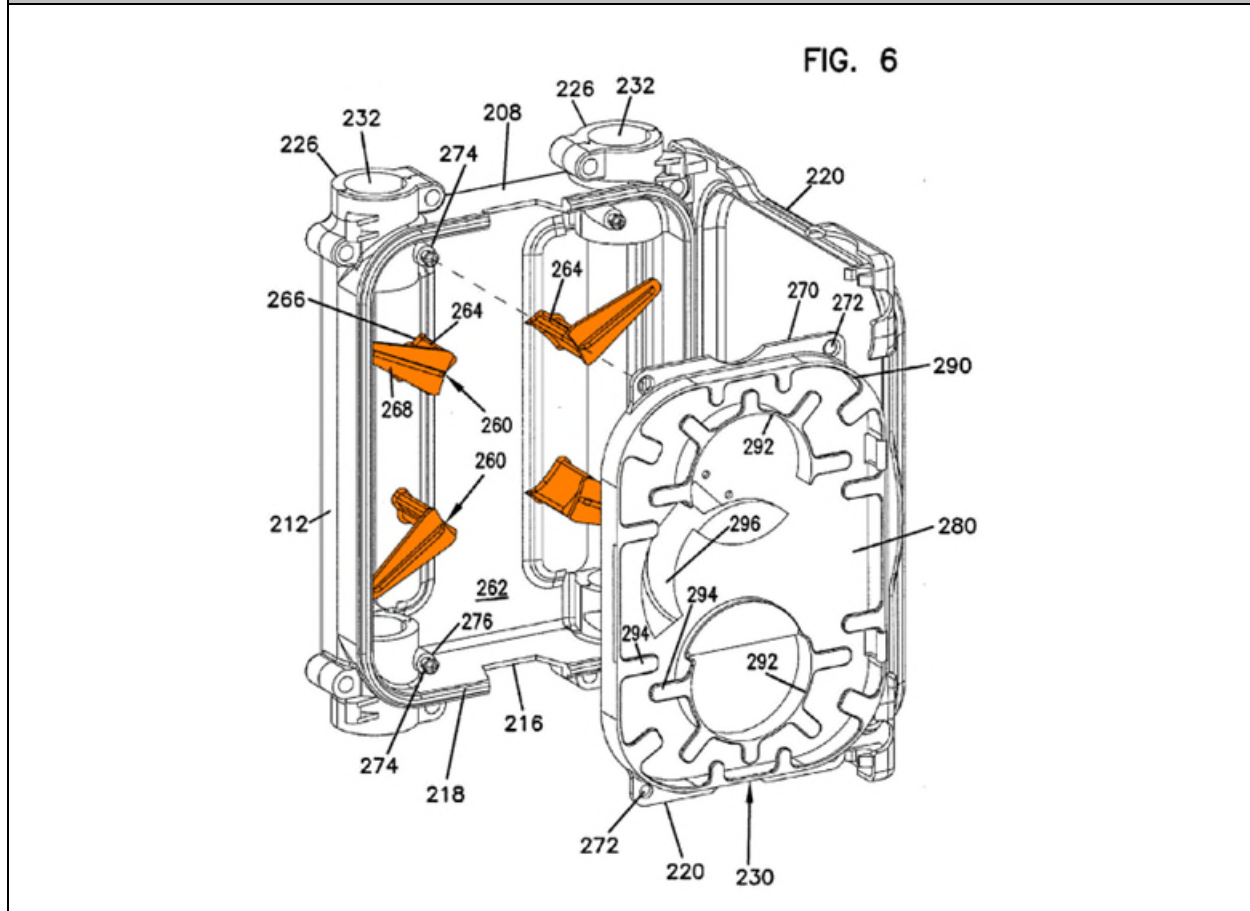
1. *Holmberg Teaches The Use Of Cable Management Members Having Bend Radius Limiters And Cable Retention Members That Facilitate Mid-Span Cable Mounting.*

Holmberg discloses cable management members 260 having both cable retention members 265 and bend radius limiters 264:

[a] variety of cable/fiber management structures are provided within the interior of the enclosure 202. For example, as shown in FIGS. 6 and 10, four cable management members 260 are shown integrally formed with a back wall 262 of the main body 216. Each of the cable management members 260 includes a bend radius limiter 264 that projects forwardly from the rear wall 262 of the main body 216. Each of the bend radius limiters 264 defines an outer curved surface 266 having a curvature that satisfies the minimum bend radius requirements of the optical fiber desired to be stored within the enclosure 202. The bend radius limiters 264 are positioned within the enclosure 202 so as to define a spool arrangement configured for allowing excess fiber optic cable to be spooled or looped around the four bend radius [sic] limiters 264. The cable management members 260 also include cable retention members 268 that project laterally outwardly from front ends of the bend radius limiters 264. ***The cable retention members 268 function to prevent cable looped around the bend radius limiters 264 from migrating forwardly past the front ends of the bend radius limiters 264.***

Holmberg ¶[0041], FIG. 6.

Holmberg FIG. 6
Bend Radius Limiters 264 And Cable Retention Member 268



As discussed *supra* § V.A.1., Holmberg further discloses a wall box “configured to be easily mounted at ***mid-span locations*** along the length of a fiber optic telecommunications cable.” Holmberg ¶[0034]. Holmberg makes it clear to a POSITA that to mount a mid-span location of a main fiber cable within the Holmberg wall box about four feet of the outer jacket is removed, exposing a bundle of uncut fibers. Holmberg ¶[0052]. The uncut bundle of fibers is then wound around cable management members 260 such that bend radius limiters 264 maintain the minimum bend radius of the cable while cable retention members 268 hold the cable

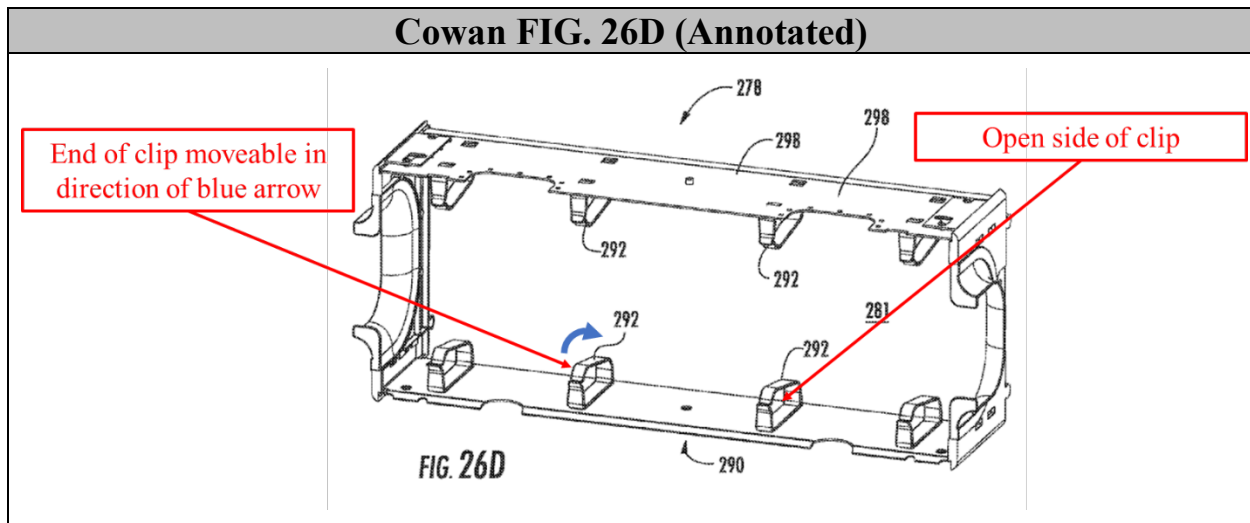
and prevent the cable that is looped around the bend radius limiters 264 from migrating forward past the front ends of the bend radius limiters. Holmberg ¶[0052]. The jacketed ends of the cable are then placed within clamping portions 310 (*see* Holmberg FIG. 5) on opposing sides of the Holmberg box, and cable cover 226 is fastened to the main body, as depicted below. Holmberg ¶[0052]; Eldering ¶247.

Importantly, because the mid-span location of the main fiber cable is passed-through and *uncut*, the component fibers of the cable are wound around cable management

members 260 in unison as a single bundle of fibers. The open nature of Holmberg's cable management members 260, which both ensure minimum bend radius and cable retention, facilitate convenient and easy wrapping of the cable during the mounting process, as well as secure storage of the excess stripped portion of the cable. Elderling ¶248.

2. *Replacing Or Supplementing Holmberg's Cable Management Members With Cowan's Clips Would Result In A Less Effective Wall Box For Mid-Span Cable Mounting, And A POSITA Would Not Have Been Motivated To Make The Alleged Modification.*

Petitioner and its expert proposed replacing or supplementing Holmberg's cable retention members 260 with Cowan's "clips 292." Pet. 87, EX-1003 ¶¶149-155, 157. As shown in, e.g., FIG. 26D, a POSITA would understand that Cowan's clips 292 are intended to fully encircle any cables or fibers that are routed through them. Elderling ¶250.



A POSITA would further understand from Cowan that access to the interior of clip

292 is gained either by threading the end of a cut or terminated cable or fiber through the open sides of the clip, or by lifting up the end of the clip that is not attached to one of the enclosure panels and inserting the cable or fiber within. Eldering ¶251.

Lacking any factual underpinning, Petitioner and its expert based their alleged motivation to combine on the generic proposition that use of Cowan’s clips 292 “can improve cable routing” and “would have provided more options for cable routing and management, improving product flexibility.” Pet. 87, *see also* EX-1003 ¶152. But such generic statements fail to consider the particular solution disclosed in Holmberg and/or the role played by the cable retention members 268 in mounting a main fiber cable, as discussed *supra*. Rather than improving the Holmberg wall box, replacing or supplementing the cable management members 260 with Cowan’s clips 292 would make mounting the box at a mid-span location more difficult. Accordingly, a POSITA would have been discouraged from replacing or supplementing Holmberg’s cable management members 260 with Cowan’s clips 292 for a number of reasons. Eldering ¶¶252-253.

First, Petitioner and its expert alleged that adding Cowan’s clips would “provide more options for cable routing and management.” But this made-up theory fails to acknowledge that Holmberg’s cable management members 260 serve a single, specialized purpose—to allow the stripped portion of the mid-span location of a main fiber cable to be easily spooled around cable management members 260

and stored within the Holmberg wall box. No other made up “options for cable routing and management” are necessary or desired. Eldering ¶254.

Second, to efficiently accomplish that specialized function, Holmberg’s cable management members 260 include bend radius limiters 264 that maintain the cable’s minimum bend radius, and cable retention members 268 that prevent the cable from moving past the front end of the bend radius limiters. Holmberg ¶¶[0041], [0052]. The open configuration of cable management members 260 allows for easy spooling and storage of the stripped portion of the mid-span location of the main fiber cable during cable mounting, which requires wrapping the constituent fibers of the stripped bundle all at once around the cable management members 260. But Cowan’s clips 292 “fully encompass the fibers,” as Petitioner and its expert admitted, and as a result there is fixed and limited space within each clip to accommodate fibers. Pet. 87. Replacing or supplementing Holmberg’s cable management members 260 with Cowan’s clips 292 would only complicate the spooling process, at times requiring additional cable manipulation in order to open and fit the entire thickness of the stripped portion of cable entirely within the clip. Pet. 87. This is especially true in situations in which multiple loops of cable are required to be fitted within the clip. When multiple loops of cable are required there is also the added risk that the selected length of the stripped portion of the mid-span cable would not be able to fully fit within one or more of the clips, in which case

those clips would fail to perform their cable retention function. Rather than improve the cable routing and retention solution already provided by Holmberg, substituting or adding Cowan's clips would at a minimum unnecessarily complicate the cable mounting process, and could even prevent the cable from being properly retained and stored. Eldering ¶¶255-256.

A POSITA would therefore not be motivated to replace or supplement the cable management members 260 of Holmberg with Cowan's clips 292. Eldering ¶257. For all of these reasons, claim 10 is not obvious over Holmberg, Battey, and Cohen (Ground 4) or over Holmberg, Battey, Blankenship, and Cowen (Ground 5).

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Respectfully submitted,

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CERTIFICATION OF COMPLIANCE WITH WORD COUNT

The undersigned hereby certifies that the foregoing Patent Owner Preliminary Response complies with the requirements of 37 C.F.R. § 42.24 and contains less than 14,000 words (13,976 words), excluding those contained in the following: Table of Contents, Table of Authorities, Grounds of Standing, Mandatory Notices, Certification of Compliance with Word Count, Certificate of Service, and the Exhibit List.

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing **PATENT OWNER RESPONSE** was served pursuant to 37 C.F.R. § 42.6(e) via electronic mail on June 14, 2024, on the following:

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